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# RID

Convention concerning International Carriage by Rail (COTIF)  
Appendix C – Regulations concerning the International Carriage of Dangerous  
Goods by Rail (RID)

With effect from 1 January 2009

This text replaces the requirements of 1 January 2007.

**Note by the Secretariat of OTIF:**

**The following are Member States of COTIF (as at 30 June 2008):**

Albania, Algeria, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iran, Iraq, Ireland, Italy, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, former Yugoslav Republic of Macedonia, Monaco, Morocco, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Syria, Tunisia, Turkey, United Kingdom, Ukraine.

**Convention concerning International Carriage by Rail (COTIF)****Appendix C****Regulations concerning the International Carriage of Dangerous Goods by Rail (RID)****Article 1****Scope**

- § 1 This Regulation shall apply
- a) to the international carriage of dangerous goods by rail on the territory of Member States,
  - b) to carriage complementary to carriage by rail to which the CIM Uniform Rules are applicable, subject to the international prescriptions governing carriage by another mode of transport, as well as the activities referred to by the Annex to this Regulation.
- § 2 Dangerous goods barred from carriage by the Annex must not be accepted for international carriage.

**Article 2****Exemptions**

This Regulation shall not apply, in whole or in part, to the carriage of dangerous goods for which an exemption is provided in the Annex. Exemptions may only be provided when the quantity or the nature of the exempted carriage of goods or the packaging would guarantee the safety of the carriage.

**Article 3****Restrictions**

Each Member State shall retain the right to regulate or prohibit, for reasons other than safety during carriage, the international carriage of dangerous goods on its territory.

**Article 4****Other prescriptions**

The carriage to which this Regulation applies shall remain subject to the national or international prescriptions applicable in general to the carriage of goods by rail.

**Article 5****Type of trains allowed. Carriage as hand luggage, registered luggage or on board motor vehicles**

- § 1 Dangerous goods may only be carried in goods trains, except
- a) dangerous goods which are acceptable for carriage in accordance with the Annex complying with the relevant maximum quantities and the special conditions of carriage in trains other than goods trains;
  - b) dangerous goods which are carried, under the special conditions of the Annex, as hand luggage, registered luggage or in or on board motor vehicles in accordance with Article 12 of the CIV Uniform Rules.
- § 2 The passenger may not take with him dangerous goods as hand luggage or consign them as registered luggage or on board motor vehicles if they do not meet the special conditions of the Annex.

**Article 6****Annex**

The Annex shall form an integral part of this Regulation.

\* \* \*

The text of the Annex will be that drawn up by the Expert Committee for the Carriage of Dangerous Goods, at the time of entry into force of the Protocol of 3 June 1999 modifying the Convention concerning International Carriage by Rail (COTIF) of 9 May 1980, in accordance with Article 19 § 4 of the latter.

**Note by the Secretariat of OTIF:**

In the text that follows, "RID" refers to the Annex to Appendix C of COTIF in accordance with Article 6. In certain exceptional cases where the text of Appendix C reproduced above is referred to, reference will be made specifically to "Appendix C of COTIF" (e.g. in 1.1.2, 1.5.1.3, Chapter 7.7).

**Part 1**

**General requirements**

## Chapter 1.1

### Scope and applicability

#### 1.1.1 Structure

RID is grouped into seven parts. Each part is subdivided into chapters and each chapter into sections and sub-sections (see table of contents).

Within each part the number of the part is included with the numbers of the chapters, sections and sub-sections, for example Part 4, Chapter 2, Section 1 is numbered "4.2.1".

#### 1.1.2 Scope

For the purposes of Article 1 of Appendix C, RID specifies:

- (a) dangerous goods which are barred from international carriage;
- (b) dangerous goods which are authorized for international carriage and the conditions attaching to them (including exemptions) particularly with regard to:
  - classification of goods, including classification criteria and relevant test methods;
  - use of packagings (including mixed packing);
  - use of tanks (including filling);
  - consignment procedures (including marking and labelling of packages and means of transport as well as documentation and information required);
  - requirements concerning the construction, testing and approval of packagings and tanks;
  - use of means of transport (including loading, mixed loading and unloading).

For carriage within the meaning of RID, in addition to Appendix C, the relevant provisions of the other Appendices to COTIF shall apply, in particular those of Appendix B for carriage performed on the basis of a contract of carriage.

#### 1.1.3 Exemptions

##### 1.1.3.1 Exemptions related to the nature of the transport operation

The provisions laid down in RID do not apply to:

- (a) the carriage of dangerous goods by private individuals where the goods in question are packaged for retail sale and are intended for their personal or domestic use or for their leisure or sporting activities, provided that measures have been taken to prevent any leakage of contents in normal conditions of carriage. **When these goods are flammable liquids carried in refillable receptacles filled by, or for, a private individual, the total quantity shall not exceed 60 litres per receptacle.** Dangerous goods in IBCs, large packagings or tanks are not considered to be packaged for retail sale;
- (b) the carriage of machinery or equipment not specified in RID and which happen to contain dangerous goods in their internal or operational equipment, provided that measures have been taken to prevent any leakage of contents in normal conditions of carriage;
- (c) the carriage undertaken by enterprises which is ancillary to their main activity, such as deliveries to or returns from building or civil engineering sites, or in relation to surveying, repairs and maintenance, in quantities of not more than 450 litres per packaging and within the maximum quantities specified in 1.1.3.6. Measures shall be taken to prevent any leakage of contents in normal conditions of carriage. These exemptions do not apply to Class 7. Carriage undertaken by such enterprises for their supply or external or internal distribution does not fall within the scope of this exemption;
- (d) the carriage undertaken by or under the supervision of the emergency services, insofar as such carriage is necessary in relation to the emergency response, in particular carriage undertaken to contain and recover the dangerous goods involved in an incident or accident and move them to a safe place;
- (e) emergency transport intended to save human lives or protect the environment, provided that all measures are taken to ensure that such transport is carried out in complete safety;
- (f) the carriage of uncleaned empty static storage vessels which have contained gases of Class 2, groups A, O or F, substances of Class 3 or Class 9 belonging to packing group II or III or pesticides of Class 6.1 belonging to packing group II or III, subject to the following conditions:
  - All openings with the exception of pressure relief devices (when fitted) are hermetically closed;
  - Measures have been taken to prevent any leakage of contents in normal conditions of carriage; and
  - The load is fixed in cradles or crates or other handling devices or to the wagon or container in such a way that they will not become loose or shift during normal conditions of carriage.

This exemption does not apply to static storage vessels which have contained desensitized explosives or substances the carriage of which is prohibited by RID.

**NOTE:** For radioactive material see **1.7.1.4.**



**1.1.3.2 Exemptions related to the carriage of gases**

The provisions laid down in RID do not apply to the carriage of:

- (a) gases contained in the tanks of a means of transport destined for its propulsion or for the operation of any of its equipment (e.g. refrigerating equipment);
- (b) gases contained in the fuel tanks of vehicles transported. The fuel cock between gas tank and engine shall be closed and the electric contact open;
- (c) gases of Groups A and O (according to 2.2.2.1), if the pressure of the gas in the receptacle or tank at a temperature of 20 °C does not exceed 200 kPa (2 bar) and if the gas is **not a liquefied or a refrigerated liquefied gas. This** includes every kind of receptacle or tank, e.g. also parts of machinery and apparatus;
- (d) gases contained in the equipment used for the operation of the vehicle (e.g. fire extinguishers), including in spare parts (e.g. inflated pneumatic tyres); this exemption also applies to inflated pneumatic tyres carried as a load;
- (e) gases contained in the special equipment of wagons and necessary for the operation of this special equipment during transport (cooling systems, fish-tanks, heaters, etc.) as well as spare receptacles for such equipment or uncleaned empty exchange receptacles, transported in the same wagon; and
- (f) gases contained in foodstuffs or beverages.

**1.1.3.3 Exemptions related to the carriage of liquid fuels**

The requirements of RID do not apply to the carriage of fuel contained in fuel tanks of a means of transport where it is destined for its propulsion or the operation of any of its equipment (e.g. cooling systems). The fuel cock between the engine and the fuel tank of motorcycles and pedal cycles with an auxiliary engine, whose tanks contain fuel, shall be closed during carriage. In addition, these motorcycles and pedal cycles with an auxiliary engine shall be loaded upright and secured against falling.

**1.1.3.4 Exemptions related to special provisions or to dangerous goods packed in limited or excepted quantities**

**NOTE:** For radioactive material see 1.7.1.4.

**1.1.3.4.1** Certain special provisions of Chapter 3.3 exempt partially or totally the carriage of specific dangerous goods from the requirements of RID. The exemption applies when the special provision is referred to in Column (6) of Table A of Chapter 3.2 against the dangerous goods entry concerned.

**1.1.3.4.2** Certain dangerous **goods may** be subject to exemptions, provided that the conditions of Chapter 3.4 are met.

**1.1.3.4.3** Certain dangerous goods may be subject to exemptions, provided that the conditions of Chapter 3.5 are met.

**1.1.3.5 Exemptions related to empty uncleaned packagings**

Empty uncleaned packagings (including IBCs and large packagings) which have contained substances of Classes 2, 3, 4.1, 5.1, 6.1, 8 and 9 are not subject to the conditions of RID if adequate measures have been taken to nullify any hazard. Hazards are nullified if adequate measures have been taken to nullify all hazards of Classes 1 to 9.

**1.1.3.6 Total maximum permissible quantity per wagon or large container**

**1.1.3.6.1** (Reserved)

**1.1.3.6.2** (Reserved)

**1.1.3.6.3** Where, in accordance with 1.1.3.1 (c), dangerous goods of the same transport category are carried in the same wagon or large container, the maximum total quantity is indicated in column (3) of the table below:

Transport category	Substances or articles packing group or classification code/group or UN No.	Maximum total quantity per wagon or large container
0	<p>Class 1: 1.1 L, 1.2 L, 1.3 L and UN No. 0190</p> <p>Class 3: UN No. 3343</p> <p>Class 4.2: Substances belonging to packing group I</p> <p>Class 4.3: UN Nos. 1183, 1242, 1295, 1340, 1390, 1403, 1928, 2813, 2965, 2968, 2988, 3129, 3130, 3131, 3134, 3148, 3396, 3398 and 3399</p> <p>Class 5.1: UN No. 2426</p> <p>Class 6.1: UN Nos. 1051, 1600, 1613, 1614, 2312, 3250 and 3294</p> <p>Class 6.2: UN Nos. 2814 and 2900</p> <p>Class 7: UN Nos. 2912 to 2919, 2977, 2978 and 3321 to 3333</p> <p>Class 8: UN No. 2215 (MALEIC ANHYDRIDE, MOLTEN)</p> <p>Class 9: UN Nos. 2315, 3151, 3152 and 3432 and apparatus containing such substances or mixtures</p> <p>and empty uncleaned packagings, except those classified under UN No. 2908, having contained substances classified in this transport category</p>	0
1	<p>Substances and articles belonging to packing group I and not classified in transport category 0</p> <p>and substances and articles of the following classes:</p> <p>Class 1: 1.1 B to 1.1 J<sup>(a)</sup>, 1.2 B to 1.2 J, 1.3 C, 1.3 G, 1.3 H, 1.3 J, 1.5 D<sup>(a)</sup></p> <p>Class 2: groups T, TC<sup>(a)</sup>, TO, TF, TOC<sup>(a)</sup> and TFC</p> <p>aerosols: groups C, CO, FC, T, TF, TC, TO, TFC and TOC</p> <p>Class 4.1: UN Nos. 3221 to 3224</p> <p>Class 5.2: UN Nos. 3101 to 3104</p>	20
2	<p>Substances or articles belonging to packing group II and not classified in transport categories 0, 1 or 4</p> <p>and substances of the following classes:</p> <p>Class 1: 1.4B to 1.4G and 1.6N</p> <p>Class 2: group F</p> <p>aerosols: group F</p> <p>Class 4.1: UN Nos. 3225 to 3230</p> <p>Class 5.2: UN Nos. 3105 to 3110</p> <p>Class 6.1: substances and articles belonging to packing group III</p> <p>Class 9: UN No. 3245</p>	333
3	<p>Substances and articles belonging to packing group III and not classified in transport categories 0, 2 or 4</p> <p>and substances and articles of the following classes:</p> <p>Class 2: groups A and O</p> <p>aerosols: groups A and O</p> <p>Class 3: UN No. 3473</p> <p>Class 4.3: UN No. 3476</p> <p>Class 8: UN Nos. 2794, 2795, 2800, 3028 and 3477</p> <p>Class 9: UN Nos. 2990 and 3072</p>	1000
4	<p>Class 1: 1.4S</p> <p>Class 4.1: UN Nos. 1331, 1345, 1944, 1945, 2254 and 2623</p> <p>Class 4.2: UN Nos. 1361 and 1362 packing group III</p> <p>Class 7: UN Nos. 2908 to 2911</p> <p>Class 9: UN No. 3268</p> <p>and empty, uncleaned packagings having contained dangerous goods, except for those classified in transport category 0</p>	unlimited

- (a) For UN Nos. 0081, 0082, 0084, 0241, 0331, 0332, 0482, 1005 and 1017, the total maximum quantity per wagon or large container shall be 50 kg.

In the above table, "maximum total quantity per wagon or large container" means:

- for articles, gross mass in kilograms (for articles of Class 1, net mass in kilograms of the explosive substance; for dangerous goods in machinery and equipment specified in RID, the total quantity of dangerous goods contained therein in kilograms or litres as appropriate);
- for solids, liquefied gases, refrigerated liquefied gases and dissolved gases, net mass in kilograms;
- for liquids and compressed gases, nominal capacity of receptacles (see definition in 1.2.1) in litres.

**1.1.3.6.4** Where dangerous goods of different transport categories are carried in the same wagon or large container, the sum of

- the quantity of substances and articles of transport category 1 multiplied by "50",
  - the quantity of substances and articles of transport category 1 referred to in Note a to the table in 1.1.3.6.3 multiplied by "20";
  - the quantity of substances and articles of transport category 2 multiplied by "3", and
  - the quantity of substances and articles of transport category 3
- shall not exceed "1 000".

**1.1.3.6.5** For the purposes of this sub-section, dangerous goods exempted in accordance with 1.1.3.2 to 1.1.3.5 shall not be taken into account.

#### **1.1.3.7 Exemptions related to the carriage of lithium batteries**

The provisions laid down in RID do not apply to:

- (a) Lithium batteries installed in a means of transport, performing a transport operation and destined for its propulsion or for the operation of any of its equipment;
- (b) Lithium batteries contained in equipment for the operation of this equipment used or intended for use during carriage (e.g. a laptop).

#### **1.1.4 Applicability of other regulations**

##### **1.1.4.1 General**

**1.1.4.1.1** International carriage on the territory of a Member State may be subject to regulations or prohibitions imposed in accordance with Article 3 of Appendix C for reasons other than safety during carriage. Such regulations or prohibitions shall be published in an appropriate form.

**1.1.4.1.2** (Reserved)

**1.1.4.1.3** (Reserved)

##### **1.1.4.2 Carriage in a transport chain including maritime or air carriage**

**1.1.4.2.1** Packages, containers, portable tanks and tank-containers and wagons containing a full load of packages with the same dangerous goods, which do not entirely meet the requirements for packing, mixed packing, marking, labelling of packages or placarding and orange plate marking, of RID, but are in conformity with the requirements of the IMDG Code or the ICAO Technical Instructions shall be accepted for carriage in a transport chain including maritime or air carriage subject to the following conditions:

- (a) If the packages are not marked and labelled in accordance with RID, they shall bear markings and danger labels in accordance with the requirements of the IMDG Code or the ICAO Technical Instructions;
- (b) The requirements of the IMDG Code or the ICAO Technical Instructions shall be applicable to mixed packing within a package;
- (c) For carriage in a transport chain including maritime carriage, if the containers, portable tanks or tank-containers or wagons containing a full load of packages with the same dangerous goods are not marked and placarded in accordance with Chapter 5.3 of RID, they shall be marked and placarded in accordance with Chapter 5.3 of the IMDG Code. For empty, uncleaned portable tanks and tank-containers, this requirement shall apply up to and including the subsequent transfer to a cleaning station.

This derogation does not apply in the case of goods classified as dangerous goods in classes 1 to 9 of RID and considered as non-dangerous goods according to the applicable requirements of the IMDG Code or the ICAO Technical Instructions.

**NOTE:** For carriage in accordance with 1.1.4.2.1, see also 5.4.1.1.7. For carriage in containers, see also 5.4.2.

**1.1.4.2.2** (Reserved)

**1.1.4.2.3** (Reserved)**1.1.4.3 Use of IMO type portable tanks approved for maritime transport**

IMO type portable tanks (types 1, 2, 5 and 7) which do not meet the requirements of Chapters 6.7 or 6.8, but which have been built and approved before 1 January 2003 in accordance with the provisions (including transitional provisions) of the IMDG Code (Amdt. 29-98) may be used until 31 December 2009 provided they are found to meet the applicable inspection and test provisions of the IMDG Code (Amdt. 29-98) and that the instructions referred to in Columns (12) and (14) of Chapter 3.2 of the IMDG Code (Amdt. 33-06) are fully complied with. They may continue to be used after 31 December 2009 if they meet the applicable inspection and test provisions of the IMDG Code, but provided that the instructions of Columns (10) and (11) of Chapter 3.2 of RID and of Chapter 4.2 are complied with.<sup>1</sup>

**1.1.4.4 Piggyback transport**

Dangerous goods may also be carried in piggyback transport under the following conditions:

Vehicles and their contents handed over for piggyback transport shall meet the provisions of ADR.

The following shall not be permitted:

- explosives of Class 1, compatibility group A (UN Nos. 0074, 0113, 0114, 0129, 0130, 0135, 0224 and 0473);
- self-reactive substances of Class 4.1 requiring temperature control (UN Nos. 3231 to 3240);
- organic peroxides of Class 5.2 requiring temperature control (UN Nos. 3111 to 3120);
- sulphur trioxide at least 99.95% pure, without inhibitor, carried in tanks (UN No. 1829).

**NOTE:** For the placarding and orange-coloured marking of wagons used in piggyback transport, see 5.3.1.3.2 and 5.3.2.1.6. For the information in the transport document, see **5.4.1.1.9**.

**1.1.4.5 Carriage other than by rail**

**1.1.4.5.1** If the wagon carrying out a transport operation subject to the requirements of RID is conveyed over a section of the journey otherwise than by rail haulage, then any national or international regulations which, on the said section, govern the carriage of dangerous goods by the mode of transport used for conveying the wagon shall alone be applicable to the said section of the journey.

**1.1.4.5.2** Unless this would contravene the international Conventions governing the carriage of dangerous goods by the mode of transport used for conveying the wagon on the said section of the journey, the COTIF Member States may agree to apply the requirements of RID to this section of the journey, supplemented, if they consider it necessary, by additional requirements.

These agreements shall be notified to the Secretariat of OTIF by the Member State that initiated the agreement. The Secretariat of OTIF shall bring them to the attention of all Member States.<sup>2</sup>

**1.1.4.5.3** (Reserved)

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<sup>1</sup> The International Maritime Organization (IMO) has issued "Guidance on the Continued Use of Existing IMO Type Portable Tanks and Road Tank Vehicles for the Transport of Dangerous Goods" as circular DSC.1/Circ.12 and Corrigenda. The text of this guidance can be found on the IMO website at: [www.imo.org](http://www.imo.org).

<sup>2</sup> Agreements concluded in accordance with this sub-section may be consulted on the OTIF website ([www.otif.org](http://www.otif.org)).

## Chapter 1.2

### Definitions and units of measurement

#### 1.2.1

##### Definitions

**NOTE 1:** This section contains all general or specific definitions.

**2:** Terms contained within a definition in this section which are defined separately are printed in italics.

For the purposes of RID:

##### A

**"ADN"** means the European Agreement concerning the International Carriage of *Dangerous Goods* by Inland Waterways;

**"ADR"** means the European Agreement concerning the International Carriage of *Dangerous Goods* by Road, including all special agreements signed by those states involved in the transport operation;

**"Aerosol or aerosol dispenser"** means any non-refillable *receptacle* meeting the requirements of 6.2.6, made of metal, glass or plastics and containing a gas, compressed, liquefied or dissolved under pressure, with or without a *liquid*, paste or powder, and fitted with a release device allowing the contents to be ejected as solid or liquid particles in suspension in a gas, as a foam, paste or powder or in a liquid state or in a gaseous state;

**"Animal material"** means animal carcasses, animal body parts, or animal foodstuffs;

**"Applicant"** means, in the case of *conformity assessment*, the manufacturer or its authorised representative in a Member State. In the case of periodic testing and exceptional checks, *applicant* means the testing facility, the operator or their authorised representative in a Member State;

**NOTE:** Exceptionally a third party (for instance an *operator* in accordance with the definition of 1.2.1) may apply for the *conformity assessment*.

##### "Approval"

**"Multilateral approval"**, for the carriage of Class 7 material, means approval by the relevant *competent authority* of the country of origin of the *design* or shipment, as applicable, and by the *competent authority* of each country through or into which the consignment is to be carried. The term "through or into" specifically excludes "over", i.e. the approval and notification requirements shall not apply to a country over which radioactive material is carried in an aircraft, provided that there is no scheduled stop in that country;

**"Unilateral approval"**, for the carriage of Class 7 material, means an approval of a *design* which is required to be given by the *competent authority* of the country of origin of the *design* only.

If the country of origin is not a COTIF Member State, the approval shall require validation by the *competent authority* of the first COTIF Member State reached by the consignment (see 6.4.22.6);

**"ASTM"** means the American Society for Testing and Materials (ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA, 19428-2959, United States of America);

##### B

**"Bag"** means a flexible *packaging* made of paper, plastics film, textiles, woven material or other suitable material;

**"Battery-wagon"** means a *wagon* containing elements which are linked to each other by a manifold and permanently fixed to a *wagon*. The following elements are considered to be elements of a battery-wagon: *cylinders*, *tubes*, *bundles of cylinders* (also known as frames), *pressure drums* as well as *tanks* destined for the carriage of gases of Class 2 with a capacity of more than 450 litres;

**"Body"** (for all categories of *IBC* other than *composite IBCs*) means the receptacle proper, including openings and closures, but does not include *service equipment*;

**"Box"** means a *packaging* with complete rectangular or polygonal faces, made of metal, wood, plywood, reconstituted wood, fibreboard, plastics or other suitable material. Small holes for purposes of ease of handling or opening or to meet classification requirements, are permitted as long as they do not compromise the integrity of the *packaging* during carriage;

**"Bulk containers"** means containment systems (including any liner or coating) intended for the carriage of solid substances which are in direct contact with the containment system. *Packagings*, *intermediate bulk containers (IBCs)*, *large packagings* and *tanks* are not included.

Bulk containers are:

- of a permanent character and accordingly strong enough to be suitable for repeated use,
- specially designed to facilitate the *carriage* of goods by one or more modes of carriage without intermediate reloading,
- fitted with devices permitting its ready handling,
- of a capacity of not less than 1.0 m<sup>3</sup>.

Examples of bulk containers are *containers*, *offshore bulk containers*, skips, bulk bins, *swap bodies*, trough-shaped *containers*, roller *containers*, load compartments of *wagons*;

**"Bundle of cylinders"** means an assembly of *cylinders* that are fastened together and which are interconnected by a manifold and carried as a unit. The total water capacity shall not exceed 3 000 litres except that bundles intended for the *carriage* of toxic *gases* of Class 2 (groups starting with letter T according to 2.2.2.1.3) shall be limited to 1 000 litres water capacity;

## C

**"Calculation pressure"** means a theoretical pressure at least equal to the *test pressure* which, according to the degree of danger exhibited by the substance being carried, may to a greater or lesser degree exceed the working pressure. It is used solely to determine the thickness of the walls of the *shell*, independently of any external or internal reinforcing device (see also *"Discharge pressure"*, *"Filling pressure"*, *"Maximum working pressure (gauge pressure)"* and *"Test pressure"*);

**NOTE:** For *portable tanks*, see Chapter 6.7.

**"Capacity of shell or shell compartment"** for *tanks*, means the total inner volume of the *shell* or *shell* compartment expressed in litres or cubic metres. When it is impossible to completely fill the *shell* or the *shell* compartment because of its shape or construction, this reduced capacity shall be used for the determination of the degree of filling and for the marking of the *tank*;

**"Carriage"** means the change of place of *dangerous goods*, including stops made necessary by transport conditions and including any period spent by the *dangerous goods* in *wagons*, *tanks* and *containers* made necessary by traffic conditions before, during and after the change of place.

This definition also covers the intermediate temporary storage of *dangerous goods* in order to change the mode or means of transport (transshipment). This shall apply, provided that transport documents showing the place of dispatch and the place of reception are presented on request and provided that *packages* and *tanks* are not opened during intermediate storage, except to be checked by the *competent authorities*;

**"Carriage in bulk"** means the *carriage* of unpackaged *solids* or articles in *wagons* or *containers*. The term does not apply to packaged goods nor to substances carried in *tanks*;

**"Carrier"** means the *enterprise* which carries out the transport operation with or without a transport contract;

**"CGA"** means the Compressed Gas Association (CGA, 4221 Walney Road, 5th Floor, Chantilly VA 20151-2923, United States of America);

**"Closed container"**, see *"Container"*;

**"Closed wagon"** means a *wagon* with sides and a fixed or movable roof;

**"Closure"** means a device which closes an opening in a *receptacle*;

**"Collective entry"** means an entry for a well defined group of substances or articles (see 2.1.1.2, B, C and D);

**"Combination packaging"** means a combination of *packagings* for transport purposes, consisting of one or more *inner packagings* secured in an *outer packaging* in accordance with 4.1.1.5;

**NOTE:** The "inners" of *"combination packagings"* are always termed *"inner packagings"* and not *"inner receptacles"*. A glass bottle is an example of such an *"inner packaging"*.

**"Competent authority"** means the authority or authorities or any other body or bodies designated as such in each State and in each specific case in accordance with domestic law;

**"Compliance assurance"** (radioactive material) means a systematic programme of measures applied by a competent authority which is aimed at ensuring that the requirements of RID are met in practice;

**"Composite IBC with plastics inner receptacle"** means an IBC comprising structural equipment in the form of a rigid outer casing encasing a plastics inner receptacle together with any *service* or other *structural equipment*. It is so constructed that the inner receptacle and outer casing once assembled form, and are used as, an integrated single unit to be filled, stored, transported or emptied as such;

**NOTE:** "Plastics material", when used in connection with inner receptacles for composite IBCs, is taken to include other polymeric materials such as rubber.

**"Composite packaging (plastics material)"** is a *packaging* consisting of an *inner plastics receptacle* and an *outer packaging* (made of metal, fibreboard, plywood, etc.). Once assembled such a *packaging* remains thereafter an inseparable unit; it is filled, stored, despatched and emptied as such;

**NOTE:** See NOTE under "Composite packagings (glass, porcelain or stoneware)".

**"Composite packaging (glass, porcelain or stoneware)"** is a *packaging* consisting of an *inner glass, porcelain or stoneware receptacle* and an *outer packaging* (made of metal, wood, fibreboard, plastics material, expanded plastics material, etc.). Once assembled, such a *packaging* remains thereafter an inseparable unit; it is filled, stored, despatched and emptied as such;

**NOTE:** The "inners" of "composite packagings" are normally termed "*inner receptacles*". For example, the "inner" of a 6HA1 (*composite packaging, plastics material*) is such an "*inner receptacle*" since it is normally not designed to perform a containment function without its "*outer packaging*" and is not therefore an "*inner packaging*".

**"Confinement system"**, for the carriage of Class 7 material, means the assembly of fissile material and packaging components specified by the designer and agreed to by the *competent authority* as intended to preserve criticality safety;

**"Conformity assessment"** means the process of verifying the conformity of a product according to the provisions of sections 1.8.6 and 1.8.7 related to type approval, supervision of manufacture and initial inspection and testing;

**"Consignee"** means the *consignee* according to the contract for *carriage*. If the *consignee* designates a third party in accordance with the provisions applicable to the contract for carriage, this person shall be deemed to be the *consignee* within the meaning of RID. If the transport operation takes place without a contract for *carriage*, the *enterprise* which takes charge of the *dangerous goods* on arrival shall be deemed to be the *consignee*.

**"Consignment"** means any *package* or *packages*, or load of *dangerous goods*, presented by a *consignor* for *carriage*;

**"Consignor"** means the *enterprise* which consigns *dangerous goods* either on its own behalf or for a third party. If the transport operation is carried out under a contract for *carriage*, *consignor* means the *consignor* according to the contract for *carriage*;

**"Container"** means an article of transport equipment (lift van or other similar structure):

- of a permanent character and accordingly strong enough to be suitable for repeated use;
- specially designed to facilitate the *carriage* of goods, by one or more means of transport, without breakage of load;
- fitted with devices permitting its ready stowage and handling, particularly when being transloaded from one means of transport to another;
- so designed as to be easy to fill and empty
- having an internal volume of not less than 1 m<sup>3</sup>, except for containers for the carriage of radioactive material.

A *swap body* is a *container* which, in accordance with European Standard EN 283:1991 has the following characteristics:

- from the point of view of mechanical strength, it is only built for *carriage* on a *wagon* or a vehicle on land or by roll-on roll-off ship;
- it cannot be stacked;
- it can be removed from vehicles by means of equipment on board the vehicle and on its own supports, and can be reloaded;

**NOTE:** The term "*container*" does not cover conventional *packagings*, *IBCs*, *tank-containers* or *wagons*. Nevertheless, a container may be used as a *packaging* for the carriage of radioactive material.

In addition:

**"Closed container"** means a totally enclosed *container* having a rigid roof, rigid side walls, rigid end walls and a floor. The term includes *containers* with an opening roof where the roof can be closed during transport;



**"Large container"** means

- (a) a *container* which does not meet the definition of a *small container*;
- (b) in the meaning of the *CSC*, a *container* of a size such that the area enclosed by the four outer bottom corners is either
  - (i) at least 14 m<sup>2</sup> (150 square feet) or
  - (ii) at least 7 m<sup>2</sup> (75 square feet) if fitted with top corner fittings;

**"Open container"** means an open top *container* or a platform based *container*;

**"Sheeted container"** means an open *container* equipped with a sheet to protect the goods loaded;

**"Small container"** means a *container* which has either any overall outer dimension (length, width or height) less than 1.5 m, or an internal volume of not more than 3 m<sup>3</sup>;

**"Containment system"**, for the carriage of Class 7 material, means the assembly of components of the *packaging* specified by the designer as intended to retain the radioactive material during *carriage*;

**"Control temperature"** means the maximum temperature at which the organic peroxide or the self-reactive substance can be safely carried;

**"Crate"** means an *outer packaging* with incomplete surfaces;

**"Criticality safety index (CSI)"** assigned to a *package*, *overpack* or *container* containing fissile material, for the carriage of Class 7 material, means a number which is used to provide control over the accumulation of *packages*, *overpacks* or *containers* containing fissile material;

**"Critical temperature"** means the temperature above which the substance cannot exist in the liquid state;

**"Cryogenic receptacle"** means a transportable thermally insulated *pressure receptacle* for refrigerated liquefied gases of a water capacity of not more than 1 000 litres;

**"CSC"** means the International Convention for Safe Containers (Geneva, 1972) as amended and published by the International Maritime Organization (*IMO*), London;

**"Cylinder"** means a transportable *pressure receptacle* of a water capacity not exceeding 150 litres (see also *"Bundle of cylinders"*);

## D

**"Dangerous goods"** means those substances and articles the *carriage* of which is prohibited by RID, or authorized only under the conditions prescribed therein;

**"Dangerous reaction"** means:

- (a) combustion or evolution of considerable heat;
- (b) evolution of flammable, asphyxiant, oxidizing or toxic *gases*;
- (c) the formation of corrosive substances;
- (d) the formation of unstable substances; or
- (e) dangerous rise in pressure (for *tanks* only);

**"Demountable tank"** means a *tank* designed to fit the special apparatus of the *wagon* but which can only be removed from it after dismantling their means of attachment;

**"Design"**, for the carriage of Class 7 material, means the description of special form radioactive material, low dispersible radioactive material, *package* or *packaging* which enables such an item to be fully identified. The description may include specifications, engineering drawings, reports demonstrating compliance with regulatory requirements, and other relevant documentation;

**"Discharge pressure"** means the maximum pressure actually built up in the *tank* when it is being discharged under pressure (see also *"Calculation pressure"*, *"Filling pressure"*, *"Maximum working pressure (gauge pressure)"* and *"Test pressure"*);

**"Drum"** means a flat-ended or convex-ended cylindrical *packaging* made out of metal, fibreboard, plastics, plywood or other suitable materials. This definition also includes *packagings* of other shapes, e.g. round, taper-necked *packagings* or pail-shaped *packagings*. *Wooden barrels* and *jerricans* are not covered by this definition;

## E

**"EN" (standard)** means a European standard published by the European Committee of Standardization (CEN) (CEN, 36 rue de Stassart, B-1050 Brussels);



**"Emergency temperature"** means the temperature at which emergency procedures shall be implemented in the event of loss of temperature control;

**"Enterprise"** means any natural person, any legal person, whether profit-making or not, any association or group of persons without legal personality, whether profit-making or not, or any official body, whether it has legal personality itself or is dependent upon an authority that has such personality;

**"Exclusive use"**, for the carriage of Class 7 material, means the sole use, by a single *consignor*, of a wagon or of a large container, in respect of which all initial, intermediate and final loading and unloading is carried out in accordance with the directions of the *consignor* or *consignee*;

## F

**"Fibreboard IBC"** means a fibreboard *body* with or without separate top and bottom caps, if necessary an inner liner (but no inner packagings), and appropriate service and structural equipment;

**"Filler"** means any enterprise which loads dangerous goods into a *tank* (*tank-wagon*, wagon with *de-mountable tank*, *portable tank* or *tank-container*) and/or into a wagon, large container or small container for carriage in bulk, or into a *battery-wagon* or *MEGC*;

**"Filling pressure"** means the maximum pressure actually built up in the *tank* when it is being filled under pressure (see also "*Calculation pressure*", "*Discharge pressure*", "*Maximum working pressure (gauge pressure)*" and "*Test pressure*");

**"Filling ratio"** means the ratio of the mass of gas to the mass of water at 15 °C that would fill completely a pressure receptacle fitted ready for use;

**"Fixed tank"** means a *tank* having a capacity of more than 1 000 litres which is permanently attached to a wagon (which then becomes a *tank-wagon*) or is an integral part of the frame of such wagon;

**"Flammable component"** (for *aerosols*) means flammable *liquids*, flammable *solids* or flammable *gases* and gas mixtures as defined in Notes 1 to 3 of sub-section 31.1.3 of Part III of the *Manual of Tests and Criteria*. This designation does not cover pyrophoric, self-heating or water-reactive substances. The chemical heat of combustion shall be determined by one of the following methods ASTM D 240, ISO/FDIS 13943: 1999 (E/F) 86.1 to 86.3 or NFPA 30B.

**"Flash-point"** means the lowest temperature of a *liquid* at which its vapours form a flammable mixture with air;

**"Flexible IBC"** means a *body* constituted of film, woven fabric or any other flexible material or combinations thereof, and if necessary, an inner coating or *liner*, together with any appropriate service equipment and handling devices;

**"Full load"** means any load originating from one *consignor* for which the use of a large container is exclusively reserved and all operations for the loading and unloading of which are carried out in conformity with the instructions of the *consignor* or of the *consignee*;

**NOTE:** The corresponding term for Class 7 is "*exclusive use*".

## G

**"Gas"** means a substance which:

- (a) at 50 °C has a vapour pressure greater than 300 kPa (3 bar); or
- (b) is completely gaseous at 20 °C under standard pressure of 101.3 kPa;

**"Gas cartridge"** means any non-refillable *receptacle* containing, under pressure, a gas or a mixture of gases. It may be fitted with a valve;

**"GHS"** means the *second* edition of the Globally Harmonized System of Classification and Labelling of Chemicals, published by the United Nations as document ST/SG/AC.10/30/Rev.2;

## H

**"Handling device"** (for *flexible IBCs*) means any sling, loop, eye or frame attached to the *body* of the *IBC* or formed from the continuation of the *IBC body* material;

**"Hermetically closed tank"** means a *tank* intended for the carriage of liquid substances with a calculation pressure of at least 4 bar or intended for the carriage of solid substances (powdery or granular) regardless of its calculation pressure, the openings of which are hermetically closed and which:

- is not equipped with safety valves, bursting discs, other similar safety devices or vacuum valves or with self-operating ventilation valves, or

- is not equipped with *safety valves*, bursting discs or other similar safety devices, but is equipped with *vacuum valves* or with *self-operating ventilation valves*, in accordance with the requirements of 6.8.2.2.3, or
- is equipped with *safety valves* preceded by a bursting disc according to 6.8.2.2.10, but is not equipped with *vacuum valves* or with *self-operating ventilation valves*, or
- is equipped with *safety valves* preceded by a bursting disc according to 6.8.2.2.10 and *vacuum valves* or *self-operating ventilation valves*, in accordance with the requirements of 6.8.2.2.3;

## I

**"IAEA"** means the International Atomic Energy Agency (IAEA) (IAEA, P.O. Box 100, A-1400 Vienna);

**"IBC"**, see *"Intermediate bulk container"*;

**"ICAO"** means the International Civil Aviation Organization (ICAO, 999 University Street, Montreal, Quebec H3C 5H7, Canada);

**"ICAO Technical Instructions"** means the Technical Instructions for the Safe Transport of Dangerous Goods by Air, which complement Annex 18 to the Chicago Convention on International Civil Aviation (Chicago 1944), published by the International Civil Aviation Organization (ICAO) in Montreal;

**"IMDG Code"** means the International Maritime Dangerous Goods Code, for the implementation of Chapter VII, Part A, of the International Convention for the Safety of Life at Sea, 1974 (SOLAS Convention), published by the International Maritime Organization (IMO), London;

**"IMO"** means the International Maritime Organization (IMO, 4 Albert Embankment, London SE1 7SR, United Kingdom);

**"Inner packaging"** means a *packaging* for which an *outer packaging* is required for carriage;

**"Inner receptacle"** means a *receptacle* which requires an *outer packaging* in order to perform its containment function;

**"Inspection body"** means an independent inspection and testing body approved by the *competent authority*;

**"Intermediate bulk container" (IBC)** means a rigid, or flexible portable *packaging*, other than those specified in Chapter 6.1, that:

- (a) has a capacity of:
  - (i) not more than 3.0 m<sup>3</sup> for *solids* and *liquids* of *packing groups* II and III;
  - (ii) not more than 1.5 m<sup>3</sup> for *solids* of *packing group* I when packed in *flexible, rigid plastics, composite, fibreboard* and *wooden IBCs*;
  - (iii) not more than 3.0 m<sup>3</sup> for *solids* of *packing group* I when packed in *metal IBCs*;
  - (iv) not more than 3.0 m<sup>3</sup> for radioactive material of Class 7;
- (b) is designed for mechanical handling;
- (c) is resistant to the stresses produced in handling and transport as determined by the tests specified in Chapter 6.5

(see also *"Composite IBC with plastics inner receptacle"*, *"Fibreboard IBC"*, *"Flexible IBC"*, *"Metal IBC"*, *"Rigid plastics IBC"* and *"Wooden IBC"*);

**NOTE 1:** *Portable tanks* or *tank-containers* that meet the requirements of Chapter 6.7 or 6.8 respectively are not considered to be *intermediate bulk containers (IBCs)*.

**2:** *Intermediate bulk containers (IBCs)* which meet the requirements of Chapter 6.5 are not considered to be *containers* for the purposes of RID.

**"Remanufactured IBC"** means a *metal, rigid plastics* or *composite IBC* that:

- (a) is produced as a UN type from a non-UN type; or
- (b) is converted from one UN design type to another UN design type.

*Remanufactured IBCs* are subject to the same requirements of RID that apply to new *IBCs* of the same type (see also design type definition in 6.5.6.1.1);

**"Repaired IBC"** means a *metal, rigid plastics* or *composite IBC* that, as a result of impact or for any other cause (e.g. corrosion, embrittlement or other evidence of reduced strength as compared to the design type) is restored so as to conform to the design type and to be able to withstand the design type tests. For the purposes of RID, the replacement of the *rigid inner receptacle* of a *composite IBC* with a *receptacle* conforming to the original manufacturer's specification is considered repair. However, *routine maintenance* of

*rigid IBCs* is not considered repair. The *bodies* of *rigid plastics IBCs* and the *inner receptacles* of *composite IBCs* are not repairable. *Flexible IBCs* are not repairable unless approved by the *competent authority*;

**"Routine maintenance of flexible IBCs"** means the routine performance on plastics or textile *flexible IBCs* of operations, such as:

- (a) Cleaning; or
- (b) Replacement of non-integral components, such as non-integral liners and closure ties, with components conforming to the manufacturer's original specification;

provided that these operations do not adversely affect the containment function of the *flexible IBC* or alter the design type;

**"Routine maintenance of rigid IBCs"** means the routine performance on *metal, rigid plastics* or *composite IBCs* of operations such as:

- (a) Cleaning;
- (b) Removal and reinstallation or replacement of *body* closures (including associated gaskets), or of *service equipment*, conforming to the original manufacturer's specifications, provided that the leaktightness of the *IBC* is verified; or
- (c) Restoration of *structural equipment* not directly performing a dangerous goods containment or discharge pressure retention function so as to conform to the design type (e.g. the straightening of legs or lifting attachments), provided that the containment function of the *IBC* is not affected;

**"Intermediate packaging"** means a *packaging* placed between *inner packagings* or articles, and an *outer packaging*;

**"ISO" (standard)** means an international standard published by the International Organization for Standardization (ISO) (ISO, 1, rue de Varembe, CH-1204 Geneva 20);

## J

**"Jerrican"** means a metal or plastics *packaging* of rectangular or polygonal cross-section with one or more orifices;

## L

**"Large container"**, see **"Container"**;

**"Large packaging"** means a *packaging* consisting of an *outer packaging* which contains articles or *inner packagings* and which

- (a) is designed for mechanical handling;
- (b) exceeds 400 kg net mass or 450 litres capacity but has a volume of not more than 3.0 m<sup>3</sup>;

**"Leakproofness test"** means a test to determine the leakproofness of a *tank*, a *packaging* or an *IBC* and of the equipment and closure devices;

**NOTE:** For *portable tanks*, see Chapter 6.7.

**"Light-gauge metal packaging"** means a *packaging* of circular, elliptical, rectangular or polygonal cross-section (also conical) and taper-necked and pail-shaped *packaging* made of metal, having a wall thickness of less than 0.5 mm (e.g. tinplate), flat or convex bottomed and with one or more orifices, which is not covered by the definitions for *drums* or *jerricans*;

**"Liner"** means a tube or bag inserted into a *packaging*, including *large packagings* or *IBCs*, but not forming an integral part of it, including the *closures* of its openings;

**"Liquid"** means a substance which at 50 °C has a vapour pressure of not more than 300 kPa (3 bar), which is not completely gaseous at 20 °C and 101.3 kPa, and which

- (a) has a melting point or initial melting point of 20 °C or less at a pressure of 101.3 kPa, or
- (b) is liquid according to the ASTM D 4359-90 test method or
- (c) is not pasty according to the criteria applicable to the test for determining fluidity (penetrometer test) described in 2.3.4;

**NOTE:** "Carriage in the liquid state", for the purpose of tank requirements, means:

- Carriage of *liquids* according to the above definition, or
- *Solids* handed over for *carriage* in the molten state.

**"Loader"** means any *enterprise* which loads *dangerous goods* into a *wagon* or *large container*;

**M**

**"Manual of Tests and Criteria"** means the fourth revised edition of the United Nations Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, published by the United Nations Organization (ST/SG/AC.10/11/Rev.4 as amended by documents ST/SG/AC.10/11/Rev.4/Amend.1 and ST/SG/AC.10/11/Rev.4/Amend.2);

**"Mass of package"** means gross mass of the *package* unless otherwise stated;

**"Maximum capacity"** means the maximum inner volume of *receptacles* or *packagings* including *intermediate bulk containers (IBCs)* and *large packagings* expressed in cubic metres or litres;

**"Maximum net mass"** means the maximum net mass of contents in a single *packaging* or maximum combined mass of *inner packagings* and the contents thereof expressed in kilograms;

**"Maximum normal operating pressure"**, for the carriage of Class 7 material, means the maximum pressure above atmospheric pressure at mean sea-level that would develop in the *containment system* in a period of one year under the conditions of temperature and solar radiation corresponding to environmental conditions in the absence of venting, external cooling by an ancillary system, or operational controls during carriage;

**"Maximum permissible gross mass"**

(a) (for all categories of *IBCs* other than *flexible IBCs*) means the mass of the *IBC* and any *service or structural equipment* together with the maximum net mass;

(b) (for *tanks*) means the tare of the *tank* and the heaviest load authorized for carriage;

**NOTE:** For *portable tanks*, see Chapter 6.7.

**"Maximum permissible load"** (for *flexible IBCs*) means the *maximum net mass* for which the *IBC* is intended and which it is authorized to carry;

**"Maximum working pressure (gauge pressure)"** means the highest of the following three pressures:

(a) the highest effective pressure allowed in the *tank* during filling (maximum *filling pressure* allowed);

(b) the highest effective pressure allowed in the *tank* during discharge (maximum *discharge pressure* allowed); and

(c) the effective gauge pressure to which the *tank* is subjected by its contents (including such extraneous gases as it may contain) at the maximum working temperature.

Unless the special requirements prescribed in Chapter 4.3 provide otherwise, the numerical value of this working pressure (gauge pressure) shall not be lower than the vapour pressure (absolute pressure) of the filling substance at 50 °C.

For tanks equipped with *safety valves* (with or without bursting disc) other than tanks for the carriage of compressed, liquefied or dissolved gases of Class 2., the *maximum working pressure (gauge pressure)* shall however be equal to the prescribed opening pressure of such *safety valves* (see also "*Calculation pressure*", "*Discharge pressure*", "*Filling pressure*" and "*Test pressure*");

**NOTE 1:** For *portable tanks*, see Chapter 6.7.

2: For closed cryogenic receptacles, see Note to 6.2.1.3.6.5.

**"MEGC"**, see "*Multiple-element gas container*";

**"Metal IBC"** means a metal *body* together with appropriate *service* and *structural equipment*;

**"Mild steel"** means a steel having a minimum tensile strength between 360 N/mm<sup>2</sup> and 440 N/mm<sup>2</sup>;

**NOTE:** For *portable tanks*, see Chapter 6.7.

**"Multiple-element gas container (MEGC)"** means a unit containing elements which are linked to each other by a manifold and mounted on a frame. The following elements are considered to be elements of a *multiple-element gas container*: *cylinders*, *tubes*, *pressure drums* and *bundles of cylinders* as well as *tanks* for the carriage of gases of Class 2 having a capacity of more than 450 litres;

**NOTE:** For UN MEGCs, see Chapter 6.7.

**N**

**"Nominal capacity of the receptacle"** means the nominal volume of the dangerous substance contained in the *receptacle* expressed in litres. For compressed gas *cylinders* the nominal capacity shall be the water capacity of the *cylinder*;

**"N.O.S. entry (not otherwise specified entry)"** means a collective entry to which substances, mixtures, solutions or articles may be assigned if they:

- (a) are not mentioned by name in Table A of Chapter 3.2, and
- (b) exhibit chemical, physical and/or dangerous properties corresponding to the Class, classification code, *packing group* and the name and description of the *n.o.s. entry*;

## O

**"Offshore bulk container"** means a *bulk container* specially designed for repeated use for *carriage* to, from and between offshore facilities. An offshore bulk container is designed and constructed in accordance with the guidelines for the approval of offshore containers handled in open seas specified by the International Maritime Organization (IMO) in document MSC/Circ.860;

**"Open container"**, see **"Container"**;

**"Open wagon"** means a wagon with or without side boards and a tailboard, the loading surfaces of which are open;

**"Operator of a tank-container, portable tank or tank-wagon"** means any *enterprise* in whose name the *tank-container*, *portable tank* or *tank-wagon* is registered or approved for transport;

**"OTIF"** means the Intergovernmental Organization for International Carriage by Rail (OTIF, Gryphenhübelweg 30, CH-3006 Bern);

**"Outer packaging"** means the outer protection of the *composite* or *combination packaging* together with any absorbent materials, cushioning and any other components necessary to contain and protect *inner receptacles* or *inner packagings*;

**"Overpack"** means an enclosure used (by a single *consignor* in the case of Class 7) to contain one or more *packages*, consolidated into a single unit easier to handle and stow during *carriage*.

Examples of *overpacks*:

- (a) a loading tray such as a pallet, on which several *packages* are placed or stacked and secured by a plastics strip, shrink or stretch wrapping or other appropriate means; or
- (b) an outer protective *packaging* such as a *box* or a *crate*;

## P

**"Package"** means the complete product of the packing operation, consisting of the *packaging* or *large packaging* or *IBC* and its contents prepared for dispatch. The term includes *pressure receptacles* for *gases* as defined in this section as well as articles which, because of their size, mass or configuration may be carried unpackaged or carried in cradles, crates or handling devices. **Except for the carriage of radioactive material**, the term does not apply to goods which are carried in *bulk*, nor to substances carried in *tanks*.

**NOTE:** For radioactive material, see 2.2.7.2, 4.1.9.1.1 and Chapter 6.4.

**"Packaging"** means **one or more receptacles** and any other components or materials necessary for the *receptacles* to perform **their containment and other safety functions** (see also *"Combination packaging"*, *"Composite packaging (plastics material)"*, *"Composite packaging (glass, porcelain or stoneware)"*, *"Inner packaging"*, *"Intermediate bulk container (IBC)"*, *"Intermediate packaging"*, *"Large packaging"*, *"Light-gauge metal packaging"*, *"Outer packaging"*, *"Reconditioned packaging"*, *"Remanufactured packaging"*, *"Reused packaging"*, *"Salvage packaging"* and *"Sift-proof packaging"*);

**"Packer"** means any *enterprise* which puts *dangerous goods* into *packagings*, including *large packagings* and *intermediate bulk containers (IBCs)* and, where necessary, prepares *packages* for *carriage*;

**"Packing group"** means a group to which, for packing purposes, certain substances may be assigned in accordance with their degree of danger. The *packing groups* have the following meanings which are explained more fully in Part 2:

*Packing group I:* Substances presenting high danger;

*Packing group II:* Substances presenting medium danger; and

*Packing group III:* Substances presenting low danger;

**NOTE:** Certain articles containing *dangerous goods* are assigned to a packing group.

**"Piggyback transport"** means the *carriage* of road vehicles on rail *wagons*;

**"Portable tank"** means a multimodal *tank* having, when used for the *carriage* of *gases* of Class 2, a capacity of more than 450 litres in accordance with the definitions in Chapter 6.7 or the *IMDG Code* and indicated by a portable tank instruction (T-Code) in Column (10) of Table A of Chapter 3.2;

**"Pressure drum"** means a welded transportable *pressure receptacle* of a water capacity exceeding 150 litres and of not more than 1 000 litres, (e.g. cylindrical *receptacles* equipped with rolling hoops, spheres on skids);

**"Pressure receptacle"** means a collective term that includes *cylinders, tubes, pressure drums, closed cryogenic receptacles and bundles of cylinders*;

**"Pressurized gas cartridge"**, see *"Aerosol or aerosol dispenser"*;

**"Protected IBC"** (for *metal IBCs*) means an *IBC* provided with additional protection against impact, the protection taking the form of, for example, a multi-layer (sandwich) or double-wall construction, or a frame with a metal lattice-work casing;

## Q

**"Quality assurance"** means a systematic programme of controls and inspections applied by any organization or body which is aimed at providing confidence that the safety prescriptions in RID are met in practice;

## R

**"Radiation level"**, for the carriage of Class 7 material, means the corresponding dose rate expressed in millisieverts per hour;

**"Radioactive contents"**, for the carriage of Class 7 material, mean the radioactive material together with any contaminated or activated *solids, liquids, and gases within the packaging*;

**"Railway infrastructure"** means all tracks and fixed equipment necessary for the movement of rail traffic and transport safety;

**"Railway infrastructure manager"** means any public body or *undertaking* responsible in particular for establishing or maintaining the *railway infrastructure*, and for managing the control and safety systems;

**"Receptacle"** (Class 1) includes *boxes, bottles, cans, drums, jars and tubes*, including any means of closure used in the *inner or intermediate packaging*;

**"Receptacle"** means a containment vessel for receiving and holding substances or articles, including any means of closing. This definition does not apply to *shells* (see also *"Cryogenic receptacle"*, *"Inner receptacle"*, *"Pressure receptacle"*, *"Rigid inner receptacle"* and *"Gas cartridge"*);

**"Reconditioned packaging"** means in particular

(a) metal *drums* that are:

- (i) cleaned to original materials of construction, with all former contents, internal and external corrosion, and external coatings and labels removed;
- (ii) restored to original shape and contour, with chimes (if any) straightened and sealed and all non-integral gaskets replaced; and
- (iii) inspected after cleaning but before painting, with rejection of *packagings* with visible pitting, significant reduction in the material thickness, metal fatigue, damaged threads or closures or other significant defects;

(b) plastics *drums* and *jerricans* that:

- (i) are cleaned to original materials of construction, with all former contents, external coatings and labels removed;
- (ii) have all non-integral gaskets replaced; and
- (iii) are inspected after cleaning with rejection of *packagings* with visible damage such as tears, creases or cracks, or damaged threads or closures or other significant defects;

**"Recycled plastics material"** means material recovered from used industrial *packagings* that has been cleaned and prepared for processing into new *packagings*;

**"Reel"** (Class 1) means a device made of plastics, wood, fibreboard, metal or other suitable material comprising a central spindle with, or without, side walls at each end of the spindle. Articles and substances can be wound onto the spindle and may be retained by side walls;

**"Reference steel"** means a steel with a tensile strength of 370 N/mm<sup>2</sup> and an elongation at fracture of 27%;

**"Remanufactured IBC"**, see *"Intermediate Bulk Container (IBC)"*;



**"Remanufactured packaging"** means in particular

(a) metal *drums* that:

- (i) are produced as a UN type complying with the requirements of Chapter 6.1 from a non-UN type;
- (ii) are converted from one UN type complying with the requirements of Chapter 6.1 to another UN type; or
- (iii) undergo the replacement of integral structural components (such as non-removable heads);

(b) plastics *drums* that:

- (i) are converted from one UN type to another UN type (e.g. 1H1 to 1H2); or
- (ii) undergo the replacement of integral structural components.

Remanufactured *drums* are subject to the requirements of Chapter 6.1 which apply to new *drums* of the same type;

**"Repaired IBC"**, see *"Intermediate Bulk Container (IBC)"*;

**"Reused packaging"** means a *packaging* which has been examined and found free of defects affecting the ability to withstand the performance tests. The term includes those which are refilled with the same or similar compatible contents and are carried within distribution chains controlled by the *consignor* of the product;

**"Rigid inner receptacle"** (for *composite IBCs*) means a *receptacle* which retains its general shape when empty without its closures in place and without benefit of the outer casing. Any inner receptacle that is not "rigid" is considered to be "flexible";

**"Rigid plastics IBC"** means a rigid plastics *body*, which may have structural equipment together with appropriate *service equipment*;

**"Routine maintenance of flexible IBC"**, see *Intermediate Bulk Container (IBC)"*;

**"Routine maintenance of rigid IBCs"**, see *"Intermediate Bulk Container (IBC)"*;

## S

**"Safety valve"** means a spring-loaded device which is activated automatically by pressure the purpose of which is to protect the *tank* against unacceptable excess internal pressure;

**"SADT"** see *"Self-accelerating decomposition temperature"*;

**"Salvage packaging"** means a special *packaging* into which damaged, defective or leaking *dangerous goods packages*, or *dangerous goods* that have spilled or leaked are placed for purposes of *carriage* for recovery or disposal;

**"Self-accelerating decomposition temperature"** (SADT) means the lowest temperature at which self-accelerating decomposition may occur with substance in the *packaging* as used during *carriage*. Provisions for determining the SADT and the effects of heating under confinement are contained in Part II of the *Manual of Tests and Criteria*;

**"Self-operating ventilation valve"** means a venting device on *shells* with bottom discharge which is connected to the bottom valve and in normal operation is only opened during loading or unloading for the ventilation of *shells*.

**"Service equipment"**

(a) of the *tank* means filling and emptying, venting, safety, heating and heat insulating devices and measuring instruments;

**NOTE:** For *portable tanks*, see Chapter 6.7.

(b) of the elements of a *battery-wagon* or of a *MEGC* means filling and emptying devices, including the manifold, safety devices and measuring instruments;

(c) of an *IBC* means the filling and discharge devices and any pressure-relief or venting, safety, heating and heat insulating devices and measuring instruments;

**"Settled pressure"** means the pressure of the contents of a *pressure receptacle* in thermal and diffusive equilibrium;

**"Sheeted container"**, see *"Container"*;

**"Sheeted wagon"** means an *open wagon* provided with a sheet to protect the load;

**"Shell"** means the sheathing containing the substance (including the openings and their closures);

**NOTE 1:** This definition does not apply to receptacles.

**2:** For *portable tanks*, see Chapter 6.7.

**"Sift-proof packaging"** means a *packaging* impermeable to dry contents, including fine *solid* material produced during *carriage*;

**"Small container"**, see **"Container"**;

**"Small receptacle containing gas"**, see **"Gas cartridge"**;

**"Solid"** means:

- (a) a substance with a melting point or initial melting point of more than 20 °C at a pressure of 101.3 kPa, or
- (b) a substance which is not liquid according to the ASTM D 4359-90 test method or which is pasty according to the criteria applicable to the test for determining fluidity (penetrometer test) described in 2.3.4;

**"Structural equipment"**

- (a) for *tanks* of a *tank-wagon*, means the external or internal reinforcing, fastening or protective members of the *shell*;
- (b) for *tanks* of a *tank-container*, means the external or internal reinforcing, fastening, protective or stabilizing members of the *shell*;

**NOTE:** For *portable tanks*, see Chapter 6.7.

- (c) for elements of a *battery-wagon* or an *MEGC* means the external or internal reinforcing, fastening, protective or stabilizing members of the *shell* or *receptacle*;
- (d) for *IBCs* other than *flexible IBCs* means the reinforcing, fastening, handling, protective or stabilizing members of the *body* (including the base pallet for *composite IBCs with plastics inner receptacle*);

**"Swap-body"**, see **"Container"**;

## T

**"Tank"** means a *shell*, including its *service* and *structural equipment*. When used alone, the term *tank* means a *tank-container*, *portable tank*, *tank-wagon*, and *dismountable tank* as defined in this Part, including *tanks* forming elements of *battery-wagons* or *MEGCs*;

**NOTE:** For *portable tanks*, see 6.7.4.1.

**"Tank-container"** means an article of transport equipment meeting the definition of a *container*, and comprising a *shell* and items of equipment, including the equipment to facilitate movement of the *tank-container* without significant change of attitude, used for the *carriage* of *gases*, *liquid*, powdery or granular substances and, when used for the *carriage* of *gases* of Class 2, having a capacity of more than 0.45 m<sup>3</sup> (450 litres);

**NOTE:** *IBCs* which meet the requirements of Chapter 6.5 are not considered to be *tank-containers*.

**"Tank record"** means a file containing all the important technical information concerning a *tank*, a *battery-wagon* or a *MEGC*, such as certificates referred to in 6.8.2.3, 6.8.2.4 and 6.8.3.4;

**"Tank swap body"** is considered to be a *tank-container*;

**"Tank-wagon"** means a *wagon* intended for the *carriage* of *liquids*, *gases*, powdery or granular substances, comprising a superstructure, consisting of one or more *shells* and an underframe fitted with its own items of equipment (running gear, suspension, buffing, traction, braking gear and inscriptions);

**NOTE:** *Tank-wagon* also includes *wagons* with *dismountable tanks*.

**"Technical name"** means a recognized chemical name, if relevant a biological name, or other name currently used in scientific and technical handbooks, journals and texts (see 3.1.2.8.1.1);

**"Test pressure"** means the required pressure applied during a pressure test for initial or periodic inspection (see also **"Calculation pressure"**, **"Discharge pressure"**, **"Filling pressure"** and **"Maximum working pressure (gauge pressure)"**);

**NOTE:** For *portable tanks*, see Chapter 6.7.



**"Transport document"** means the consignment note in accordance with the Contract of Carriage (see Uniform Rules Concerning the Contract of International Carriage of Goods by Rail (CIM – Appendix B to COTIF)), the **wagon** note in accordance with the **General Contract of Use for Wagons (GCU)**<sup>3</sup> or another transport document meeting the provisions of section 5.4.1;

**"Transport index (TI)"** assigned to a package, overpack or container, or to unpackaged LSA-I or SCO-I, for the carriage of Class 7 material, means a number which is used to provide control over radiation exposure;

**"Tray"** (Class 1) means a sheet of metal, plastics, fibreboard or other suitable material which is placed in the *inner, intermediate* or *outer packaging* and achieves a close-fit in such *packaging*. The surface of the *tray* may be shaped so that *packagings* or articles can be inserted, held secure and separated from each other;

**"Tube"** (Class 2) means a seamless transportable *pressure receptacle* of a water capacity exceeding 150 litres and of not more than 3 000 litres;

## U

**"UIC"** means the International Union of Railways (UIC, 16 rue Jean Rey, F-75015 Paris);

**"Undertaking"**, see *"Enterprise"*;

**"UNECE"** means the United Nations Economic Commission for Europe (UNECE, Palais des Nations, 8-14 avenue de la Paix, CH-1211 Geneva 10);

**"UN Model Regulations"** means the Model Regulations annexed to the **fifteenth** revised edition of the Recommendations on the Transport of Dangerous Goods published by the United Nations (ST/SG/AC.10/1/Rev.15);

**"UN number"** means the four-figure identification number of the substance or article taken from the *UN Model Regulations*;

## V

**"Vacuum-operated waste tank"** means a *tank-container* or *tank swap body* primarily used for the *carriage* of dangerous *wastes*, with special constructional features and/or equipment to facilitate the loading and unloading of *wastes* as specified in Chapter 6.10. A *tank* which fully complies with the requirements of Chapter 6.7 or 6.8 is not considered to be a *vacuum-operated waste tank*;

**"Vacuum valve"** means a spring-loaded device which is activated automatically by pressure the purpose of which is to protect the *tank* against unacceptable negative internal pressure;

## W

**"Wagon"** means a rail vehicle without its own means of propulsion that runs on its own wheels on railway tracks and is used for the *carriage* of goods;

**"Wagon load"** means the exclusive use of a *wagon*, whether or not the loading space of the *wagon* is used wholly or in part;

**NOTE:** The corresponding term for Class 7 is **"exclusive use"**.

**"Wastes"** means substances, solutions, mixtures or articles for which no direct use is envisaged but which are carried for reprocessing, dumping, elimination by incineration or other methods of disposal;

**"Wooden barrel"** means a *packaging* made of natural wood, of round cross-section, having convex walls, consisting of staves and heads and fitted with hoops;

**"Wooden IBC"** means a rigid or collapsible wooden *body*, together with an inner *liner* (but no *inner packaging*) and appropriate *service* and *structural equipment*;

**"Working pressure"** means the *settled pressure* of a compressed gas at a reference temperature of 15 °C in a full *pressure receptacle*;

**NOTE:** For *tanks*, see *"Maximum working pressure(gauge pressure)"*.

**"Woven plastics"** (for *flexible IBCs*) means a material made from stretch tapes or monofilaments of suitable plastics material.

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<sup>3</sup> 1 July 2006 edition, published by the GCU Office, Avenue des Arts, 53, BE-1000 Brussels.

**1.2.2 Units of measurement****1.2.2.1** The following units of measurement<sup>4</sup> are applicable in RID:

Measurement of	SI Unit <sup>5</sup>	Acceptable alternative unit	Relationship between units
Length	m (metre)	–	–
Area	m <sup>2</sup> (square metre)	–	–
Volume	m <sup>3</sup> (cubic metre)	l <sup>6</sup> (litre)	1 l = 10 <sup>-3</sup> m <sup>3</sup>
Time	s (second)	min (minute)	1 min = 60 s
		h (hour)	1 h = 3 600 s
		d (day)	1 d = 86 400 s
Mass	kg (kilogram)	g (gramme)	1 g = 10 <sup>-3</sup> kg
		t (ton)	1 t = 10 <sup>3</sup> kg
Mass density	kg/m <sup>3</sup>	kg/l	1 kg/l = 10 <sup>-3</sup> kg/m <sup>3</sup>
Temperature	K (kelvin)	°C (degree Celsius)	0 °C = 273.15 K
Temperature difference	K (kelvin)	°C (degree Celsius)	1 °C = 1 K
Force	N (newton)	–	1 N = 1 kg·m/s <sup>2</sup>
Pressure	Pa (pascal)	–	1 Pa = 1 N/m <sup>2</sup>
		bar (bar)	1 bar = 10 <sup>5</sup> Pa
Stress	N/m <sup>2</sup>	N/mm <sup>2</sup>	1 N/mm <sup>2</sup> = 1 MPa
Work	J (joule)	kWh (kilowatt hours)	1 kWh = 3.6 MJ
Energy	J (joule)	–	1 J = 1 N·m = 1 W·s
Quantity of heat	J (joule)	eV (electronvolt)	1 eV = 0.1602·10 <sup>-18</sup> J
Power	W (watt)	–	1 W = 1 J/s = 1 N·m/s
Kinematic viscosity	m <sup>2</sup> /s	mm <sup>2</sup> /s	1 mm <sup>2</sup> /s = 10 <sup>-6</sup> m <sup>2</sup> /s
Dynamic viscosity	Pa·s	mPa·s	1 mPa·s = 10 <sup>-3</sup> Pa·s
Activity	Bq (becquerel)	–	–
Dose equivalent	Sv (sievert)	–	–

<sup>4</sup> The following round figures are applicable for the conversion of the units hitherto used into SI Units.

*Force*

1 kg = 9.807 N  
1 N = 0.102 kg

*Stress*

1 kg/mm<sup>2</sup> = 9.807 N/mm<sup>2</sup>  
1 N/mm<sup>2</sup> = 0.102 kg/mm<sup>2</sup>

*Pressure*

1 Pa = 1 N/m<sup>2</sup> = 10<sup>-5</sup> bar = 1.02·10<sup>-5</sup> kg/cm<sup>2</sup> = 0.75·10<sup>-2</sup> torr  
1 bar = 10<sup>5</sup> Pa = 1.02 kg/cm<sup>2</sup> = 750 torr  
1 kg/cm<sup>2</sup> = 9.807·10<sup>4</sup> Pa = 0.9807 bar = 736 torr  
1 torr = 1.33·10<sup>2</sup> Pa = 1.33·10<sup>-3</sup> bar = 1.36·10<sup>-3</sup> kg/cm<sup>2</sup>

*Energy, Work, Quantity of heat*

1 J = 1 Nm = 0.278·10<sup>-6</sup> kWh = 0.102 kgm = 0.239·10<sup>-3</sup> kcal  
1 kWh = 3.6·10<sup>6</sup> J = 367·10<sup>3</sup> kgm = 860 kcal  
1 kgm = 9.807 J = 2.72·10<sup>-6</sup> kWh = 2.34·10<sup>-3</sup> kcal  
1 kcal = 4.19·10<sup>3</sup> J = 1.16·10<sup>-3</sup> kWh = 427 kgm

*Power*

1 W = 0.102 kgm/s = 0.86 kcal/h  
1 kgm/s = 9.807 W = 8.43 kcal/h  
1 kcal/h = 1.16 W = 0.119 kgm/s

*Kinematic viscosity*

1 m<sup>2</sup>/s = 10<sup>4</sup> St (Stokes)  
1 St = 10<sup>-4</sup> m<sup>2</sup>/s

*Dynamic viscosity*

1 Pa·s = 1 N·s/m<sup>2</sup> = 10 P (poise) = 0.102 kg·s/m<sup>2</sup>  
1 P = 0.1 Pa·s = 0.1 N·s/m<sup>2</sup> = 1.02·10<sup>-2</sup> kg·s/m<sup>2</sup>  
1 kg·s/m<sup>2</sup> = 9.807 Pa·s = 9.807 N·s/m<sup>2</sup> = 98.07 P

<sup>5</sup> The International System of Units (SI) is the result of decisions taken at the General Conference on Weights and Measures (Address: Pavillon de Breteuil, Parc de St-Cloud, F-92 310 Sèvres).

<sup>6</sup> The abbreviation "L" for litre may also be used in place of the abbreviation "l" when a typewriter cannot distinguish between figure "1" and letter "l".

The decimal multiples and sub-multiples of a unit may be formed by prefixes or symbols, having the following meanings, placed before the name or symbol of the unit:

Factor		Prefix	Symbol
1 000 000 000 000 000 000 = $10^{18}$	quintillion	exa	E
1 000 000 000 000 000 = $10^{15}$	quadrillion	peta	P
1 000 000 000 000 = $10^{12}$	trillion	tera	T
1 000 000 000 = $10^9$	billion	giga	G
1 000 000 = $10^6$	million	mega	M
1 000 = $10^3$	thousand	kilo	k
100 = $10^2$	hundred	hecto	h
10 = $10^1$	ten	deca	da
0.1 = $10^{-1}$	tenth	deci	d
0.01 = $10^{-2}$	hundredth	centi	c
0.001 = $10^{-3}$	thousandth	milli	m
0.000 001 = $10^{-6}$	millionth	micro	$\mu$
0.000 000 001 = $10^{-9}$	billionth	nano	n
0.000 000 000 001 = $10^{-12}$	trillionth	pico	p
0.000 000 000 000 001 = $10^{-15}$	quadrillionth	femto	f
0.000 000 000 000 000 001 = $10^{-18}$	quintillionth	atto	A

**NOTE:**  $10^9$  billion is United Nations usage in English. By analogy, so is  $10^{-9}$  = 1 billionth.

- 1.2.2.2** Unless expressly stated otherwise, the sign "%" in RID represents:
- (a) In the case of mixtures of solids or of liquids, and also in the case of solutions and of solids wetted by a liquid, a percentage mass based on the total mass of the mixture, the solution or the wetted solid;
  - (b) In the case of mixtures of compressed gases, when filled by pressure, the proportion of the volume indicated as a percentage of the total volume of the gaseous mixture, or, when filled by mass, the proportion of the mass indicated as a percentage of the total mass of the mixture;
  - (c) In the case of mixtures of liquefied gases and dissolved gases, the proportion of the mass indicated as a percentage of the total mass of the mixture.
- 1.2.2.3** Pressures of all kinds relating to receptacles (such as test pressure, internal pressure, safety valve opening pressure) are always indicated in gauge pressure (pressure in excess of atmospheric pressure); however, the vapour pressure of substances is always expressed in absolute pressure.
- 1.2.2.4** Where RID specifies a degree of filling for receptacles, this is always related to a reference temperature of the substances of 15 °C, unless some other temperature is indicated.

## Chapter 1.3

### Training of persons involved in the carriage of dangerous goods

#### 1.3.1 Scope and applicability

Persons employed by the participants referred to in Chapter 1.4, whose duties concern the carriage of dangerous goods, shall receive training in the requirements governing the carriage of such goods appropriate to their responsibilities and duties. Training requirements specific to security of dangerous goods in Chapter 1.10 shall also be addressed.

**NOTE 1:** With regard to the training for the safety adviser, see 1.8.3.

**2:** (Reserved)

**3:** For training with regard to Class 7, see also 1.7.2.5.

**4:** The training shall be effected before taking on responsibilities concerning the carriage of dangerous goods.

#### 1.3.2 Nature of the training

The training shall take the following form, appropriate to the responsibility and duties of the individual concerned.

##### 1.3.2.1 General awareness training

Personnel shall be familiar with the general requirements of the provisions for the carriage of dangerous goods.

##### 1.3.2.2 Function-specific training

Personnel shall receive detailed training, commensurate directly with their duties and responsibilities in the requirements of the regulations concerning the carriage of dangerous goods.

Where the carriage of dangerous goods involves a multimodal transport operation, the personnel shall be made aware of the requirements concerning other transport modes.

The carrier's and railway infrastructure manager's personnel shall also receive training covering matters specific to rail transport. This training shall be in the form of basic training and specialized training.

(a) Basic training for all personnel:

All personnel shall receive training covering the meaning of the danger labels and of the orange-coloured marking. In addition, personnel shall be aware of the procedure for reporting irregularities.

(b) Specialized training for operational personnel directly involved in the carriage of dangerous goods:

In addition to the basic training described under (a), personnel shall receive training commensurate with their duties.

Personnel shall receive training on the subjects covered by the specialized training, which are divided into three categories in 1.3.2.2.2, on the basis of the groups in 1.3.2.2.1.

**1.3.2.2.1** The following Table sets out the groups of personnel for the individual categories:

Category	Description of category	Personnel
1	Operations personnel involved directly in the transport of dangerous goods	Drivers and marshalling staff or personnel with an equivalent function
2	Personnel responsible for the technical control of wagons used for the transport of dangerous goods	Rolling stock technician or personnel with an equivalent function
3	Personnel responsible for guiding and controlling rail and marshalling services and management personnel of the railway infrastructure manager	Controllers, signallers, control centre personnel or personnel with an equivalent function

**1.3.2.2.2** Special subjects to be covered by the specialized training shall be, at least:

(a) Locomotive driver or personnel with an equivalent function of category 1:

- how to access the necessary information concerning the composition of the train, the presence of dangerous goods and where they are situated in the train;
- types of irregularity;

- dealing in critical situations with irregularities, taking measures relating to the protection of their own train and nearby traffic.

Marshallers or personnel with an equivalent function of category 1:

- meaning of the shunting labels in accordance with Models 13 and 15 of RID (see 5.3.4.2);
- protective distances for goods of Class 1 in accordance with RID 7.5.3;
- types of irregularity.

(b) Wagon technician or personnel with an equivalent function of category 2:

- performance of inspections in accordance with Annex XII (Conditions for the technical transitional inspection of goods wagons) of the Agreement governing the Exchange and Use of Wagons between Railway Undertakings (RIV);
- carrying out the guidelines of UIC leaflet 471-3 (only for personnel who perform the checks described in RID 1.4.2.2.1);
- recognition of irregularities.

(c) Traffic controller, signal box personnel, control centre personnel or personnel with an equivalent function of category 3:

- dealing with critical situations in the event of irregularities;
- internal emergency plans for marshalling yards in accordance with Chapter 1.11 of RID.

#### **1.3.2.3 Safety training**

Commensurate with the degree of risk of injury or exposure arising from an incident involving the carriage of dangerous goods, including loading and unloading, personnel shall receive training covering the hazards and dangers presented by dangerous goods.

The training provided shall aim to make personnel aware of the safe handling and emergency response procedures.

#### **1.3.2.4 (Deleted)**

#### **1.3.3 Documentation**

Details of all the training undertaken shall be kept by both the employer and the employee and shall be verified upon commencing a new employment. The training shall be periodically supplemented with refresher training to take account of changes in regulations.

## Chapter 1.4

### Safety obligations of the participants

#### 1.4.1 General safety measures

**1.4.1.1** The participants in the carriage of dangerous goods shall take appropriate measures according to the nature and the extent of foreseeable dangers, so as to avoid damage or injury and, if necessary, to minimize their effects. They shall, in all events, comply with the requirements of RID in their respective fields.

**1.4.1.2** When there is an immediate risk that public safety may be jeopardized, the participants shall immediately notify the emergency services and shall make available to them the information they require to take action.

**1.4.1.3** RID may specify certain of the obligations falling to the various participants.

If a Member State considers that no lessening of safety is involved, it may in its domestic legislation transfer the obligations falling to a specific participant to one or several other participants, provided that the obligations of 1.4.2 and 1.4.3 are met. These derogations shall be communicated by the Member State to the Secretariat of OTIF which will bring them to the attention of the other Member States.

The requirements of 1.2.1, 1.4.2 and 1.4.3 concerning the definitions of participants and their respective obligations shall not affect the provisions of domestic law concerning the legal consequences (criminal nature, liability, etc.) stemming from the fact that the participant in question is e.g. a legal entity, a self-employed worker, an employer or an employee.

#### 1.4.2 Obligations of the main participants

**NOTE:** For radioactive materials see also 1.7.6.

##### 1.4.2.1 Consignor

**1.4.2.1.1** The consignor of dangerous goods is required to hand over for carriage only consignments which conform to the requirements of RID. In the context of 1.4.1, he shall in particular:

- (a) ascertain that the dangerous goods are classified and authorized for carriage in accordance with RID;
- (b) furnish the carrier with information and data and, if necessary, the required transports documents and accompanying documents (authorizations, approvals, notifications, certificates, etc.), taking into account in particular the requirements of Chapter 5.4 and of the tables in Part 3;
- (c) use only packagings, large packagings, intermediate bulk containers (IBCs) and tanks (tank-wagons, demountable tanks, battery-wagons, MEGCs, portable tanks and tank-containers) approved for and suited to the carriage of the substances concerned and bearing the markings prescribed by RID;
- (d) comply with the requirements on the means of dispatch and on forwarding restrictions;
- (e) ensure that even empty uncleaned and not degassed tanks (tank-wagons, demountable tanks, battery-wagons, MEGCs, portable tanks and tank-containers) or empty uncleaned wagons and large and small bulk containers are appropriately marked and labelled and that empty uncleaned tanks are closed and present the same degree of leakproofness as if they were full.

**1.4.2.1.2** If the consignor uses the services of other participants (packer, loader, filler, etc.), he shall take appropriate measures to ensure that the consignment meets the requirements of RID. He may, however, in the case of 1.4.2.1.1 (a), (b), (c) and (e), rely on the information and data made available to him by other participants.

**1.4.2.1.3** When the consignor acts on behalf of a third party, the latter shall inform the consignor in writing that dangerous goods are involved and make available to him all the information and documents he needs to perform his obligations.

##### 1.4.2.2 Carrier

**1.4.2.2.1** In the context of 1.4.1, the carrier who takes over the dangerous goods at the point of departure shall in particular, by means of representative checks:

- (a) ascertain that the dangerous goods to be carried are authorized for carriage in accordance with RID;
- (b) ascertain that the prescribed documentation is attached to the transport document and is also forwarded;
- (c) ascertain visually that the wagons and loads have no obvious defects, leakages or cracks, missing equipment, etc.;
- (d) ascertain that the date of the next test for tank-wagons, battery-wagons, demountable tanks, portable tanks, tank-containers and MEGCs has not expired;

**NOTE:** Tanks, battery-wagons and MEGCs may however be carried after the expiry of this date under the conditions of 4.1.6.10 (in the case of battery-wagons and MEGCs containing pressure receptacles as elements), 4.2.4.4, 4.3.2.4.4, 6.7.2.19.6, 6.7.3.15.6 or 6.7.4.14.6.

- (e) verify that the wagons are not overloaded;
- (f) ascertain that the danger labels and markings prescribed for the wagons have been affixed.

Where appropriate, this shall be done on the basis of the transport documents and accompanying documents, by a visual inspection of the wagon or the containers and, where appropriate, the load.

The requirements of this paragraph are considered to have been complied with if Section 5<sup>7</sup> of UIC leaflet 471-3 O ("Inspections of dangerous goods consignments") is applied.

- 1.4.2.2.2** The carrier may, however, in the case of 1.4.2.2.1 (a), (b), (e) and (f), rely on information and data made available to him by other participants.
- 1.4.2.2.3** If the carrier observes an infringement of the requirements of RID, in accordance with 1.4.2.2.1, he shall not forward the consignment until the matter has been rectified.
- 1.4.2.2.4** If, during the journey, an infringement which could jeopardize the safety of the operation is observed, the consignment shall be halted as soon as possible bearing in mind the requirements of traffic safety, of the safe immobilisation of the consignment, and of public safety.

The transport operation may only be continued once the consignment complies with applicable regulations. The competent authority(ies) concerned by the rest of the journey may grant an authorization to pursue the transport operation.

In case the required compliance cannot be achieved and no authorization is granted for the rest of the journey, the competent authority(ies) shall provide the carrier with the necessary administrative assistance. The same shall apply in case the carrier informs this/these competent authority(ies) that the dangerous nature of the goods carried was not communicated to him by the consignor and that he wishes, by virtue of the law applicable in particular to the contract of carriage, to unload, destroy or render the goods harmless.

- 1.4.2.2.5** The carrier shall ensure that the manager of the railway infrastructure being used is able to obtain at any time during carriage rapid and unrestricted access to the information allowing him to meet the requirements of 1.4.3.6 (b).

**NOTE:** The arrangements by which the data are provided shall be laid down in the rules for using the railway infrastructure.

#### **1.4.2.3 Consignee**

- 1.4.2.3.1** The consignee has the obligation not to defer acceptance of the goods without compelling reasons and to verify, after unloading, that the requirements of RID concerning him have been complied with.

In the context of 1.4.1, he shall in particular:

- (a) carry out in the cases provided for by RID the prescribed cleaning and decontamination of the wagons and containers;
- (b) ensure that the wagons and containers once completely unloaded and cleaned, degassed and decontaminated, no longer bear placards and orange plates.

A wagon or container may only be returned or reused once the above requirements have been met.

- 1.4.2.3.2** If the consignee makes use of the services of other participants (unloader, cleaner, decontamination facility, etc.) he shall take appropriate measures to ensure that the requirements of 1.4.2.3.1 have been complied with.

- 1.4.2.3.3** (Reserved)

#### **1.4.3 Obligations of the other participants**

A non-exhaustive list of the other participants and their respective obligations is given below. The obligations of the other participants flow from section 1.4.1 above insofar as they know or should have known that their duties are performed as part of a transport operation subject to RID.

##### **1.4.3.1 Loader**

- 1.4.3.1.1** In the context of 1.4.1, the loader has the following obligations in particular:

- (a) he shall hand the dangerous goods over to the carrier only if they are authorized for carriage in accordance with RID;
- (b) he shall, when handing over for carriage packed dangerous goods or uncleaned empty packagings, check whether the packaging is damaged. He shall not hand over a package the packaging of which is

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<sup>7</sup> Version of the UIC leaflet applicable as from 1 January 2009.

damaged, especially if it is not leakproof, and there are leakages or the possibility of leakages of the dangerous substance, until the damage has been repaired; this obligation also applies to empty uncleaned packagings;

- (c) he shall, when loading dangerous goods in a wagon, or a large or small container, comply with the special requirements concerning loading and handling;
- (d) he shall, when he hands dangerous goods over for carriage directly, comply with the requirements concerning placarding on the wagon or large container or the orange plates on the wagon or large container;
- (e) he shall, when loading packages, comply with the prohibitions on mixed loading taking into account dangerous goods already in the wagon or large container and requirements concerning the separation of foodstuffs, other articles of consumption or animal feedstuffs.

**1.4.3.1.2** The loader may, however, in the case of 1.4.3.1.1 (a), (d) and (e), rely on information and data made available to him by other participants.

**1.4.3.2 Packer**

In the context of 1.4.1, the packer shall comply with in particular:

- (a) the requirements concerning packing conditions, or mixed packing conditions and,
- (b) when he prepares packages for carriage, the requirements concerning marking and labelling of the packages.

**1.4.3.3 Filler**

In the context of 1.4.1, the filler has the following obligations in particular:

- (a) he shall ascertain prior to the filling of tanks that both they and their equipment are technically in a satisfactory condition;
- (b) he shall ascertain that the date of the next test for tank-wagons, battery-wagons, demountable tanks, portable tanks, tank-containers and MEGCs has not expired;
- (c) he shall only fill tanks with the dangerous goods authorized for carriage in those tanks;
- (d) he shall, in filling the tank, comply with the requirements concerning dangerous goods in adjoining compartments;
- (e) he shall, during the filling of the tank, observe the maximum permissible degree of filling or the maximum permissible mass of contents per litre of capacity for the substance being filled;
- (f) he shall, after filling the tank, check the leakproofness of the closing devices;
- (g) he shall ensure that no dangerous residue of the filling substance adheres to the outside of the tanks filled by him;
- (h) he shall, in preparing the dangerous goods for carriage, ensure that the orange plates and placards or labels prescribed are affixed on the tanks, on the wagons and on the large and small containers in accordance with the requirements;
- (i) he shall, before and after filling tank-wagons with a liquefied gas, observe the applicable special checking requirements;
- (j) he shall, when filling wagons or containers with dangerous goods in bulk, ascertain that the relevant provisions of Chapter 7.3 are complied with.

**1.4.3.4 Tank-container/portable tank operator**

In the context of 1.4.1, the tank-container/portable tank operator shall in particular:

- (a) ensure compliance with the requirements for construction, equipment, tests and marking;
- (b) ensure that the maintenance of shells and their equipment is carried out in such a way as to ensure that, under normal operating conditions, the tank-container/portable tank satisfies the requirements of RID until the next inspection;
- (c) have an exceptional check made when the safety of the shell or its equipment is liable to be impaired by a repair, an alteration or an accident.

**1.4.3.5 Tank-wagon operator**

In the context of 1.4.1, the tank-wagon operator shall in particular:

- (a) ensure compliance with the requirements for construction, equipment, tests and marking;
- (b) ensure that the maintenance of tanks and their equipment is carried out in such a way as to ensure that, under normal operating conditions, the tank-wagon satisfies the requirements of RID until the next inspection;
- (c) have a special check made when the safety of the shell or its equipment is liable to be impaired by a repair, an alteration or an accident.



**1.4.3.6 Railway infrastructure manager**

In the context of 1.4.1, the railway infrastructure manager has in particular the following obligations. The railway infrastructure manager

- (a) shall ensure that internal emergency plans for marshalling yards are prepared in accordance with Chapter 1.11;
- (b) shall ensure that he has rapid and unrestricted access to the following information at any time during carriage:
  - composition of the train,
  - UN numbers of the dangerous goods being carried,
  - position of these wagons in the train,
  - mass of the load.

This information shall only be disclosed to those parties that require it for safety, security or emergency response purposes.

**NOTE:** The arrangements by which the data are provided shall be laid down in the rules for using the railway infrastructure.

## Chapter 1.5

### Derogations

#### 1.5.1 Temporary derogations

- 1.5.1.1** The competent authorities of the Member States may agree directly among themselves to authorize certain transport operations in their territories by temporary derogation from the requirements of RID, provided that safety is not compromised thereby. The authority which has taken the initiative with respect to the temporary derogation shall notify such derogations to the Secretariat of OTIF which shall bring them to the attention of the Member States<sup>8</sup>.

**NOTE:** "Special arrangement" in accordance with 1.7.4 is not considered to be a temporary derogation in accordance with this section.

- 1.5.1.2** The period of validity of the temporary derogation shall not be more than five years from the date of its entry into force. The temporary derogation shall automatically cease as from the date of the entry into force of a relevant amendment to RID.

- 1.5.1.3** Transport operations on the basis of temporary derogations shall constitute transport operations in the sense of Appendix C of COTIF.

#### 1.5.2 Military consignments

Derogations apply to military consignments, i.e. consignments with substances or articles of Class 1 belonging to the armed forces or for which the armed forces are responsible (see 5.2.1.5, sub-sections 5.2.2.1.8, 5.3.1.1.2 and 5.4.1.2.1(f) and 7.2.4, special requirement W2).

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<sup>8</sup> The special agreements concluded under this Section may be consulted on the OTIF web site ([www.otif.org](http://www.otif.org)).

## Chapter 1.6

### Transitional measures

#### 1.6.1 General

- 1.6.1.1** Unless otherwise provided, the substances and articles of RID may be carried until 30 June 2009 in accordance with the requirements of RID<sup>9</sup> applicable up to 31 December 2008.

**NOTE:** For the information in the transport document, see 5.4.1.1.12.

- 1.6.1.2** (a) The danger labels and placards which until 31 December 2004 conformed to models No. 7A, 7B, 7C, 7D or 7E prescribed up to that date may be used until 31 December 2010.

(b) The danger labels and placards which until 31 December 2006 conformed to model No. 5.2 prescribed up to that date may be used until 31 December 2010.

- 1.6.1.3** Substances and articles of Class 1, belonging to the armed forces of a Member State, that were packaged prior to 1 January 1990 in accordance with the requirements of RID<sup>10</sup> in effect at that time may be carried after 31 December 1989 provided the packagings maintain their integrity and are declared in the transport document as military goods packaged prior to 1 January 1990. The other requirements applicable as from 1 January 1990 for this class shall be complied with.

- 1.6.1.4** Substances and articles of Class 1 that were packaged between 1 January 1990 and 31 December 1996 in accordance with the requirements of RID<sup>11</sup> in effect at that time may be carried after 31 December 1996, provided the packagings maintain their integrity and are declared in the transport document as goods of Class 1 packaged between 1 January 1990 and 31 December 1996.

- 1.6.1.5** IBCs built in accordance with the requirements of marg. 405 (5) and 555 (3) in force before 1 January 1999, but which do not meet the requirements of marg. 405 (5) and 555 (3) in force after 1 January 1999, may still be used.

- 1.6.1.6** Intermediate bulk containers (IBCs) manufactured before 1 January 2003 in accordance with the requirements of marginal 1612 (1) applicable up to 30 June 2001 and which do not conform to the requirements of 6.5.2.1.1 regarding the height of letters, numerals and symbols applicable as from 1 July 2001 may continue to be used.

- 1.6.1.7** Type approvals for drums, jerricans and composite packagings made of high or medium molecular mass polyethylene issued before 1 July 2005 in accordance with the requirements of 6.1.5.2.6 in force up to 31 December 2004, but which are not in accordance with the requirements of 4.1.1.19, continue to be valid until 31 December 2009. Any such packagings manufactured and marked on the basis of these type approvals may be used until the end of their period of use determined in 4.1.1.15.

- 1.6.1.8** Existing orange-coloured plates which meet the requirements of 5.3.2.2 applicable up to 31 December 2004 may continue to be used.

- 1.6.1.9** (Reserved)

- 1.6.1.10** Lithium cells or batteries manufactured before 1 July 2003 which had been tested in accordance with the requirements applicable until 31 December 2002 but which had not been tested in accordance with the requirements applicable as from 1 January 2003, and appliances containing such lithium cells or batteries, may continue to be carried up to 30 June 2013 if all the other applicable requirements are fulfilled.

- 1.6.1.11** Type approvals for drums, jerricans and composite packagings made of high or medium molecular mass polyethylene, and for high molecular mass polyethylene IBCs, issued before 1 July 2007 in accordance with the requirements of 6.1.6 (a) in force up to 31 December 2006, but which are not in accordance with the requirements of 6.1.6.1 (a) applicable as from 1 January 2007, continue to be valid.

- 1.6.1.12** (Reserved)

- 1.6.1.13** For wagons first registered or which first entered into service before 1 January 2009, the requirements of 5.3.2.2.1 and 5.3.2.2.2 that the plate, numbers and letters shall remain affixed irrespective of the orientation of the wagon need not be applied until 31 December 2009.

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<sup>9</sup> RID edition in force from 1 January 2007.

<sup>10</sup> RID edition in force from 1 May 1985.

<sup>11</sup> RID editions in force from 1 January 1990, 1 January 1993 and 1 January 1995.

- 1.6.1.14** IBCs manufactured before 1 January 2011 in accordance with the requirements in force up to 31 December 2010 and conforming to a design type which has not passed the vibration test of 6.5.6.13 may still be used.
- 1.6.1.15** IBCs manufactured, remanufactured or repaired before 1 January 2011 need not be marked with the maximum permitted stacking load in accordance with 6.5.2.2.2. Such IBCs, not marked in accordance with 6.5.2.2.2, may still be used after 31 December 2010 but must be marked in accordance with 6.5.2.2.2 if they are remanufactured or repaired after that date.
- 1.6.1.16** Animal material affected by pathogens included in Category B, other than those which would be assigned to Category A if they were in culture (see 2.2.62.1.12.2), may be carried in accordance with provisions determined by the competent authority until 31 December 2014.<sup>12</sup>
- 1.6.1.17** Substances of classes 1 to 9 other than those assigned to UN Nos. 3077 or 3082 to which the classification criteria of 2.2.9.1.10 have not been applied and which are not marked in accordance with 5.2.1.8 and 5.3.6 may still be carried until 31 December 2010 without application of the provisions concerning the carriage of environmentally hazardous substances.
- 1.6.1.18** The provisions of sections 3.4.9 to 3.4.13 need only be applied as from 1 January 2011.
- 1.6.2** **Pressure receptacles and receptacles for Class 2**
- 1.6.2.1** Receptacles built before 1 January 1997 and which do not conform to the requirements of RID applicable as from 1 January 1997, but the carriage of which was permitted under the requirements of RID applicable up to 31 December 1996, may continue to be transported after that date if the periodic test requirements in packing instructions P200 and P203 are complied with.
- 1.6.2.2** Cylinders in accordance with the definition in 1.2.1 which were submitted to an initial inspection or periodic inspection before 1 January 1997 may be transported empty and uncleaned without a label until the date of the next refilling or the next periodic inspection.
- 1.6.2.3** Receptacles intended for the carriage of Class 2 substances constructed before 1 January 2003, may continue to bear, after 1 January 2003, the markings conforming to the requirements applicable until 31 December 2002.
- 1.6.2.4** Pressure receptacles designed and constructed in accordance with technical codes no longer recognized according to 6.2.5 may still be used.
- 1.6.2.5** Pressure receptacles and their closures designed and constructed in accordance with standards applicable at the time of their construction (see 6.2.4) according to the provisions of RID which were applicable at that time may still be used.
- 1.6.2.6** Pressure receptacles for substances other than those of Class 2, built before 1 July 2009 in accordance with the requirements of 4.1.4.4 in force up to 31 December 2008, but which do not conform to the requirements of 4.1.3.6 applicable as from 1 January 2009, may continue to be used, provided that the requirements of 4.1.4.4 in force up to 31 December 2008 are complied with.
- 1.6.2.7** Member States may continue to apply the requirements of 6.2.1.4.1 to 6.2.1.4.4 applicable until 31 December 2008 instead of those of 1.8.6, 1.8.7, 6.2.2.9, 6.2.3.6 to 6.2.3.8 until 30 June 2011.
- 1.6.3** **Tank-wagons and battery-wagons**
- 1.6.3.1** Tank-wagons built before the entry into force of the requirements applicable as from 1 October 1978 may be kept in service if the equipment of the shell meets the requirements of Chapter 6.8. The thickness of the shell wall, except in the case of shells intended for the carriage of refrigerated liquefied gases of Class 2, shall be appropriate to a calculation pressure of not less than 0.4 MPa (4bar) (gauge pressure) in the case of mild steel or of not less than 200 kPa (2 bar) (gauge pressure) in the case of aluminium and aluminium alloys.
- 1.6.3.2** The periodic tests for tank-wagons kept in service under these transitional requirements shall be conducted in accordance with the requirements of 6.8.2.4 and 6.8.3.4 and with the pertinent special requirements for the various classes. Unless the earlier requirements prescribed a higher test pressure, a test pressure of 200 kPa (2 bar) (gauge pressure) shall suffice for aluminium shells and aluminium alloy shells.

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<sup>12</sup> Regulations for dead infected animals are contained e.g. in Regulation (EC) No. 1774/2002 of the European Parliament and of the Council of 3 October 2002 laying down health rules concerning animal by-products not intended for human consumption (Official Journal of the European Communities, No. L 273 of 10 October 2002, p. 1).

- 1.6.3.3** Tank-wagons which meet the transitional requirements in 1.6.3.1 and 1.6.3.2 may be used until 30 September 1998 for the carriage of the dangerous goods for which they have been approved. This transitional period shall not apply to tank-wagons intended for the carriage of substances of Class 2, or to tank-wagons whose wall thickness and items of equipment meet the requirements of Chapter 6.8.
- 1.6.3.4** Tank-wagons constructed before 1 January 1988 in accordance with the requirements applicable up to 31 December 1987 and which do not conform to the requirements applicable from 1 January 1988 may still be used. This also applies to tank-wagons which do not bear the inscription of the shell materials in accordance with Appendix XI, 1.6.1, required from 1 January 1988.
- 1.6.3.5** Tank-wagons, constructed before 1 January 1993 in accordance with the requirements in force up to 31 December 1992 but which do not conform to the requirements applicable as from 1 January 1993 may still be used.
- 1.6.3.6** Tank-wagons constructed before the entry into force of the requirements applicable from 1 January 1995 and which do not conform to those requirements, but were constructed according to the requirements of RID in force until that date may still be used.
- 1.6.3.7** Tank-wagons intended for the carriage of flammable liquids with a flash-point from 55 °C to 60 °C constructed before 1 January 1997 in accordance with the requirements of Appendix XI, paragraphs 1.2.7, 1.3.8 and 3.3.3 applicable up to 31 December 1996 which do not conform to the requirements of those paragraphs in force from 1 January 1997 may continue to be used.
- 1.6.3.8** Tank-wagons, battery-wagons and wagons with demountable tanks intended for the carriage of substances of Class 2, which were built prior to 1 January 1997, may carry markings conforming to the requirements applicable up to 31 December 1996, until the next periodic test.
- When, because of amendments to RID, some proper shipping names of gases have been modified, it is not necessary to modify the names on the plate or on the shell itself (see 6.8.3.5.2 or 6.8.3.5.3), provided that the names of the gases on the tank-wagons, battery-wagons and wagons with demountable tanks or on the plates (see 6.8.3.5.6 (b) or (c)) are adapted at the first periodic test thereafter.
- 1.6.3.9** (Reserved)
- 1.6.3.10** (Reserved)
- 1.6.3.11** Tank-wagons constructed before 1 January 1997 in accordance with the requirements in force up to 31 December 1996 but which do not, however, conform to the requirements of Appendix XI, 3.3.3 and 3.3.4 applicable as from 1 January 1997, may still be used.
- 1.6.3.12** Tank-wagons intended for the carriage of UN No. 2401 piperidine constructed before 1 January 1999 in accordance with the requirements of Appendix XI, 3.2.3 in force up to 31 December 1998, but which do not, however, conform to the requirements applicable as from 1 January 1999, may continue to be used until 31 December 2009.
- 1.6.3.13** (Deleted)
- 1.6.3.14** Tank-wagons constructed before 1 January 1999 in accordance with the requirements of Appendix XI, 5.3.6.3 and which do not conform to the requirements of Appendix XI, 5.3.6.3 in force from 1 January 1999, may still be used.
- 1.6.3.15** Tank-wagons constructed before 1 July 2007 in accordance with the requirements in force up to 31 December 2006 but which do not, however, conform to the requirements of 6.8.2.2.3 applicable as from 1 January 2007 may continue to be used until the next periodic inspection.
- 1.6.3.16** For tank-wagons and battery-wagons constructed before 1 January 2007 which do not conform to the requirements of 4.3.2, 6.8.2.3, 6.8.2.4 and 6.8.3.4 concerning the tank record, the retention of files for the tank record shall start at the latest at the next periodic inspection.
- 1.6.3.17** Tank-wagons intended for the carriage of substances of Class 3, packing group I having a vapour pressure of not more than 175 kPa (1.75 bar) (absolute) at 50 °C, constructed before 1 July 2007 in accordance with the requirements applicable up to 31 December 2006, to which tank code L1.5BN had been assigned in accordance with the requirements applicable up to 31 December 2006, may continue to be used for the carriage of the substances mentioned above, until 31 December 2022.
- 1.6.3.18** Tank-wagons and battery-wagons constructed before 1 January 2003 in accordance with the requirements in force up to 30 June 2001, but which do not, however, conform to the requirements applicable as from 1 July 2001, may still be used.

Assignment to the tank code in the design type approvals and the relevant markings shall be carried out prior to 1 January 2011.

The marking of the alphanumeric codes of special provisions TC, TE and TA in accordance with 6.8.4 shall be carried out when the tank codes are assigned or at one of the tests in accordance with 6.8.2.4 subsequent to the assignment, but by 31 December 2010 at the latest.

- 1.6.3.19** (Reserved)
- 1.6.3.20** Tank-wagons constructed before 1 July 2003 in accordance with the requirements in force up to 31 December 2002 but which do not, however, conform to the requirements of 6.8.2.1.7 applicable as from 1 January 2003 and special provision TE15 of 6.8.4 (b) applicable from 1 January 2003 to 31 December 2006 may still be used.
- 1.6.3.21** Tank-wagons constructed before 1 January 2003 in accordance with the requirements applicable up to 30 June 2001, which conform to the requirements of 6.8.2.2.10 but are not equipped with a pressure gauge or another suitable indicator, shall nevertheless be considered as being hermetically closed until the next periodic inspection according to 6.8.2.4.2 but not later than 31 December 2010.
- 1.6.3.22** Tank-wagons whose shells are made of aluminium alloys, constructed before 1 January 2003 in accordance with the requirements in force until 31 December 2002 and which do not comply with the requirements in force from 1 January 2003, may still be used.
- 1.6.3.23** (Deleted)
- 1.6.3.24** Tank-wagons intended for the carriage of gases of UN Nos. 1052, 1790 and 2073, constructed before 1 January 2003 in accordance with the requirements in force until 31 December 2002 and which do not comply with the requirements of 6.8.5.1.1 (b) in force from 1 January 2003, may still be used.
- 1.6.3.25** The date of the leakproofness test required by 6.8.2.4.3 need not be added to the tank plate required by 6.8.2.5.1 until the first leakproofness test after 1 January 2005 is performed.
- The type of the test ("P" or "L") required by 6.8.2.5.1 need not be added to the tank plate until the first test after 1 January 2007 is performed.
- The letter "L" required by 6.8.2.5.2 need not be added until the first inspection after 1 January 2009 is performed.
- 1.6.3.26** Tank-wagons constructed before 1 January 2007 in accordance with the requirements in force up to 31 December 2006 but which do not, however, conform to the requirements applicable as from 1 January 2007 regarding the marking of the external design pressure in accordance with 6.8.2.5.1, may still be used.
- 1.6.3.27** (a) Tank-wagons and battery-wagons
- for gases of Class 2 with classification codes containing the letter(s) T, TF, TC, TO, TFC or TOC, and
  - for substances of classes 3 to 8 carried in the liquid state and to which tank code L15CH, L15DH or L21DH is assigned in column (12) of Table A of Chapter 3.2,
- constructed before 1 January 2005 and which do not conform to the applicable requirements of special provision TE22 of 6.8.4 in force from 1 January 2005 may still be used. However, by no later than 31 December 2010, they shall be fitted with the devices defined in special provision TE 22, which shall however be capable of absorbing at least 500 kJ of energy at each end of the wagon.
- However, for tank-wagons and battery-wagons to be submitted to a periodic inspection in accordance with 6.8.2.4.2 or 6.8.3.4.6 between 1 January 2011 and 31 December 2012 this retrofitting may be carried out not later than 31 December 2012.
- (b) Tank-wagons and battery-wagons
- for gases of Class 2 with classification codes containing only the letter F, and
  - for substances of classes 3 to 8 carried in the liquid state and to which tank code L10BH, L10CH or L10DH is assigned in column (12) of Table A of Chapter 3.2,
- constructed before 1 January 2007 and which do not conform to the applicable requirements of special provision TE 22 of 6.8.4 in force from 1 January 2007, may still be used.
- 1.6.3.28** Tank-wagons constructed before 1 January 2005 in accordance with the requirements applicable up to 31 December 2004 and which do not conform to the requirements of the second paragraph of 6.8.2.2.1, shall be refitted at the latest at the time of the next refurbishment or the next repair, where this is practicable and where the work carried out requires the attachments to be dismantled.
- 1.6.3.29** Tank-wagons constructed before 1 January 2005 and which do not conform to the requirements of 6.8.2.2.4 in force from 1 January 2005, may still be used.
- 1.6.3.30** (Reserved)

**1.6.3.31** Tank-wagons and tanks forming elements of battery-wagons designed and constructed in accordance with a technical code which was recognized at the time of their construction according to the provisions of 6.8.2.7 which were applicable at that time may still be used.

**1.6.3.32** Tank-wagons

- for gases of Class 2 with classification codes containing the letter(s) T, TF, TC, TO, TFC or TOC, and
- for liquids of classes 3 to 8 to which tank code L15CH, L15DH or L21DH is assigned in column (12) of Table A of Chapter 3.2,

constructed before 1 January 2007 and which do not conform to the applicable requirements of special provision TE 25 of 6.8.4 (b) in force from 1 January 2007 may still be used.

Tank-wagons for the carriage of gases UN 1017 chlorine, UN 1749 chlorine trifluoride, UN 2189 dichlorosilane, UN 2901 bromine chloride and UN 3057 trifluoroacetyl chloride, whose wall thickness of the ends does not meet the requirements of special provision TE 25 (b), shall however be fitted with devices in accordance with special provision TE 25 (a), (c) or (d) by no later than 31 December 2014.

**1.6.3.33** Tank-wagons and battery-wagons for gases of Class 2 constructed before 1 January 1986 in accordance with the requirements applicable up to 31 December 1985 and which do not conform to the requirements of 6.8.3.1.6 concerning the buffers, may still be used.

**1.6.3.34** (Reserved)

**1.6.3.35** Member States need not apply the requirements of 1.8.6, 1.8.7 and 6.8.4 TA4 and TT9 before 1 July 2011.

**1.6.3.36** to

**1.6.3.40** (Reserved)

#### **1.6.4 Tank-containers, portable tanks and MEGCs**

**1.6.4.1** Tank-containers constructed before 1 January 1988 in accordance with the requirements in force up to 31 December 1987 but which do not, however, conform to the requirements applicable as from 1 January 1988, may still be used.

**1.6.4.2** Tank-containers constructed before 1 January 1993 in accordance with the requirements in force up to 31 December 1992 but which do not, however, conform to the requirements applicable as from 1 January 1993, may still be used.

**1.6.4.3** Tank-containers constructed before 1 January 1995 in accordance with the requirements in force up to 31 December 1994 but which do not, however, conform to the requirements applicable as from 1 January 1995, may still be used.

**1.6.4.4** Tank-containers intended for the carriage of flammable liquids with a flash-point from 55 °C to 60 °C constructed before 1 January 1997 in accordance with the requirements of Appendix X, paragraphs 1.2.7, 1.3.8 and 3.3.3 applicable up to 31 December 1996 which do not conform to the requirements of those paragraphs in force from 1 January 1997 may continue to be used.

**1.6.4.5** When, because of amendments to RID, some proper shipping names of gases have been modified, it is not necessary to modify the names on the plate or on the shell itself (see 6.8.3.5.2 or 6.8.3.5.3), provided that the names of the gases on the tank-containers and MEGCs or on the plates (see 6.8.3.5.6 (b) or (c)) are adapted at the first periodic test thereafter.

**1.6.4.6** Tank-containers constructed before 1 January 2007 in accordance with the requirements in force up to 31 December 2006 but which do not, however, conform to the requirements applicable as from 1 January 2007 regarding the marking of the external design pressure in accordance with 6.8.2.5.1, may still be used.

**1.6.4.7** Tank-containers constructed before 1 January 1997 in accordance with the requirements in force up to 31 December 1996 but which do not, however, conform to the requirements of Appendix X, 3.3.3 and 3.3.4 applicable as from 1 January 1997, may still be used.

**1.6.4.8** Tank-containers constructed before 1 January 1999 in accordance with the requirements of Appendix X, 5.3.6.3 and which do not conform to the requirements of Appendix X, 5.3.6.3 in force from 1 January 1999, may still be used.

**1.6.4.9** Tank-containers and MEGCs designed and constructed in accordance with a technical code which was recognized at the time of their construction according to the provisions of 6.8.2.7 which were applicable at that time may still be used.

**1.6.4.10** (Deleted)

**1.6.4.11** (Reserved)



- 1.6.4.12** Tank-containers and MEGCs constructed before 1 January 2003 in accordance with the requirements applicable up to 30 June 2001, but which do not, however, conform to the requirements applicable as from 1 July 2001, may still be **used**.
- 1.6.4.13** Tank-containers constructed before 1 July 2003 in accordance with the requirements in force up to 31 December 2002 but which do not, however, conform to the requirements of 6.8.2.1.7 **applicable as from 1 January 2003** and special provision TE15 of 6.8.4 (b) **applicable from 1 January 2003 to 31 December 2006** may still be used.
- 1.6.4.14** Tank-containers intended for the carriage of gases of UN Nos. 1052, 1790 and 2073, constructed before 1 January 2003 in accordance with the requirements in force until 31 December 2002 and which do not comply with the requirements of 6.8.5.1.1 (b) in force from 1 January 2003, may still be used.
- 1.6.4.15** The type of the test ("P" or "L") required by 6.8.2.5.1 need not be added to the tank plate until the first test after 1 January 2007 is performed.
- 1.6.4.16** (Deleted)
- 1.6.4.17** Tank-containers constructed before 1 July 2007 in accordance with the requirements in force up to 31 December 2006 but which do not conform to the requirements of 6.8.2.2.3 applicable as from 1 January 2007 may continue to be used until the next periodic inspection.
- 1.6.4.18** For tank-containers **and MEGCs** constructed before 1 January 2007 which do not conform to the requirements of 4.3.2, 6.8.2.3, 6.8.2.4 and 6.8.3.4 concerning the tank record, the retention of files for the tank record shall start at the latest at the next periodic inspection.
- 1.6.4.19** Tank-containers intended for the carriage of substances of Class 3, packing group I having a vapour pressure of not more than 175 kPa (1.75 bar) (absolute) at 50 °C, constructed before 1 July 2007 in accordance with the requirements applicable up to 31 December 2006, to which tank code L1.5BN had been assigned in accordance with the requirements applicable up to 31 December 2006, may continue to be used for the carriage of the substances mentioned above until 31 December 2016.
- 1.6.4.20** Vacuum-operated waste tank-containers constructed before 1 July 2005 in accordance with the requirements applicable up to 31 December 2004 but which do not conform to the requirements of 6.10.3.9 applicable as from 1 January 2005, may still be used.
- 1.6.4.21 to 1.6.4.29** (Reserved)
- 1.6.4.30** **Portable** tanks and UN MEGCs which do not meet the design requirements applicable as from 1 January 2007 but which have been constructed according to a design approval certificate which has been issued before 1 January 2008 may continue to be used.
- 1.6.4.31** For substances where TP 35 is assigned in column (11) of Table A of Chapter 3.2, portable tank instruction T 14 prescribed in RID applicable up to 31 December 2008 may continue to be applied until 31 December 2014.
- 1.6.4.32** When the shell of a tank-container was already divided by partitions or surge plates into sections of not more than 7 500 litres capacity before 1 January 2009, the capacity of the shell need not be supplemented with the symbol "S" in the particulars required by 6.8.2.5.1 until the next periodic inspection according to 6.8.2.4.2 is performed.
- 1.6.4.33** Notwithstanding the provisions of 4.3.2.2.4, tank-containers intended for the carriage of liquefied gases or refrigerated liquefied gases, which meet the applicable construction requirements of RID but which were divided, before 1 July 2009, by partitions or surge plates into sections of more than 7 500 litres capacity may still be filled to more than 20% and less than 80% of their capacity.
- 1.6.4.34** Member States need not apply the requirements of 1.8.6, 1.8.7 and 6.8.4 TA4 and TT9 before 1 July 2011.
- 1.6.5** (Reserved)

**1.6.6 Class 7****1.6.6.1 Packages not requiring competent authority approval of design under the 1985 and 1985 (as amended 1990) editions of IAEA Safety Series No. 6**

Excepted packages, Industrial packages Type IP-1, Type IP-2 and Type IP-3 and Type A packages that did not require approval of design by the competent authority and which meet the requirements of the 1985 or 1985 (as amended 1990) Editions of IAEA Regulations for the Safe Transport of Radioactive Material (IAEA Safety Series No. 6) may continue to be used subject to the mandatory programme of quality assurance in accordance with the requirements of 1.7.3 and the activity limits and material restrictions of 2.2.7.2.2, 2.2.7.2.4.1, 2.2.7.2.4.4, 2.2.7.2.4.5, 2.2.7.2.4.6, special provision 336 of Chapter 3.3 and 4.1.9.3.

Any packaging modified, unless to improve safety, or manufactured after 31 December 2003, shall meet the requirements of RID. Packages prepared for carriage not later than 31 December 2003 under the 1985 or 1985 (as amended 1990) Editions of IAEA Safety Series No. 6 may continue in transport. Packages prepared for carriage after this date shall meet the requirements of RID.

**1.6.6.2 Packages approved under the 1973, 1973 (as amended), 1985 and 1985 (as amended 1990) editions of IAEA Safety Series No. 6**

**1.6.6.2.1** Packagings manufactured to a package design approved by the competent authority under the provisions of the 1973 or 1973 (as amended) Editions of IAEA Safety Series No. 6 may continue to be used, subject to: multilateral approval of package design, the mandatory programme of quality assurance in accordance with the applicable requirements of 1.7.3 and the activity limits and material restrictions of 2.2.7.2.2, 2.2.7.2.4.1, 2.2.7.2.4.4, 2.2.7.2.4.5, 2.2.7.2.4.6, special provision 337 of Chapter 3.3 and 4.1.9.3. No new manufacture of such packaging shall be permitted to commence. Changes in the design of the packaging or in the nature or quantity of the authorized radioactive contents which, as determined by the competent authority, would significantly affect safety shall require that the requirements of RID be met. A serial number according to the provision of 5.2.1.7.5 shall be assigned to and marked on the outside of each packaging.

**1.6.6.2.2** Packagings manufactured to a package design approved by the competent authority under the provisions of the 1985 or 1985 (as amended 1990) Editions of IAEA Safety Series No. 6 may continue to be used, subject to: the multilateral approval of package design; the mandatory programme of quality assurance in accordance with the requirements of 1.7.3 and the activity limits and material restrictions of 2.2.7.2.2, 2.2.7.2.4.1, 2.2.7.2.4.4, 2.2.7.2.4.5, 2.2.7.2.4.6, special provision 337 of Chapter 3.3 and 4.1.9.3. Changes in the design of the packaging or in the nature or quantity of the authorized radioactive contents which, as determined by the competent authority, would significantly affect safety shall require that the requirements of RID be met. All packagings for which manufacture begins after 31 December 2006 shall meet the requirements of RID.

**1.6.6.3 Special form radioactive material approved under the 1973, 1973 (as amended), 1985 and 1985 (as amended 1990) Editions of IAEA Safety Series No. 6**

Special form radioactive material manufactured to a design which had received unilateral approval by the competent authority under the 1973, 1973 (as amended), 1985 or 1985 (as amended 1990) Editions of IAEA Safety Series No. 6 may continue to be used when in compliance with the mandatory programme of quality assurance in accordance with the applicable requirements of 1.7.3. All special form radioactive material manufactured after 31 December 2003 shall meet the requirements of RID.

## Chapter 1.7

### General provisions concerning Class 7

#### 1.7.1

##### Scope and application

**NOTE 1:** In the event of accidents or incidents during the carriage of radioactive material, emergency provisions, as established by relevant national and/or international organizations, shall be observed to protect persons, property and the environment. Appropriate guidelines for such provisions are contained in "Planning and Preparing for Emergency Response to Transport Accidents Involving Radioactive Material", Safety Standard Series No. TS-G-1.2 (ST-3), IAEA, Vienna (2002).

**2:** Emergency procedures shall take into account the formation of other dangerous substances that may result from the reaction between the contents of a consignment and the environment in the event of an accident.

#### 1.7.1.1

RID establishes standards of safety which provide an acceptable level of control of the radiation, criticality and thermal hazards to persons, property and the environment that are associated with the carriage of radioactive material. These standards are based on the IAEA Regulations for the Safe Transport of Radioactive Material, 2005 edition, Safety Standards Series No. TS-R-1, IAEA, Vienna (2005). Explanatory material on the 1996 edition of TS-R-1 can be found in the "Advisory Material for the IAEA Regulations for the Safe Transport of Radioactive Material", Safety Standards Series No. TS-G-1.1 (ST-2), IAEA, Vienna (2002).

#### 1.7.1.2

The objective of RID is to protect persons, property and the environment from the effects of radiation during the carriage of radioactive material. This protection is achieved by requiring:

- (a) Containment of the radioactive contents;
- (b) Control of external radiation levels;
- (c) Prevention of criticality; and
- (d) Prevention of damage caused by heat.

These requirements are satisfied firstly by applying a graded approach to contents limits for packages and wagons and to performance standards applied to package designs depending upon the hazard of the radioactive contents. Secondly, they are satisfied by imposing requirements on the design and operation of packages and on the maintenance of packagings, including a consideration of the nature of the radioactive contents. Finally, they are satisfied by requiring administrative controls including, where appropriate, approval by competent authorities.

#### 1.7.1.3

RID applies to the carriage of radioactive material by rail including carriage which is incidental to the use of the radioactive material. Carriage comprises all operations and conditions associated with and involved in the movement of radioactive material; these include the design, manufacture, maintenance and repair of packaging, and the preparation, consigning, loading, carriage including in-transit storage, unloading and receipt at the final destination of loads of radioactive material and packages. A graded approach is applied to the performance standards in RID that is characterized by three general severity levels:

- (a) Routine conditions of carriage (incident free);
- (b) Normal conditions of carriage (minor mishaps);
- (c) Accident conditions of carriage.

#### 1.7.1.4

The provisions laid down in RID do not apply to the carriage of:

- (a) Radioactive material that is an integral part of the means of transport;
- (b) Radioactive material moved within an establishment which is subject to appropriate safety regulations in force in the establishment and where the movement does not involve public roads or railways;
- (c) Radioactive material implanted or incorporated into a person or live animal for diagnosis or treatment;
- (d) Radioactive material in consumer products which have received regulatory approval, following their sale to the end user;
- (e) Natural material and ores containing naturally occurring radionuclides which are either in their natural state, or have only been processed for purposes other than for extraction of the radionuclides, and which are not intended to be processed for use of these radionuclides provided the activity concentration of the material does not exceed 10 times the values specified in 2.2.7.2.2.1 (b), or calculated in accordance with 2.2.7.2.2.2 to 2.2.7.2.2.6;
- (f) Non-radioactive solid objects with radioactive substances present on any surfaces in quantities not in excess of the limit set out in the definition for "contamination" in 2.2.7.1.2.

**1.7.1.5 Specific provisions for the carriage of excepted packages**

Excepted packages as specified in 2.2.7.2.4.1 shall be subject only to the following provisions of Parts 5 to 7:

- (a) The applicable requirements in 5.1.2, 5.1.3.2, 5.1.4, 5.2.1.2, 5.2.1.7.1 to 5.2.1.7.3, 5.2.1.9, 5.4.1.1.1 (a), (g) and (h) and 7.5.11 CW 33 (5.2);
- (b) The requirements for excepted packages specified in 6.4.4; and
- (c) If the excepted package contains fissile material, one of the fissile exceptions provided by 2.2.7.2.3.5 shall apply and the requirement of 6.4.7.2 shall be met.

Excepted packages are subject to the relevant provisions of all other parts of RID.

**1.7.2 Radiation protection programme**

**1.7.2.1** The carriage of radioactive material shall be subject to a radiation protection programme which shall consist of systematic arrangements aimed at providing adequate consideration of radiation protection measures.

**1.7.2.2** Doses to persons shall be below the relevant dose limits. Protection and safety shall be optimized in order that the magnitude of individual doses, the number of persons exposed, and the likelihood of incurring exposure shall be kept as low as reasonably achievable, economic and social factors being taken into account within the restriction that the doses to individuals be subject to dose constraints. A structured and systematic approach shall be adopted and shall include consideration of the interfaces between carriage and other activities.

**1.7.2.3** The nature and extent of the measures to be employed in the programme shall be related to the magnitude and likelihood of radiation exposures. The programme shall incorporate the requirements in 1.7.2.2, 1.7.2.4 and 1.7.2.5. Programme documents shall be available, on request, for inspection by the relevant competent authority.

**1.7.2.4** For occupational exposures arising from transport activities, where it is assessed that the effective dose:

- (a) is likely to be between 1 mSv and 6 mSv in a year, a dose assessment programme via work place monitoring or individual monitoring shall be conducted;
- (b) is likely to exceed 6 mSv in a year, individual monitoring shall be conducted.

When individual monitoring or work place monitoring is conducted, appropriate records shall be kept.

**NOTE:** For occupational exposures arising from transport activities, where it is assessed that the effective dose is most unlikely to exceed 1 mSv in a year, no special work patterns, detailed monitoring, dose assessment programmes or individual record keeping need be required.

**1.7.2.5** Workers (see 7.5.11, CW 33 Note 3) shall receive appropriate training concerning radiation protection including the precautions to be observed in order to restrict their occupational exposure and the exposure of other persons who might be affected by their actions.

**1.7.3 Quality assurance**

Quality assurance programmes based on international, national or other standards acceptable to the competent authority shall be established and implemented for the design, manufacture, testing, documentation, use, maintenance and inspection of all special form radioactive material, low dispersible radioactive material and packages and for carriage and in-transit storage operations to ensure compliance with the relevant provisions of RID. Certification that the design specification has been fully implemented shall be available to the competent authority. The manufacturer, consignor or user shall be prepared to provide facilities for competent authority inspection during manufacture and use and to demonstrate to any cognizant competent authority that:

- (a) the manufacturing methods and materials used are in accordance with the approved design specifications; and
- (b) all packagings are periodically inspected and, as necessary, repaired and maintained in good condition so that they continue to comply with all relevant requirements and specifications, even after repeated use.

Where competent authority approval is required, such approval shall take into account and be contingent upon the adequacy of the quality assurance programme.

**1.7.4 Special arrangement**

**1.7.4.1** Special arrangement shall mean those provisions, approved by the competent authority, under which consignments which do not satisfy all the requirements of RID applicable to radioactive material may be carried.

**NOTE:** Special arrangement is not considered to be a temporary derogation in accordance with 1.5.1.

**1.7.4.2** Consignments for which conformity with any provision applicable to Class 7 is impracticable shall not be carried except under special arrangement. Provided the competent authority is satisfied that conformity with the Class 7 provisions of RID is impracticable and that the requisite standards of safety established by RID have been demonstrated through alternative means the competent authority may approve special arrangement transport operations for single or a planned series of multiple consignments. The overall level of safety in carriage shall be at least equivalent to that which would be provided if all the applicable requirements had been met. For international consignments of this type, multilateral approval shall be required.

**1.7.5 Radioactive material possessing other dangerous properties**

In addition to the radioactive and fissile properties, any subsidiary risk of the contents of the package, such as explosiveness, flammability, pyrophoricity, chemical toxicity and corrosiveness, shall also be taken into account in the documentation, packing, labelling, marking, placarding, stowage, segregation and carriage, in order to be in compliance with all relevant provisions for dangerous goods of RID.

**1.7.6 Non-compliance**

**1.7.6.1** In the event of a non-compliance with any limit in RID applicable to radiation level or contamination,

- (a) The consignor shall be informed of the non-compliance
  - (i) by the carrier if the non-compliance is identified during carriage; or
  - (ii) by the consignee if the non-compliance is identified at receipt;
- (b) The carrier, consignor or consignee, as appropriate shall:
  - (i) take immediate steps to mitigate the consequences of the non-compliance;
  - (ii) investigate the non-compliance and its causes, circumstances and consequences;
  - (iii) take appropriate action to remedy the causes and circumstances that led to the non-compliance and to prevent a recurrence of similar circumstances that led to the non-compliance; and
  - (iv) communicate to the competent authority(ies) on the causes of the non-compliance and on corrective or preventive actions taken or to be taken; and
- (c) The communication of the non-compliance to the consignor and competent authority(ies), respectively, shall be made as soon as practicable and it shall be immediate whenever an emergency exposure situation has developed or is developing.

## Chapter 1.8

### Checks and other support measures to ensure compliance with safety requirements

#### 1.8.1 Administrative controls of dangerous goods

- 1.8.1.1** The competent authorities of the Member States may, on their national territory, at any time, conduct spot checks to verify whether the requirements concerning the carriage of dangerous goods have been met including, in accordance with 1.10.1.5, those concerning security measures.

These checks shall, however, be made without endangering persons, property or the environment and without major disruption of rail services.

- 1.8.1.2** Participants in the carriage of dangerous goods (Chapter 1.4) shall, without delay, in the context of their respective obligations, provide the competent authorities and their agents with the necessary information for carrying out the checks.

- 1.8.1.3** The competent authorities may also, for the purposes of carrying out checks on the premises of the enterprises participating in the carriage of dangerous goods (Chapter 1.4), make inspections, consult the necessary documents and remove samples of dangerous goods or packagings for examination, provided that safety is not jeopardized thereby. The participants in the carriage of dangerous goods (Chapter 1.4) shall also make the wagons or parts of wagons and the equipment and installations accessible for the purpose of checking where this is possible and reasonable. They may, if they deem necessary, designate a person from the enterprise to accompany the representative of the competent authority.

- 1.8.1.4** If the competent authorities observe that the requirements of RID have not been met, they may prohibit a consignment or interrupt a transport operation until the defects observed are rectified, or they may prescribe other appropriate measures. Immobilization may take place on the spot or at another place selected by the authorities for safety reasons. These measures shall not cause a major disruption in rail services.

#### 1.8.2 Mutual administrative support

- 1.8.2.1** The Member States shall agree on mutual administrative support for the implementation of RID.

- 1.8.2.2** When a Member State has reasons to observe that the safety of the carriage of dangerous goods on its territory is compromised as a result of very serious or repeated infringements by an enterprise which has its headquarters on the territory of another Member State, it shall notify the competent authorities of this Member State of such infringements. The competent authorities of the Member State on the territory of which the very serious or repeated infringements were observed may request the competent authorities of the Member State on the territory of which the enterprise has its headquarters to take appropriate measures against the offender(s). The transmission of data referring to persons shall not be permitted unless it is necessary for the prosecution of very serious or repeated infringements.

- 1.8.2.3** The authorities notified shall communicate to the competent authorities of the Member State on the territory of which the infringements were observed, the measures which have, if necessary, been taken with respect to the enterprise.

#### 1.8.3 Safety adviser

- 1.8.3.1** Each undertaking, the activities of which include the carriage, or the related packing, loading, filling or unloading of dangerous goods by rail shall appoint one or more safety advisers for the carriage of dangerous goods, responsible for helping to prevent the risks inherent in such activities with regard to persons, property and the environment.

- 1.8.3.2** The competent authorities of the Member States may provide that these requirements shall not apply to undertakings:

- (a) the activities of which include the carriage of dangerous goods in means of transport belonging to the armed forces or for which the armed forces are responsible, or
- (b) the activities of which concern quantities in each wagon smaller than those referred to in 1.1.3.6, 1.7.1.4 and in Chapters 3.3, 3.4 and 3.5, or
- (c) the main or secondary activities of which are not the carriage or the related loading or unloading of dangerous goods but which occasionally engage in the national carriage or the related loading or unloading of dangerous goods posing little danger or risk of pollution.

- 1.8.3.3** The main task of the adviser shall be, under the responsibility of the head of the undertaking, to seek by all appropriate means and by all appropriate action, within the limits of the relevant activities of that undertaking, to facilitate the conduct of those activities in accordance with the requirements applicable and in the safest possible way.

With regard to the undertaking's activities, the adviser has the following duties in particular:

- monitoring compliance with the requirements governing the carriage of dangerous goods;
- advising his undertaking on the carriage of dangerous goods;
- preparing an annual report to the management of his undertaking or a local public authority, as appropriate, on the undertaking's activities in the carriage of dangerous goods. Such annual reports shall be preserved for five years and made available to the national authorities at their request.

The adviser's duties also include monitoring the following practices and procedures relating to the relevant activities of the undertaking:

- the procedures for compliance with the requirements governing the identification of dangerous goods being transported;
- the undertaking's practice in taking account, when purchasing means of transport, of any special requirements in connection with the dangerous goods being transported;
- the procedures for checking the equipment used in connection with the carriage, loading or unloading of dangerous goods;
- the proper training of the undertaking's employees and the maintenance of records of such training;
- the implementation of proper emergency procedures in the event of any accident or incident that may affect safety during the carriage, loading or unloading of dangerous goods;
- investigating and, where appropriate, preparing reports on serious accidents, incidents or serious infringements recorded during the carriage, loading or unloading of dangerous goods;
- the implementation of appropriate measures to avoid the recurrence of accidents, incidents or serious infringements;
- the account taken of the legal prescriptions and special requirements associated with the carriage of dangerous goods in the choice and use of sub-contractors or third parties;
- verification that employees involved in the carriage, loading or unloading of dangerous goods have detailed operational procedures and instructions;
- the introduction of measures to increase awareness of the risks inherent in the carriage, loading and unloading of dangerous goods;
- the implementation of verification procedures to ensure the presence on board means of transport of the documents and safety equipment which must accompany transport and the compliance of such documents and equipment with the regulations;
- the implementation of verification procedures to ensure compliance with the requirements governing loading and unloading;
- the existence of the security plan indicated in 1.10.3.2.

- 1.8.3.4** The adviser may also be the head of the undertaking, a person with other duties in the undertaking, or a person not directly employed by that undertaking, provided that that person is capable of performing the duties of adviser.

- 1.8.3.5** Each undertaking concerned shall, on request, inform the competent authority or the body designated for that purpose by each Member State of the identity of its adviser.

- 1.8.3.6** Whenever an accident affects persons, property or the environment or results in damage to property or the environment during carriage, loading or unloading carried out by the undertaking concerned, the adviser shall, after collecting all the relevant information, prepare an accident report to the management of the undertaking or to a local public authority, as appropriate. That report shall not replace any report by the management of the undertaking which might be required under any other international or national legislation.

- 1.8.3.7** An adviser shall hold a vocational training certificate, valid for transport by rail. That certificate shall be issued by the competent authority or the body designated for that purpose by each Member State.

- 1.8.3.8** To obtain a certificate, a candidate shall undergo training and pass an examination approved by the competent authority of the Member State.

- 1.8.3.9** The main aims of the training shall be to provide candidates with sufficient knowledge of the risks inherent in the carriage of dangerous goods, of the laws, regulations and administrative provisions applicable to the modes of transport concerned and of the duties listed in 1.8.3.3.



- 1.8.3.10** The examination shall be organized by the competent authority or by an examining body designated by the competent authority. The examining body shall not be a training provider.

The examining body shall be designated in writing. This approval may be of limited duration and shall be based on the following criteria:

- competence of the examining body;
- specifications of the form of the examinations the examining body is proposing;
- measures intended to ensure that examinations are impartial;
- independence of the body from all natural or legal persons employing safety advisers.

- 1.8.3.11** The aim of the examination is to ascertain whether candidates possess the necessary level of knowledge to carry out the duties incumbent upon a safety adviser as listed in 1.8.3.3, for the purpose of obtaining the certificate prescribed in sub-section 1.8.3.7, and it shall cover at least the following subjects:

- (a) Knowledge of the types of consequences which may be caused by an accident involving dangerous goods and knowledge of the main causes of accidents;
- (b) Requirements under national law, international conventions and agreements, with regard to the following in particular:
  - classification of dangerous goods (procedure for classifying solutions and mixtures, structure of the list of substances, classes of dangerous goods and principles for their classification, nature of dangerous goods transported, physical, chemical and toxicological properties of dangerous goods);
  - general packing provisions, provisions for tanks and tank-containers (types, code, marking, construction, initial and periodic inspection and testing);
  - marking and labelling, placarding and orange plates marking (marking and labelling of packages, placing and removal of placards and orange plates);
  - particulars in the transport document (information required);
  - method of consignment and restrictions on forwarding (wagon load, full wagon load, carriage in bulk, carriage in intermediate bulk containers, carriage in containers, carriage in fixed or demountable tanks);
  - transport of passengers;
  - prohibitions and precautions relating to mixed loading;
  - segregation of goods;
  - limitation of the quantities carried and quantities exemptions;
  - handling and stowage (loading and unloading – filling ratios –, stowage and segregation);
  - cleaning and/or degassing before loading and after unloading;
  - crews, vocational training;
  - documents to be carried on board (transport documents, copies of any derogations, other documents);
  - operational discharges or accidental leaks of pollutants;
  - requirements relating to transport equipment.

**1.8.3.12 Examinations**

- 1.8.3.12.1** The examination shall consist of a written test which may be supplemented by an oral examination.

- 1.8.3.12.2** The use in the written test of documentation other than international or national regulations is not permitted.

- 1.8.3.12.3** Electronic media may be used only if provided by the examining body. There shall be no means of a candidate introducing further data to the electronic media provided; the candidate may only answer the questions posed.

- 1.8.3.12.4** The written test shall consist of two parts:

- (a) Candidates shall receive a questionnaire. It shall include at least 20 open questions covering at least the subjects mentioned in the list in 1.8.3.11. However, multiple choice questions may be used. In this case, two multiple choice questions count as one open question. Amongst these subjects particular attention shall be paid to the following subjects:
  - general preventive and safety measures;
  - classification of dangerous goods;
  - general packing provisions, including tanks, tank-containers, tank-wagons, etc.;
  - danger markings and labels;
  - information in the transport document;
  - handling and stowage;
  - crew, vocational training;

- vehicle documents and transport documents;
- requirements concerning transport equipment.

(b) Candidates shall undertake a case study in keeping with the duties of the adviser referred to in 1.8.3.3, in order to demonstrate that they have the necessary qualifications to fulfil the task of adviser.

**1.8.3.13** The Member States may decide that candidates who intend working for undertakings specializing in the carriage of certain types of dangerous goods need only be questioned on the substances relating to their activities. These types of goods are:

- Class 1;
- Class 2;
- Class 7;
- Classes 3, 4.1, 4.2, 4.3, 5.1, 5.2, 6.1, 6.2, 8 and 9;
- UN Nos. 1202, 1203, 1223, 3475 and aviation fuel classified under UN Nos. 1268 or 1863.

The certificate prescribed in 1.8.3.7 shall clearly indicate that it is only valid for one type of the dangerous goods referred to in this sub-section and on which the adviser has been questioned under the conditions defined in 1.8.3.12.

Certificates of training as safety advisers issued before 1 January 2009 for UN Nos. 1202, 1203 and 1223 are also valid for UN No. 3475 and aviation fuel classified under UN Nos. 1268 or 1863.

**1.8.3.14** The competent authority or the examining body shall keep a running list of the questions that have been included in the examination.

**1.8.3.15** The certificate prescribed in 1.8.3.7 shall take the form laid down in 1.8.3.18 and shall be recognized by all Member States.

**1.8.3.16 Validity and renewal of certificates**

**1.8.3.16.1** The certificate shall be valid for five years. The period of the validity of a certificate shall be extended from the date of its expiry for five years at a time where, during the year before its expiry, its holder has passed an examination. The examination shall be approved by the competent authority.

**1.8.3.16.2** The aim of the examination is to ascertain that the holder has the necessary knowledge to carry out the duties set out in 1.8.3.3. The knowledge required is set out in 1.8.3.11 (b) and shall include the amendments to the regulations introduced since the award of the last certificate. The examination shall be held and supervised on the same basis as in 1.8.3.10 and 1.8.3.12 to 1.8.3.14. However, the holder need not undertake the case study specified in 1.8.3.12.4 (b).

**1.8.3.17** The requirements set out in 1.8.3.1 to 1.8.3.16 shall be considered to have been fulfilled if the relevant conditions of Council Directive 96/35/EC of 3 June 1996 on the appointment and vocational qualification of safety advisers for the transport of dangerous goods by road, rail and inland waterway<sup>13</sup> and of Directive 2000/18/EC of the European Parliament and of the Council of 17 April 2000 on minimum examination requirements for safety advisers for the transport of dangerous goods by road, rail or inland waterway<sup>14</sup> are applied.

**1.8.3.18 Form of certificate**

Certificate of training as safety adviser for the transport of dangerous goods

Certificate No: .....

Distinguishing sign of the State issuing the certificate: .....

Surname: .....

Forename(s): .....

Date and place of birth: .....

Nationality: .....

Signature of holder: .....

<sup>13</sup> Official Journal of the European Communities, No. L145 of 19 June 1996, page 10.

<sup>14</sup> Official Journal of the European Communities, No. L118 of 19 May 2000, page 41.

Valid until ..... for undertakings which transport dangerous goods and for undertakings which carry out related loading or unloading:

- ☐ by road  
☐ by rail  
☐ by inland waterway

Issued by: .....

Date: .....

Signature: .....

Extended until: .....

By: .....

Date: .....

Signature: .....

#### **1.8.4 List of competent authorities and bodies designated by them**

The Member States shall communicate to the Secretariat of OTIF the addresses of the authorities and bodies designated by them which are competent in accordance with national law to implement RID, referring in each case to the relevant requirement of RID and giving the addresses to which the relevant applications should be made.

The Secretariat of OTIF shall establish a list on the basis of the information received and shall keep it up-to-date. It shall communicate this list and the amendments thereto to the Member States.

#### **1.8.5 Notifications of occurrences involving dangerous goods**

**1.8.5.1** If a serious accident or incident takes place during loading, filling, carriage or unloading of dangerous goods on the territory of a Member State, the loader, filler, carrier, consignee or if the case may be the railway infrastructure manager, respectively, shall ascertain that a report conforming to the model prescribed in 1.8.5.4 is made to the competent authority of the Member State concerned.

**1.8.5.2** The Member State shall in turn, if necessary, make a report to the Secretariat of OTIF with a view to informing the other Member States.

**1.8.5.3** An occurrence subject to report in accordance with 1.8.5.1 has occurred if dangerous goods were released or if there was an imminent risk of loss of product, if personal injury, material or environmental damage occurred, or if the authorities were involved and one or more of the following criteria has/have been met:

Personal injury means an occurrence in which death or injury directly relating to the dangerous goods carried has occurred, and where the injury

- (a) requires intensive medical treatment,
- (b) requires a stay in hospital of at least one day, or
- (c) results in the inability to work for at least three consecutive days.

Loss of product means the release of dangerous goods

- (a) of transport category 0 or 1 in quantities of 50 kg / 50 l or more,
- (b) of transport category 2 in quantities of 333 kg / 333 l or more, or
- (c) of transport category 3 or 4 in quantities of 1 000 kg / 1 000 l or more.

The loss of product criterion also applies if there was an imminent risk of loss of product in the above-mentioned quantities. As a rule, this has to be assumed if, owing to structural damage, the means of containment is no longer suitable for further carriage or if, for any other reason, a sufficient level of safety is no longer ensured (e.g. owing to distortion of tanks or containers, overturning of a tank or fire in the immediate vicinity).

If dangerous goods of Class 6.2 are involved, the obligation to report applies without quantity limitation.

In occurrences involving Class 7 material, the criteria for loss of product are:

- (a) Any release of radioactive material from the packages;

- (b) Exposure leading to a breach of the limits set out in the regulations for protection of workers and members of the public against ionizing radiation (Schedule II of IAEA Safety Series No. 115 – "International Basic Safety Standards for Protection Against Ionizing Radiation and for Safety of Radiation Sources"); or
- (c) Where there is reason to believe that there has been a significant degradation in any package safety function (containment, shielding, thermal protection or criticality) that may have rendered the package unsuitable for continued carriage without additional safety measures.

**NOTE:** See the requirements of 7.5.11 CW33 (6) for undeliverable consignments.

Material damage or environmental damage means the release of dangerous goods, irrespective of the quantity, where the estimated amount of damage exceeds 50,000 Euros. Damage to any directly involved means of carriage containing dangerous goods and to the modal infrastructure shall not be taken into account for this purpose.

Involvement of authorities means the direct involvement of the authorities or emergency services during the occurrence involving dangerous goods and the evacuation of persons or closure of public traffic routes (roads/railways) for at least three hours owing to the danger posed by the dangerous goods.

If necessary, the competent authority may request further relevant information.

**1.8.5.4 Model for report on occurrences during the carriage of dangerous goods**

**Report on occurrences during the carriage of dangerous goods in accordance with RID/ADR section 1.8.5**

Carrier/
Railway infrastructure operator: .....
Address: .....
Contact name: ..... Telephone: ..... Fax: .....

(The competent authority shall remove this cover sheet before forwarding the report)

[illegible]

6. Dangerous goods involved						
UN Num- ber <sup>(1)</sup>	Class	Packing Group	Estimated quantity of loss of products (kg or l) <sup>(2)</sup>	Means of contain- ment <sup>(3)</sup>	Means of con- tainment mate- rial	Type of failure of means of con- tainment <sup>(4)</sup>
(1) For dangerous goods assigned to collective entries to which special provision 274 applies, also the technical name shall be indicated.				(2) For Class 7, indicate values according to the criteria in 1.8.5.3.		
(3) Indicate the appropriate number 1 Packaging 2 IBC 3 Large packaging 4 Small container 5 Wagon 6 Vehicle 7 Tank-wagon 8 Tank-vehicle 9 Battery-wagon 10 Battery-vehicle 11 Wagon with demountable tanks 12 Demountable tank 13 Large container 14 Tank-container 15 MEGC 16 Portable tank				(4) Indicate the appropriate number 1 Loss 2 Fire 3 Explosion 4 Structural failure		

7. Cause of occurrence (if clearly known)
<input type="checkbox"/> Technical fault <input type="checkbox"/> Faulty load securing <input type="checkbox"/> Operational cause (rail operation) <input type="checkbox"/> Other: .....

8. Consequences of occurrence
<u>Personal injury in connection with the dangerous goods involved:</u> <input type="checkbox"/> Deaths (number: .....) <input type="checkbox"/> Injured (number: .....)
<u>Loss of product:</u> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Imminent risk of loss of product
<u>Material/Environmental damage:</u> <input type="checkbox"/> Estimated level of damage ≤ 50,000 Euros <input type="checkbox"/> Estimated level of damage > 50,000 Euros
<u>Involvement of authorities:</u> <input type="checkbox"/> Yes → <input type="checkbox"/> Evacuation of persons for a duration of at least three hours caused by the dangerous goods involved <input type="checkbox"/> Closure of public traffic routes for a duration of at least three hours caused by the dangerous goods involved  <input type="checkbox"/> No

If necessary, the competent authority may request further relevant information.



**1.8.6 Administrative controls for application of the conformity assessments, periodic inspections, and exceptional checks described in 1.8.7**

**1.8.6.1** The competent authority may approve inspection bodies for conformity assessments, periodic inspections, exceptional checks and surveillance of the in-house inspection service as specified in section 1.8.7.

**1.8.6.2** The competent authority shall ensure the monitoring of the inspection bodies and shall revoke or restrict the approval given, if it notes that an approved body is no longer in compliance with the approval and the requirements of 1.8.6.4 or does not follow the procedures specified in the provisions of RID.

**1.8.6.3** If the approval is revoked or restricted or when the inspection body has ceased activity, the competent authority shall take the appropriate steps to ensure that the files are either processed by another inspection body or kept available.

**1.8.6.4** The inspection body shall:

- (a) Have a staff with an organisational structure, capable, trained, competent and skilled, to satisfactorily perform its technical functions;
- (b) Have access to suitable and adequate facilities and equipment;
- (c) Operate in an impartial manner and be free from any influence which could prevent it from doing so;
- (d) Ensure commercial confidentiality of the commercial and proprietary activities of the manufacturer and other bodies;
- (e) Maintain clear demarcation between actual inspection body functions and unrelated functions;
- (f) Have a documented quality system;
- (g) Ensure that the tests and inspections specified in the relevant standard and in RID are performed; and
- (h) Maintain an effective and appropriate report and record system in accordance with 1.8.7.

The inspection body shall additionally be accredited according to the standard EN ISO/IEC 17020:2004, as specified in 6.2.3.6 and TA4 and TT9 of 6.8.4.

An inspection body starting a new activity may be approved temporarily. Before temporary designation, the competent authority shall ensure that the inspection body meets the requirements of the standard EN ISO/IEC 17020:2004. The inspection body shall be accredited in its first year of activity to be able to continue this new activity.

**1.8.7 Procedures for conformity assessment and periodic inspection**

**NOTE:** In this section, "relevant body" means a body assigned in 6.2.2.9 when certifying UN pressure receptacles, in 6.2.3.6 when approving non-UN pressure receptacles and in special provisions TA4 and TT9 of 6.8.4.

**1.8.7.1 General provisions**

**1.8.7.1.1** The procedures in section 1.8.7 shall be applied according to the Table in 6.2.3.6 when approving non-UN pressure receptacles and according to TA4 and TT9 of 6.8.4 when approving tanks, battery-wagons and MEGCs.

The procedures in section 1.8.7 may be applied according to the Table in 6.2.2.9 when certifying UN pressure receptacles.

**1.8.7.1.2** Each application for

- (a) The type approval in accordance with 1.8.7.2 or;
- (b) The supervision of manufacture in accordance with 1.8.7.3 and the initial inspection and test in accordance with 1.8.7.4; or
- (c) The periodic inspection and exceptional checks in accordance with 1.8.7.5

shall be lodged by the applicant with a single competent authority, its delegate or an approved inspection body of his choice.

**1.8.7.1.3** The application shall include:

- (a) The name and address of the applicant;
- (b) For conformity assessment where the applicant is not the manufacturer, the name and address of the manufacturer;
- (c) A written declaration that the same application has not been lodged with any other competent authority, its delegate or inspection body;
- (d) The relevant technical documentation specified in 1.8.7.7;

(e) A statement allowing the competent authority, its delegate or inspection body access for inspection purposes to the locations of manufacture, inspection, testing and storage and providing it with all necessary information.

**1.8.7.1.4** Where the applicant can demonstrate to the satisfaction of the competent authority or its delegated inspection body conformity with 1.8.7.6 the applicant may establish an in-house inspection service which may perform part or all of the inspections and tests when specified in 6.2.2.9 or 6.2.3.6.

#### **1.8.7.2 Type approval**

**1.8.7.2.1** The applicant shall:

- (a) In the case of pressure receptacles, place at the disposal of the relevant body representative samples of the production envisaged. The relevant body may request further samples if required by the test programme;
- (b) In the case of tanks, battery-wagons or MEGCs, give access to the prototype for type testing.

**1.8.7.2.2** The relevant body shall:

- (a) Examine the technical documentation specified in 1.8.7.7.1 to verify that the design is in accordance with the relevant provisions of RID, and the prototype or the prototype lot has been manufactured in conformity with the technical documentation and is representative of the design;
- (b) Perform the examinations and witness the tests specified in RID, to determine that the provisions have been applied and fulfilled, and the procedures adopted by the manufacturer meet the requirements;
- (c) Check the certificate(s) issued by the materials manufacturer(s) against the relevant provisions of RID;
- (d) As applicable, approve the procedures for the permanent joining of parts or check that they have been previously approved, and verify that the staff undertaking the permanent joining of parts and the non-destructive tests are qualified or approved;
- (e) Agree with the applicant the location and testing facilities where the examinations and necessary tests are to be carried out.

The relevant body shall issue a type-examination report to the applicant.

**1.8.7.2.3** Where the type satisfies all applicable provisions, the competent authority, its delegate or the inspection body, shall issue a type approval certificate.

This certificate shall contain:

- (a) The name and address of the issuer;
- (b) The name and address of the manufacturer;
- (c) A reference to the version of RID and standards used for the type examination;
- (d) Any requirements resulting from the examination;
- (e) The necessary data for identification of the type and variation, as defined by the relevant standard; and
- (f) The reference to the type examination report(s).

A list of the relevant parts of the technical documentation shall be annexed to the certificate (see 1.8.7.7.1).

#### **1.8.7.3 Supervision of manufacture**

**1.8.7.3.1** The manufacturing process shall be subject to a survey by the relevant body to ensure the product is produced in conformity with the provisions of the type approval.

**1.8.7.3.2** The applicant shall take all the necessary measures to ensure that the manufacturing process complies with the applicable provisions of RID and of the type approval certificate and its annexes.

**1.8.7.3.3** The relevant body shall:

- (a) Verify the conformity with the technical documentation specified in 1.8.7.7.2;
- (b) Verify that the manufacturing process produces products in conformity with the requirements and the documentation which apply to it;
- (c) Verify the traceability of materials and check the material certificate(s) against the specifications;
- (d) As applicable, verify that the personnel undertaking the permanent joining of parts and the non-destructive tests are qualified or approved;
- (e) Agree with the applicant on the location where the examinations and necessary tests are to be carried out; and
- (f) Record the results of its survey.

**1.8.7.4 Initial inspection and tests****1.8.7.4.1** The applicant shall:

- (a) Affix the marks specified in RID; and
- (b) Supply to the relevant body the technical documentation specified in 1.8.7.7.

**1.8.7.4.2** The relevant body shall:

- (a) Perform the necessary examinations and tests in order to verify that the product is manufactured in accordance with the type approval and the relevant provisions;
- (b) Check the certificates supplied by the manufacturers of service equipment against the service equipment;
- (c) Issue an initial inspection and test report to the applicant relating to the detailed tests and verifications carried out and the verified technical documentation; and
- (d) Draw up a written certificate of conformity of the manufacture and affix its registered mark when the manufacture satisfies the provisions.

The certificate and report may cover a number of items of the same type (group certificate or report).

**1.8.7.4.3** The certificate shall contain as a minimum:

- (a) The name and address of the relevant body;
- (b) The name and address of the manufacturer and the name and address of the applicant, if not the manufacturer;
- (c) A reference to the version of the RID and standards used for the initial inspections and tests;
- (d) The results of the inspections and tests;
- (e) The data for identification of the inspected product(s), at least the serial number or for non refillable cylinders the batch number; and
- (f) The type approval number.

**1.8.7.5 Periodic inspection and exceptional checks**

## The relevant body shall:

- (a) Perform the identification and verify the conformity with the documentation;
- (b) Carry out the inspections and witness the tests in order to check that the requirements are met;
- (c) Issue reports of the results of the inspections and tests, which may cover a number of items; and
- (d) Ensure that the required marks are applied.

**1.8.7.6 Surveillance of the applicant's in-house inspection service****1.8.7.6.1** The applicant shall:

- (a) Implement an in-house inspection service with a quality system for inspections and tests documented in 1.8.7.7.5 and subject to surveillance;
- (b) Fulfil the obligations arising out of the quality system as approved and to ensure that it remains satisfactory and efficient;
- (c) Appoint trained and competent personnel for the in-house inspection service; and
- (d) Affix the registered mark of the inspection body where appropriate.

**1.8.7.6.2** The inspection body shall carry out an initial audit. If satisfactory the inspection body shall issue an authorisation for a period not exceeding three years. The following provisions shall be met:

- (a) This audit shall confirm that the inspections and tests performed on the product are in compliance with the requirements of RID;
- (b) The inspection body may authorise the in-house inspection service of the applicant to affix the registered mark of the inspection body to each approved product;
- (c) The authorisation may be renewed after a satisfactory audit in the last year prior to the expiry. The new period of validity shall begin with the date of expiry of the authorisation; and
- (d) The auditors of the inspection body shall be competent to carry out the assessment of conformity of the product covered by the quality system.

**1.8.7.6.3** The inspection body shall carry out periodic audits within the duration of the authorisation to make sure that the applicant maintains and applies the quality system. The following provisions shall be met:

- (a) A minimum of two audits shall be carried out in a 12 month period;
- (b) The inspection body may require additional visits, training, technical changes, modifications of the quality system, restrict or prohibit the inspections and tests to be done by the applicant;

- (c) The inspection body shall assess any changes in the quality system and decide whether the modified quality system will still satisfy the requirements of the initial audit or whether a full reassessment is required;
- (d) The auditors of the inspection body shall be competent to carry out the assessment of conformity of the product covered by the quality system; and
- (e) The inspection body shall provide the applicant with a visit or audit report and, if a test has taken place, with a test report.

**1.8.7.6.4** In cases of non conformity with the relevant requirements the inspection body shall ensure that corrective measures are taken. If corrective measures are not taken in due time, the inspection body shall suspend or withdraw the permission for the in-house inspection service to carry out its activities. The notice of suspension or withdrawal shall be transmitted to the competent authority. A report shall be provided to the applicant giving detailed reasons for the decisions taken by the inspection body.

#### **1.8.7.7 Documents**

The technical documentation shall enable an assessment to be made of conformity with the relevant requirements.

##### **1.8.7.7.1 Documents for type approval**

The applicant shall provide as appropriate:

- (a) The list of standards used for the design and manufacture;
- (b) A description of the type including all variations;
- (c) The instructions according to the relevant column of Table A of Chapter 3.2 or a list of dangerous goods to be transported for dedicated products;
- (d) A general assembly drawing or drawings;
- (e) The detailed drawings, including the dimensions used for the calculations, of the product, the service equipment, the structural equipment, the marking and/or the labelling necessary to verify the conformity;
- (f) The calculation notes, results and conclusions;
- (g) The list of the service equipment with the relevant technical data and information on the safety devices including the calculation of the relief capacity if relevant;
- (h) The list of material requested in the standard for manufacture used for every part, sub-part, lining, service and structural equipment and the corresponding material specifications or the corresponding declaration of conformity to RID;
- (i) The approved qualification of permanent joining process;
- (j) The description of the heat treatment process(es); and
- (k) The procedures, descriptions and records of all relevant tests listed in the standards or RID for the type approval and for the manufacture.

##### **1.8.7.7.2 Documents for the supervision of manufacture**

The applicant shall make available as appropriate:

- (a) The documents listed in 1.8.7.7.1;
- (b) The manufacturing procedures including test procedures;
- (c) The manufacturing records;
- (d) The approved qualifications of permanent joining operators;
- (e) The approved qualifications of the non destructive test operators;
- (f) The reports of the destructive and non destructive tests;
- (g) The heat treatment records; and
- (h) The calibration records.

##### **1.8.7.7.3 Documents for initial inspection and tests**

The applicant shall make available as appropriate:

- (a) The documents listed in 1.8.7.7.1 and 1.8.7.7.2;
- (b) The material certificates of the product and any sub-parts;
- (c) The declarations of conformity and material certificates of the service equipment; and
- (d) A declaration of conformity including the description of the product and all the variations adopted from the type approval.

**1.8.7.7.4 Documents for periodic inspections and exceptional checks**

The applicant shall make available as appropriate:

- (a) For pressure receptacles, the documents specifying special requirements when the manufacturing and periodic inspections and tests standards so require;
- (b) For tanks,
  - (i) the tank record; and
  - (ii) one or more of the documents mentioned in 1.8.7.7.1 to 1.8.7.7.3.

**1.8.7.7.5 Documents for the assessment of in-house inspection service**

The applicant for in-house inspection service shall make available the quality system documentation as appropriate:

- (a) The organisational structure and responsibilities;
- (b) The relevant inspection and test, quality control, quality assurance and process operation instructions, and systematic actions that will be used;
- (c) The quality records, such as inspection reports, test data, calibration data and certificates;
- (d) The management reviews to ensure the effective operation of the quality system arising from the audits in accordance with 1.8.7.6;
- (e) The process describing how customer and regulation requirements are met;
- (f) The process for control of documents and their revision;
- (g) The procedures for dealing with non-conforming products; and
- (h) The training programmes and qualification procedures for relevant personnel.

**1.8.7.8 Products manufactured, approved, inspected and tested according to standards**

The requirements of 1.8.7.7 are considered to have been complied with if the following standards, as relevant, are applied:

Applicable sub-section and paragraph	References	Title of the document
1.8.7.7.1 to 1.8.7.7.4	EN 12972:2007	Tanks for transport of dangerous goods – Testing, inspection and marking of metallic tanks

## Chapter 1.9

### Restrictions on carriage imposed by the competent authorities

- 1.9.1** A Member State may apply to the international carriage of dangerous goods by rail on its territory certain additional provisions not included in RID, provided that these additional provisions
- are in accordance with 1.9.2,
  - do not conflict with the provisions of 1.1.2 (b),
  - are contained in the Member State's domestic legislation applying equally to the domestic carriage of dangerous goods by rail on the territory of that Member State,
  - do not result in the prohibition of carriage by rail of the dangerous goods covered by these provisions in the **whole** territory of the Member State.
- 1.9.2** The additional provisions referred to in 1.9.1 are:
- (a) additional safety requirements or restrictions on carriage
- using certain structures such as bridges or tunnels<sup>15</sup>,
  - using combined transport installations such as transshipment installations, or
  - where the transport operation begins or ends in ports, railway stations or other transport terminals.
- (b) provisions according to which the carriage of certain dangerous goods on sections with special and local risks is prohibited, such as sections in residential areas, environmentally sensitive areas, economic centres or industrial zones containing hazardous installations, or to which special conditions, e.g. operational measures (reduced speed, specified journey times, prohibition on trains meeting each other, etc.) apply. Where possible, the competent authorities shall establish alternative routes which may be used for each prohibited route or each route subject to special provisions.
- (c) exceptional provisions specifying the excluded or prescribed routeing or provisions to be observed for temporary storage resulting from extreme weather conditions, earthquake, accident, demonstrations, civil disorder or military hostilities.
- 1.9.3** Application of the additional provisions in accordance with 1.9.2 (a) and (b) presupposes that the competent authority provides evidence of the need for measures.<sup>16</sup>
- 1.9.4** The competent authority of the Member State applying on its territory any additional provisions within the scope of 1.9.2 (a) and (b) above shall notify the Secretariat of OTIF, in general in advance, of the additional provisions. The Secretariat of OTIF shall bring them to the attention of the Member States.
- 1.9.5** Notwithstanding with preceding paragraphs, Member States may lay down specific safety requirements for the international carriage of dangerous goods by rail, in so far as RID does not cover that area, in particular as regards
- the running of trains,
  - operating rules for operations ancillary to transport such as marshalling and stabling,
  - management of information concerning the dangerous goods transported,
- provided they are contained in its national legislation and are also applicable to the national carriage of dangerous goods by rail in the territory of the said Member State.
- These specific requirements shall not concern the areas covered by RID, in particular those listed in 1.1.2 (a) and 1.1.2 (b).

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<sup>15</sup> For carriage through the Channel Tunnel and through tunnels with similar characteristics, see also Articles 5 § 2 (a) and (b) of Council Directive 96/49/EC on the carriage of dangerous goods by rail, published in the Official Journal of the European Communities, L 235, 17 September 1996, p. 25.

<sup>16</sup> The Generic Guideline for the Calculation of Risk inherent in the Carriage of Dangerous Goods by Rail approved by the RID Committee of Experts on 24 November 2005 may be consulted on the OTIF website ([www.otif.org](http://www.otif.org)).

## Chapter 1.10

### Security provisions

**NOTE:** For the purposes of this Chapter, security means measures or precautions to be taken to minimise theft or misuse of dangerous goods that may endanger persons, property or the environment.

#### 1.10.1 General provisions

- 1.10.1.1** All persons engaged in the carriage of dangerous goods shall consider the security requirements set out in this Chapter commensurate with their responsibilities.
- 1.10.1.2** Dangerous goods shall only be offered for carriage to carriers that have been appropriately identified.
- 1.10.1.3** Areas within temporary storage terminals, temporary storage sites, vehicle depots, berthing areas and marshalling yards used for temporary storage during carriage of dangerous goods shall be properly secured, well lit and, where possible and appropriate, not accessible to the general public.
- 1.10.1.4** Each crew member of a train carrying dangerous goods shall carry with them means of identification, which includes their photograph, during carriage.
- 1.10.1.5** Safety inspections in accordance with 1.8.1 shall cover appropriate security measures.

#### 1.10.2 Security training

- 1.10.2.1** The training and the refresher training specified in Chapter 1.3 shall also include elements of security awareness. The security refresher training need not be linked to regulatory changes only.
- 1.10.2.2** Security awareness training shall address the nature of security risks, recognising security risks, methods to address and reduce such risks and actions to be taken in the event of a security breach. It shall include awareness of security plans (if appropriate) commensurate with the responsibilities and duties of individuals and their part in implementing security plans.

#### 1.10.3 Provisions for high consequence dangerous goods

- 1.10.3.1** High consequence dangerous goods are those which have the potential for misuse in a terrorist incident and which may, as a result, produce serious consequences such as mass casualties or mass destruction. The list of high consequence dangerous goods is provided in Table 1.10.5.

#### 1.10.3.2 Security plans

- 1.10.3.2.1** Carriers, consignors and other participants specified in 1.4.2 and 1.4.3 engaged in the carriage of high consequence dangerous goods (see Table 1.10.5) shall adopt, implement and comply with a security plan that addresses at least the elements specified in 1.10.3.2.2.
- 1.10.3.2.2** The security plan shall comprise at least the following elements:
- (a) specific allocation of responsibilities for security to competent and qualified persons with appropriate authority to carry out their responsibilities;
  - (b) records of dangerous goods or types of dangerous goods concerned;
  - (c) review of current operations and assessment of security risks, including any stops necessary to the transport operation, the keeping of dangerous goods in the wagon, tank or container before, during and after the journey and the intermediate temporary storage of dangerous goods during the course of intermodal transfer or transshipment between units, as appropriate;
  - (d) clear statement of measures that are to be taken to reduce security risks, commensurate with the responsibilities and duties of the participant, including:
    - training;
    - security policies (e.g. response to higher threat conditions, new employee/employment verification, etc.);
    - operating practices (e.g. choice/use of routes where known, access to dangerous goods in intermediate temporary storage (as defined in (c)), proximity to vulnerable infrastructure etc.);
    - equipment and resources that are to be used to reduce security risks;
  - (e) effective and up to date procedures for reporting and dealing with security threats, breaches of security or security incidents;
  - (f) procedures for the evaluation and testing of security plans and procedures for periodic review and update of the plans;
  - (g) measures to ensure the physical security of transport information contained in the security plan; and



(h) measures to ensure that the distribution of information relating to the transport operation contained in the security plan is limited to those who need to have it. Such measures shall not preclude the provision of information required elsewhere in RID.

**NOTE:** Carriers, consignors and consignees should co-operate with each other and with competent authorities to exchange threat information, apply appropriate security measures and respond to security incidents.

**1.10.3.3** Devices, equipment or arrangements to prevent the theft of the train or wagon carrying high consequence dangerous goods (see Table 1.10.5) and its cargo, shall be applied and measures taken to ensure that these are operational and effective at all times. The application of these protective measures shall not jeopardize emergency response.

**NOTE:** When appropriate and already fitted, the use of transport telemetry or other tracking methods or devices should be used to monitor the movement of high consequence dangerous goods (see Table 1.10.5).

**1.10.4** The provisions of 1.10.1, 1.10.2 and 1.10.3 do not apply when the quantities carried in packages in a wagon or large container do not exceed those referred to in 1.1.3.6.3, except for Class 1 explosives of Division 1.4 with UN numbers 0104, 0237, 0255, 0267, 0289, 0361, 0365, 0366, 0440, 0441, 0455, 0456 and 0500. In addition, the provisions of 1.10.1, 1.10.2 and 1.10.3 do not apply when the quantities carried in tanks or in bulk in a wagon or container do not exceed those referred to in 1.1.3.6.3.

**1.10.5** High consequence dangerous goods are those listed in the table below and carried in quantities greater than those indicated therein.

**Table 1.10.5: List of high consequence dangerous goods**

Class	Division	Substance or article	Quantity		
			Tank (l) <sup>(c)</sup>	Bulk (kg) <sup>(c)</sup>	Packages (kg)
1	1.1	Explosives	(a)	(a)	0
	1.2	Explosives	(a)	(a)	0
	1.3	Compatibility group C explosives	(a)	(a)	0
	1.4	Explosives of UN Nos. 0104, 0237, 0255, 0267, 0289, 0361, 0365, 0366, 0440, 0441, 0455, 0456 and 0500	(a)	(a)	0
	1.5	Explosives	0	(a)	0
2		Flammable gases (classification codes including only the letter F)	3000	(a)	(b)
		Toxic gases (classification codes including letters T, TF, TC, TO, TFC or TOC) excluding aerosols	0	(a)	0
3		Flammable liquids of packing groups I and II	3000	(a)	(b)
		Desensitized explosives	0	(a)	0
4.1		Desensitized explosives	(a)	(a)	0
4.2		Packing group I substances	3000	(a)	(b)
4.3		Packing group I substances	3000	(a)	(b)
5.1		Oxidizing liquids of packing group I	3000	(a)	(b)
		Perchlorates, ammonium nitrate, ammonium nitrate fertilisers and ammonium nitrate emulsions or suspensions or gels	3000	3000	(b)
6.1		Toxic substances of packing group I	0	(a)	0
6.2		Infectious substances of Category A (UN Nos. 2814 and 2900)	(a)	0	0
7		Radioactive material	3000 A <sub>1</sub> (special form) or 3000 A <sub>2</sub> , as applicable, in Type B(U) or Type B(M) or Type C packages		
8		Corrosive substances of packing group I	3000	(a)	(b)

(a) Not relevant

(b) The provisions of 1.10.3 do not apply, whatever the quantity is.

(c) A value indicated in this column is applicable only if carriage in tanks is authorized, in accordance with Chapter 3.2, Table A, column (10) or (12). For substances that are not authorized for carriage in tanks, the instruction in this column is not relevant.

<sup>(d)</sup> A value indicated in this column is applicable only if carriage in bulk is authorized, in accordance with Chapter 3.2, Table A, column (10) or (17). For substances that are not authorized for carriage in bulk, the instruction in this column is not relevant.

- 1.10.6** For radioactive material, the provisions of this Chapter are deemed to be complied with when the provisions of the Convention on Physical Protection of Nuclear Material and of IAEA INFCIRC/225 (Rev.4) are applied.

## **Chapter 1.11**

### **Internal emergency plans for marshalling yards**

Internal emergency plans shall be drawn up for the carriage of dangerous goods in marshalling yards.

The aim of emergency plans shall be that in the event of an accident or incident in marshalling yards, all those involved shall co-operate in a co-ordinated way and the consequences of the accident or incident for human life or for the environment shall be minimised to the greatest possible extent.

The requirements of this Chapter are considered to have been complied with if UIC Leaflet 201 (Carriage of dangerous goods – Emergency planning guidance for rail marshalling yards) is applied<sup>17</sup>.

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<sup>17</sup> Edition of 1 March 2003.

**Part 2****Classification**

## Chapter 2.1

### General provisions

#### 2.1.1 Introduction

##### 2.1.1.1 The classes of dangerous goods according to RID are the following:

Class 1	Explosive substances and articles
Class 2	Gases
Class 3	Flammable liquids
Class 4.1	Flammable solids, self-reactive substances and solid desensitized explosives
Class 4.2	Substances liable to spontaneous combustion
Class 4.3	Substances which, in contact with water, emit flammable gases
Class 5.1	Oxidizing substances
Class 5.2	Organic peroxides
Class 6.1	Toxic substances
Class 6.2	Infectious substances
Class 7	Radioactive material
Class 8	Corrosive substances
Class 9	Miscellaneous dangerous substances and articles

##### 2.1.1.2 Each entry in the different classes has been assigned a UN number. The following types of entries are used:

A. Single entries for well defined substances or articles including entries for substances covering several isomers, e.g.:

UN No. 1090	ACETONE
UN No. 1104	AMYL ACETATES
UN No. 1194	ETHYL NITRITE SOLUTION

B. Generic entries for a well defined group of substances or articles, which are not n.o.s. entries, e.g.:

UN No. 1133	ADHESIVES
UN No. 1266	PERFUMERY PRODUCTS
UN No. 2757	CARBAMATE PESTICIDE, SOLID, TOXIC
UN No. 3101	ORGANIC PEROXIDE TYPE B, LIQUID

C. Specific n.o.s. entries covering a group of substances or articles of a particular chemical or technical nature, not otherwise specified, e.g.:

UN No. 1477	NITRATES, INORGANIC, N.O.S.
UN No. 1987	ALCOHOLS, N.O.S.

D. General n.o.s. entries covering a group of substances or articles having one or more dangerous properties, not otherwise specified, e.g.:

UN No. 1325	FLAMMABLE SOLID, ORGANIC, N.O.S.
UN No. 1993	FLAMMABLE LIQUID, N.O.S.

The entries defined under B., C. and D. are defined as collective entries.

##### 2.1.1.3 For packing purposes, substances other than those of Classes 1, 2, 5.2, 6.2 and 7, and other than self-reactive substances of Class 4.1 are assigned to packing groups in accordance with the degree of danger they present:

- Packing group I: Substances presenting high danger;
- Packing group II: Substances presenting medium danger;
- Packing group III: Substances presenting low danger.

The packing group(s) to which a substance is assigned is (are) indicated in Table A of Chapter 3.2.

#### 2.1.2 Principles of classification

##### 2.1.2.1 The dangerous goods covered by the heading of a class are defined on the basis of their properties according to sub-section 2.2.x.1 of the relevant class. Assignment of dangerous goods to a class and a packing group is made according to the criteria mentioned in the same sub-section 2.2.x.1. Assignment of one or several subsidiary risk(s) to a dangerous substance or article is made according to the criteria of the class or classes corresponding to those risks, as mentioned in the appropriate sub-section(s) 2.2.x.1.

**2.1.2.2** All dangerous goods entries are listed in Table A of Chapter 3.2 in the numerical order of their UN Number. This table contains relevant information on the goods listed, such as name, class, packing group(s), label(s) to be affixed, packing and carriage provisions.

**NOTE:** An alphabetical list of these entries is given in table B of Chapter 3.2.

**2.1.2.3** Dangerous goods which are listed or defined in sub-section 2.2.x.2 of each class are not to be accepted for carriage.

**2.1.2.4** Goods not mentioned by name, i.e. goods not listed as single entries in Table A of Chapter 3.2 and not listed or defined in one of the above-mentioned sub-sections 2.2.x.2 shall be assigned to the relevant class in accordance with the procedure of section 2.1.3. In addition, the subsidiary risk (if any) and the packing group (if any) shall be determined. Once the class, subsidiary risk (if any) and packing group (if any) have been established the relevant UN number shall be determined. The decision trees in sub-sections 2.2.x.3 (list of collective entries) at the end of each class indicate the relevant parameters for selecting the relevant collective entry (UN number). In all cases the most specific collective entry covering the properties of the substance or article shall be selected, according to the hierarchy indicated in 2.1.1.2 by the letters B, C and D respectively. If the substance or article cannot be classified under entries of type B or C according to 2.1.1.2, then, and only then shall it be classified under an entry of type D.

**2.1.2.5** On the basis of the test procedures of Chapter 2.3 and the criteria set out in sub-sections 2.2.x.1 of classes when it is so specified, it may be determined that a substance, solution or mixture of a certain class, mentioned by name in Table A of Chapter 3.2, does not meet the criteria of that class. In such a case, the substance, solution or mixture is deemed not to belong to that class.

**2.1.2.6** For the purposes of classification, substances with a melting point or initial melting point of 20 °C or lower at a pressure of 101.3 kPa shall be considered to be liquids. A viscous substance for which a specific melting point cannot be determined shall be subjected to the ASTM D 4359-90 test or to the test for determining fluidity (penetrometer test) prescribed in 2.3.4.

**2.1.3 Classification of substances, including solutions and mixtures (such as preparations and wastes), not mentioned by name**

**2.1.3.1** Substances including solutions and mixtures not mentioned by name shall be classified according to their degree of danger on the basis of the criteria mentioned in sub-section 2.2.x.1 of the various classes. The danger(s) presented by a substance shall be determined on the basis of its physical and chemical characteristics and physiological properties. Such characteristics and properties shall also be taken into account when such experience leads to a more stringent assignment.

**2.1.3.2** A substance not mentioned by name in Table A of Chapter 3.2 presenting a single hazard shall be classified in the relevant class under a collective entry listed in sub-section 2.2.x.3 of that class.

**2.1.3.3** A solution or mixture containing only one dangerous substance mentioned by name in Table A of Chapter 3.2, together with one or more non-dangerous substance(s), shall be regarded as the dangerous substance listed by name, unless:

- (a) The solution or mixture is specifically mentioned by name in Table A of Chapter 3.2; or
- (b) It is quite clear from the entry for the dangerous substance that it is applicable only to the pure or technically pure substance; or
- (c) The class, physical state or packing group of the solution or mixture is different from that of the dangerous substance.

In the cases referred to under (b) or (c) above, the solution or mixture shall be classified as a substance not mentioned by name in the relevant class under a collective entry listed in sub-section 2.2.x.3 of that class taking account of the subsidiary risks presented by that solution or mixture, if any, unless the solution or mixture do not meet the criteria of any class, in which case they are not subject to RID.

**2.1.3.4** Solutions and mixtures containing a substance belonging to one of the entries mentioned in 2.1.3.4.1 or 2.1.3.4.2 shall be classified in accordance with the provisions of these paragraphs.

**2.1.3.4.1** Solutions and mixtures containing one of the following substances mentioned by name shall always be classified under the same entry as the substance they contain, provided they do not have the hazard characteristics as indicated in 2.1.3.5.3:

– Class 3

UN 1921 PROPYLENEIMINE, STABILIZED

UN 2481 ETHYL ISOCYANATE

UN 3064 NITROGLYCERIN SOLUTION IN ALCOHOL with more than 1% but not more than 5% nitroglycerin

– Class 6.1

- UN 1051 HYDROGEN CYANIDE, STABILIZED, containing less than 3% water
- UN 1185 ETHYLENEIMINE, STABILIZED
- UN 1259 NICKEL CARBONYL
- UN 1613 HYDROCYANIC ACID, AQUEOUS SOLUTION (HYDROGEN CYANIDE, AQUEOUS SOLUTION), with not more than 20% hydrogen cyanide
- UN 1614 HYDROGEN CYANIDE, STABILIZED, containing not more than 3% water and absorbed in a porous inert material
- UN 1994 IRON PENTACARBONYL
- UN 2480 METHYL ISOCYANATE
- UN 3294 HYDROGEN CYANIDE, SOLUTION IN ALCOHOL, with not more than 45% hydrogen cyanide

– Class 8

- UN 1052 HYDROGEN FLUORIDE, ANHYDROUS
- UN 1744 BROMINE or UN 1744 BROMINE SOLUTION
- UN 1790 HYDROFLUORIC ACID with more than 85% hydrogen fluoride
- UN 2576 PHOSPHORUS OXYBROMIDE, MOLTEN

**2.1.3.4.2** Solutions and mixtures containing a substance belonging to one of the following entries of Class 9:

- UN 2315 POLYCHLORINATED BIPHENYLS, LIQUID or
- UN 3432 POLYCHLORINATED BIPHENYLS, SOLID
- UN 3151 POLYHALOGENATED BIPHENYLS, LIQUID or
- UN 3151 POLYHALOGENATED TERPHENYLS, LIQUID
- UN 3152 POLYHALOGENATED BIPHENYLS, SOLID or
- UN 3152 POLYHALOGENATED TERPHENYLS, SOLID

shall always be classified under the same entry of Class 9, provided that:

- they do not contain any additional dangerous component other than components of packing group III of classes 3, 4.1, 4.2, 4.3, 5.1, 6.1 or 8; and
- they do not have the hazard characteristics as indicated in 2.1.3.5.3.

**2.1.3.5** Substances not mentioned by name in Table A of Chapter 3.2, having more than one hazard characteristic and solutions or mixtures containing several dangerous substances shall be classified under a collective entry (see 2.1.2.4) and packing group of the appropriate class in accordance with their hazard characteristics. Such classification according to the hazard characteristics shall be carried out as follows:

**2.1.3.5.1** The physical and chemical characteristics and physiological properties shall be determined by measurement or calculation and the substance, solution or mixture shall be classified according to the criteria mentioned in sub-section 2.2.x.1 of the various classes.

**2.1.3.5.2** If this determination is not possible without disproportionate cost or effort (as for some kinds of wastes), the substance, solution or mixture shall be classified in the class of the component presenting the major hazard.

**2.1.3.5.3** If the hazard characteristics of the substance, solution or mixture fall within more than one class or group of substances listed below then the substance, solution or mixture shall be classified in the class or group of substances corresponding to the major hazard on the basis of the following order of precedence:

- (a) Material of Class 7 (apart from radioactive material in excepted packages where the other hazardous properties take precedence);
- (b) Substances of Class 1;
- (c) Substances of Class 2;
- (d) Liquid desensitized explosives of Class 3;
- (e) Self-reactive substances and solid desensitized explosives of Class 4.1;
- (f) Pyrophoric substances of Class 4.2;
- (g) Substances of Class 5.2;
- (h) Substances of Class 6.1 or Class 3 which, on the basis of their inhalation toxicity, are to be classified under Packing group I (Substances meeting the classification criteria of Class 8 and having an inhalation toxicity of dust and mist (LC<sub>50</sub>) in the range of Packing group I and a toxicity through oral ingestion or dermal contact only in the range of Packing group III or less, shall be allocated to Class 8);
- (i) Infectious substances of Class 6.2.



**2.1.3.5.4** If the hazard characteristics of the substance fall within more than one class or group of substances not listed in 2.1.3.5.3 above, the substance shall be classified in accordance with the same procedure but the relevant class shall be selected according to the precedence of hazards table in 2.1.3.10.

**2.1.3.5.5** If the substance to be carried is a waste, with a composition that is not precisely known, its assignment to a UN number and packing group in accordance with 2.1.3.5.2 may be based on the consignor's knowledge of the waste, including all available technical and safety data as requested by safety and environmental legislation in force<sup>1</sup>.

In case of doubt, the highest danger level shall be taken.

If however, on the basis of the knowledge of the composition of the waste and the physical and chemical properties of the identified components, it is possible to demonstrate that the properties of the waste do not correspond to the properties of the packing group I level, the waste may be classified by default in the most appropriate n.o.s. entry of packing group II.

This procedure may not be used for wastes containing substances mentioned in 2.1.3.5.3, substances of Class 4.3, substances of the case mentioned in 2.1.3.7 or substances which are not accepted for carriage in accordance with 2.2.x.2.

**2.1.3.6** The most specific applicable collective entry (see 2.1.2.4) shall always be used, i.e. a general n.o.s. entry shall only be used if a generic entry or a specific n.o.s. entry cannot be used.

**2.1.3.7** Solutions and mixtures of oxidizing substances or substances with an oxidizing subsidiary risk may have explosive properties. In such a case they are not to be accepted for carriage unless they meet the requirements for Class 1.

**2.1.3.8** Substances of classes 1 to 9, other than those assigned to UN Nos. 3077 or 3082, meeting the criteria of 2.2.9.1.10 are additionally to their hazards of classes 1 to 9 considered to be environmentally hazardous substances. Other substances meeting the criteria of 2.2.9.1.10 are to be assigned to UN Nos. 3077 or 3082 as appropriate.

**2.1.3.9** Wastes which do not meet the criteria for classification in classes 1 to 9 but are covered by the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal may be carried under UN Nos. 3077 or 3082.

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<sup>1</sup> Such legislation is for instance the Commission Decision 2000/532/EC of 3 May 2000 replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste (replaced by the Directive of the European Parliament and of the Council 2006/12/EC (Official Journal of the European Communities No. L 114 of 27 April 2006, page 9)) and Council Decision 94/904/EC establishing a list of hazardous wastes pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous wastes (Official Journal of the European Communities No. L 226 of 6 September 2000, page 3).

2.1.3.10 Table of precedence of hazards

Class and packing group	4.1 II	4.1 III	4.2 II	4.2 III	4.3, I	4.3 II	4.3 III	5.1 I	5.1 II	5.1 III	6.1 I DERMAL	6.1 I ORAL	6.1 II	6.1 III	8 I	8 II	8 III	9
3 I	SOL LIQ 4.1 3 I	SOL LIQ 4.1 3 I	SOL LIQ 4.2 3 I	SOL LIQ 4.2 3 I	4.3 I	4.3 I	4.3 I	SOL LIQ 5.1 I 3 I	SOL LIQ 5.1 I 3 I	SOL LIQ 5.1 I 3 I	3 I	3 I	3 I	3 I	3 I	3 I	3 I	3 I
3 II	SOL LIQ 4.1 3 II	SOL LIQ 4.1 3 II	SOL LIQ 4.2 3 II	SOL LIQ 4.2 3 II	4.3 I	4.3 II	4.3 II	SOL LIQ 5.1 I 3 I	SOL LIQ 5.1 II 3 II	SOL LIQ 5.1 II 3 II	3 I	3 I	3 II	3 II	8 I	3 II	3 II	3 II
3 III	SOL LIQ 4.1 3 II	SOL LIQ 4.1 3 III	SOL LIQ 4.2 3 II	SOL LIQ 4.2 3 III	4.3, I	4.3 II	4.3 III	SOL LIQ 5.1 I 3 I	SOL LIQ 5.1 II 3 II	SOL LIQ 5.1 III 3 III	6.1 I	6.1 I	6.1 II	3 III *)	8 I	8 II	3 III	3 III
4.1 II			4.2 II	4.2 II	4.3 I	4.3 II	4.3 II	5.1 I	4.1 II	4.1 II	6.1 I	6.1 I	SOL LIQ 4.1 II 6.1 II	SOL LIQ 4.1 II 6.1 II	8 I	SOL LIQ 4.1 II 8 II	SOL LIQ 4.1 II 8 II	4.1 II
4.1 III			4.2 II	4.2 III	4.3 I	4.3 II	4.3 III	5.1 I	4.1 II	4.1 III	6.1 I	6.1 I	6.1 II	SOL LIQ 4.1 III 6.1 III	8 I	8 II	SOL LIQ 4.1 III 8 III	4.1 III
4.2 II					4.3 I	4.3 II	4.3 II	5.1 I	4.2 II	4.2 II	6.1 I	6.1 I	4.2 II	4.2 II	8 I	4.2 II	4.2 II	4.2 II
4.2 III					4.3 I	4.3 II	4.3 III	5.1 I	5.1 II	4.2 III	6.1 I	6.1 I	6.1 II	4.2 III	8 I	8 II	4.2 III	4.2 III
4.3 I								5.1 I	4.3 I	4.3 I	6.1 I	4.3 I	4.3 I	4.3 I	4.3 I	4.3 I	4.3 I	4.3 I
4.3 II								5.1 I	4.3 II	4.3 II	6.1 I	4.3 I	4.3 II	4.3 II	8 I	4.3 II	4.3 II	4.3 II
4.3 III								5.1 I	5.1 II	4.3 III	6.1 I	6.1 I	6.1 II	4.3 III	8 I	8 II	4.3 III	4.3 III
5.1 I											5.1 I	5.1 I	5.1 I	5.1 I	5.1 I	5.1 I	5.1 I	5.1 I
5.1 II											6.1 I	5.1 I	5.1 II	5.1 II	8 I	5.1 II	5.1 II	5.1 II
5.1 III											6.1 I	6.1 I	6.1 II	5.1 III	8 I	8 II	5.1 III	5.1 III
6.1 I DERMAL															SOL LIQ 6.1 I 8 I	6.1 I	6.1 I	6.1 I
6.1 I ORAL															SOL LIQ 6.1 I 8 I	6.1 I	6.1 I	6.1 I
6.1 II INHAL															SOL LIQ 6.1 I 8 I	6.1 II	6.1 II	6.1 II
6.1 II DERMAL															SOL LIQ 6.1 I 8 I	SOL LIQ 6.1 II 8 II	6.1 II	6.1 II
6.1 II ORAL															8 I	SOL LIQ 6.1 II 8 II	6.1 II	6.1 II
6.1 III															8 I	8 II	8 III	6.1 III
8 I																		8 I
8 II																		8 II
8 III																		8 III

SOL = Solid substances and mixtures  
 LIQ = Liquid substances, mixtures and solutions  
 DERMAL = Dermal toxicity  
 ORAL = Oral toxicity  
 INHAL = Inhalation toxicity  
 \*) Class 6.1 for pesticides

**NOTE 1:** Examples to explain the use of the table

**Classification of a single substance**

Description of the substance to be classified:

An amine not mentioned by name meeting the criteria for Class 3, packing group II as well as those for Class 8, packing group I.

Procedure:

The intersection of line 3 II with column 8 I gives 8 I. This amine has therefore to be classified in Class 8 under UN No. 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. or UN No. 2734 POLYAMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S., packing group I.

**Classification of a mixture**

Description of the mixture to be classified:

Mixture consisting of a flammable liquid classified in Class 3, packing group III, a toxic substance in Class 6.1, packing group II and a corrosive substance in Class 8, packing group I.

Procedure:

The intersection of line 3 III with column 6.1 II gives 6.1 II.

The intersection of line 6.1 II with column 8 I gives 8 I LIQ.

This mixture not further defined has therefore to be classified in Class 8 under UN No. 2922 CORROSIVE LIQUID, TOXIC, N.O.S., packing group I.

**2:** Examples for the classification of mixtures and solutions under a class and a packing group:

A phenol solution of Class 6.1, (II), in benzene of Class 3, (II) is to be classified in Class 3, (II); this solution is to be classified under UN No. 1992 FLAMMABLE LIQUID, TOXIC, N.O.S., Class 3, (II), by virtue of the toxicity of the phenol.

A solid mixture of sodium arsenate of Class 6.1, (II) and sodium hydroxide of Class 8, (II) is to be classified under UN No. 3290 TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S., in Class 6.1 (II).

A solution of crude or refined naphthalene of Class 4.1, (III) in petrol of Class 3, (II), is to be classified under UN No. 3295 HYDROCARBONS, LIQUID, N.O.S. in Class 3, (II).

A mixture of hydrocarbons of Class 3, (III), and of polychlorinated biphenyls (PCB) of Class 9, (II), is to be classified under UN No. 2315 POLYCHLORINATED BIPHENYLS, LIQUID or UN No. 3432 POLYCHLORINATED BIPHENYLS, SOLID in Class 9, (II).

A mixture of propyleneimine of Class 3, and polychlorinated biphenyls (PCB) of Class 9, (II), is to be classified under UN No. 1921 PROPYLENEIMINE, INHIBITED in Class 3.

**2.1.4 Classification of samples**

**2.1.4.1** When the class of a substance is uncertain and it is being carried for further testing, a tentative class, proper shipping name and UN number shall be assigned on the basis of the consignor's knowledge of the substance and application of:

- (a) the classification criteria of Chapter 2.2; and
- (b) the requirements of this Chapter.

The most severe packing group possible for the proper shipping name chosen shall be used.

Where this provision is used the proper shipping name shall be supplemented with the word "SAMPLE" (e.g., "FLAMMABLE LIQUID, N.O.S., SAMPLE"). In certain instances, where a specific proper shipping name is provided for a sample of a substance considered to meet certain classification criteria (e.g., GAS SAMPLE, NON-PRESSURIZED, FLAMMABLE, UN No. 3167) that proper shipping name shall be used. When an N.O.S. entry is used to carry the sample, the proper shipping name need not be supplemented with the technical name as required by special provision 274 of Chapter 3.3.

**2.1.4.2** Samples of the substance shall be carried in accordance with the requirements applicable to the tentative assigned proper shipping name provided:

- (a) The substance is not considered to be a substance not accepted for carriage by sub-sections 2.2.x.2 of Chapter 2.2 or by Chapter 3.2;
- (b) The substance is not considered to meet the criteria for Class 1 or considered to be an infectious substance or a radioactive material;
- (c) The substance is in compliance with 2.2.41.1.15 or 2.2.52.1.9 if it is a self-reactive substance or an organic peroxide, respectively;
- (d) The sample is carried in a combination packaging with a net mass per package not exceeding 2.5 kg; and
- (e) The sample is not packed together with other goods.

## Chapter 2.2

### Class specific provisions

#### 2.2.1 Class 1: Explosive substances and articles

##### 2.2.1.1 Criteria

##### 2.2.1.1.1 The heading of Class 1 covers:

- (a) Explosive substances: solid or liquid substances (or mixtures of substances) capable by chemical reaction of producing gases at such a temperature and pressure and at such a speed as to cause damage to the surroundings.

Pyrotechnic substances: substances or mixtures of substances designed to produce an effect by heat, light, sound, gas or smoke or a combination of these as the result of non-detonating self-sustaining exothermic chemical reactions.

**NOTE 1:** Substances which are not themselves explosive but which may form an explosive mixture of gas, vapour or dust are not substances of Class 1.

- 2: Also excluded from Class 1 are: water- or alcohol-wetted explosives of which the water or alcohol content exceeds the limits specified and those containing plasticizers – these explosives are assigned to Class 3 or Class 4.1 – and those explosives which, on the basis of their predominant hazard, are assigned to Class 5.2.

- (b) Explosive articles: articles containing one or more explosive or pyrotechnic substances.

**NOTE:** Devices containing explosive or pyrotechnic substances in such small quantity or of such a character that their inadvertent or accidental ignition or initiation during carriage would not cause any manifestation external to the device by projection, fire, smoke, heat or loud noise are not subject to the requirements of Class 1.

- (c) Substances and articles not mentioned above which are manufactured with a view to producing a practical effect by explosion or a pyrotechnic effect.

##### 2.2.1.1.2 Any substance or article having or suspected of having explosive properties shall be considered for assignment to Class 1 in accordance with the tests, procedures and criteria prescribed in Part I, Manual of Tests and Criteria.

A substance or article assigned to Class 1 can only be accepted for carriage when it has been assigned to a name or n.o.s. entry listed in Table A of Chapter 3.2 and meets the criteria of the Manual of Tests and Criteria.

##### 2.2.1.1.3 The substances and articles of Class 1 shall be assigned to a UN Number and a name or n.o.s. entry listed in Table A of Chapter 3.2. Interpretation of the names of substances and articles in Table A of Chapter 3.2 shall be based upon the glossary in 2.2.1.1.8.

Samples of new or existing explosive substances or articles carried for purposes including: testing, classification, research and development quality control, or as a commercial sample, other than initiating explosive, may be assigned to UN No. 0190 SAMPLES, EXPLOSIVE.

The assignment of explosive substances and articles not mentioned by name as such in Table A of Chapter 3.2 to an n.o.s. entry of Class 1 or UN No. 0190 SAMPLES, EXPLOSIVE as well as the assignment of certain substances the carriage of which is subject to a specific authorization by the competent authority according to the special provisions referred to in Column (6) of Table A of Chapter 3.2 shall be made by the competent authority of the country of origin. This competent authority shall also approve in writing the conditions of carriage of these substances and articles. If the country of origin is not a COTIF Member State, the classification and the conditions of carriage shall be recognized by the competent authority of the first COTIF Member State reached by the consignment.

##### 2.2.1.1.4 Substances and articles of Class 1 shall have been assigned to a division in accordance with 2.2.1.1.5 and to a compatibility group in accordance with 2.2.1.1.6. The division shall be based on the results of the tests described in 2.3.0 and 2.3.1 applying the definitions in 2.2.1.1.5. The compatibility group shall be determined in accordance with the definitions in 2.2.1.1.6. The classification code shall consist of the division number and the compatibility group letter.

##### 2.2.1.1.5 Definition of divisions

Division 1.1 Substances and articles which have a mass explosion hazard (a mass explosion is an explosion which affects almost the entire load virtually instantaneously).

Division 1.2 Substances and articles which have a projection hazard but not a mass explosion hazard.

Division 1.3 Substances and articles which have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard:

- (a) combustion of which gives rise to considerable radiant heat; or

- (b) which burn one after another, producing minor blast or projection effects or both.
- Division 1.4 Substances and articles which present only a slight risk of explosion in the event of ignition or initiation during carriage. The effects are largely confined to the package and no projection of fragments of appreciable size or range is to be expected. An external fire shall not cause virtually instantaneous explosion of almost the entire contents of the package.
- Division 1.5 Very insensitive substances having a mass explosion hazard which are so insensitive that there is very little probability of initiation or of transition from burning to detonation under normal conditions of carriage. As a minimum requirement they must not explode in the external fire test.
- Division 1.6 Extremely insensitive articles which do not have a mass explosion hazard. The articles contain only extremely insensitive detonating substances and demonstrate a negligible probability of accidental initiation or propagation.

**NOTE:** The risk from articles of Division 1.6 is limited to the explosion of a single article.

#### 2.2.1.1.6 Definition of compatibility groups of substances and articles

- A Primary explosive substance.
- B Article containing a primary explosive substance and not having two or more effective protective features. Some articles, such as detonators for blasting, detonator assemblies for blasting and primers, cap-type, are included, even though they do not contain primary explosives.
- C Propellant explosive substance or other deflagrating explosive substance or article containing such explosive substance.
- D Secondary detonating explosive substance or black powder or article containing a secondary detonating explosive substance, in each case without means of initiation and without a propelling charge, or article containing a primary explosive substance and having two or more effective protective features.
- E Article containing a secondary detonating explosive substance, without means of initiation, with a propelling charge (other than one containing a flammable liquid or gel or hypergolic liquids).
- F Article containing a secondary detonating explosive substance with its own means of initiation, with a propelling charge (other than one containing a flammable liquid or gel or hypergolic liquids) or without a propelling charge.
- G Pyrotechnic substance, or article containing a pyrotechnic substance, or article containing both an explosive substance and an illuminating, incendiary, tear- or smoke-producing substance (other than a water-activated article or one which contains white phosphorus, phosphides, a pyrophoric substance, a flammable liquid or gel or hypergolic liquids).
- H Article containing both an explosive substance and white phosphorus.
- J Article containing both an explosive substance and a flammable liquid or gel.
- K Article containing both an explosive substance and a toxic chemical agent.
- L Explosive substance or article containing an explosive substance and presenting a special risk (e.g. due to water activation or the presence of hypergolic liquids, phosphides or a pyrophoric substance) necessitating isolation of each type.
- N Articles containing only extremely insensitive detonating substances.
- S Substance or article so packed or designed that any hazardous effects arising from accidental functioning are confined within the package unless the package has been degraded by fire, in which case all blast or projection effects are limited to the extent that they do not significantly hinder or prevent fire-fighting or other emergency response efforts in the immediate vicinity of the package.

**NOTE 1:** Each substance or article, packed in a specified packaging, may be assigned to one compatibility group only. Since the criterion of compatibility group S is empirical, assignment to this group is necessarily linked to the tests for assignment of a classification code.

- 2: Articles of compatibility groups D and E may be fitted or packed together with their own means of initiation, provided that such means have at least two effective protective features designed to prevent an explosion in the event of accidental functioning of the means of initiation. Such packages shall be assigned to compatibility groups D or E.
- 3: Articles of compatibility groups D and E may be packed together with their own means of initiation, which do not have two effective protective features (i.e. means of initiation assigned to compatibility group B), provided that they comply with mixed packing provision MP 21 of Section 4.1.10. Such packages shall be assigned to compatibility groups D or E.
- 4: Articles may be fitted or packed together with their own means of ignition, provided that the means of ignition cannot function during normal conditions of carriage.
- 5: Articles of compatibility groups C, D and E may be packed together. Such packages shall be assigned to compatibility group E.

**2.2.1.1.7 Assignment of fireworks to divisions**

**2.2.1.1.7.1** Fireworks shall normally be assigned to divisions 1.1, 1.2, 1.3 and 1.4 on the basis of test data derived from Test Series 6 of the Manual of Tests and Criteria. However, since the range of such articles is very extensive and the availability of test facilities may be limited, assignment to divisions may also be made in accordance with the procedure in 2.2.1.1.7.2.

**2.2.1.1.7.2** Assignment of fireworks to UN No. 0333, 0334, 0335 or 0336 may be made on the basis of analogy, without the need for Test Series 6 testing, in accordance with the default fireworks classification table in 2.2.1.1.7.5. Such assignment shall be made with the agreement of the competent authority. Items not specified in the table shall be classified on the basis of test data derived from Test Series 6.

**NOTE 1:** The addition of other types of fireworks to column 1 of the table in 2.2.1.1.7.5 shall only be made on the basis of full test data submitted to the UN Sub-Committee of Experts on the Transport of Dangerous Goods for consideration.

**2:** Test data derived by competent authorities which validates, or contradicts the assignment of fireworks specified in column 4 of the table in 2.2.1.1.7.5 to divisions in column 5 should be submitted to the UN Sub-Committee of Experts on the Transport of Dangerous Goods for information.

**2.2.1.1.7.3** Where fireworks of more than one division are packed in the same package they shall be classified on the basis of the most dangerous division unless test data derived from Test Series 6 indicate otherwise.

**2.2.1.1.7.4** The classification shown in the Table in 2.2.1.1.7.5 applies only for articles packed in fibreboard boxes (4G).

**2.2.1.1.7.5** Default fireworks classification Table<sup>1</sup>

**NOTE 1:** References to percentages in the Table, unless otherwise stated, are to the mass of all pyrotechnic composition (e.g. rocket motors, lifting charge, bursting charge and effect charge).

**2:** "Flash composition" in this Table refers to pyrotechnic compositions in powder form or as pyrotechnic units as presented in the fireworks, that are used to produce an aural effect, or used as a bursting charge or lifting charge, unless the time taken for the pressure rise is demonstrated to be more than 8 ms for 0.5 g of pyrotechnic composition in Test Series 2 (c) (i) "Time/pressure test" of the Manual of Tests and Criteria.

**3:** Dimensions in mm refer to:

- for spherical and peanut shells the diameter of the sphere of the shell;
- for cylinder shells the length of the shell;
- for a shell in mortar, Roman candle, shot tube firework or mine the inside diameter of the tube comprising or containing the firework;
- for a bag mine or cylinder mine, the inside diameter of the mortar intended to contain the mine.

Type	Includes: / Synonym:	Definition	Specification	Classification
Shell, spherical or cylindrical	Spherical display shell: aerial shell, colour shell, dye shell, multi-break shell, multi-effect shell, nautical shell, parachute shell, smoke shell, star shell; report shell: maroon, salute, sound shell, thunder-clap, aerial shell kit	Device with or without propellant charge, with delay fuse and bursting charge, pyrotechnic unit(s) or loose pyrotechnic composition and designed to be projected from a mortar	All report shells	1.1G
			Colour shell: $\geq 180$ mm	1.1G
			Colour shell: $< 180$ mm with $> 25\%$ flash composition, as loose powder and/ or report effects	1.1G
			Colour shell: $< 180$ mm with $\leq 25\%$ flash composition, as loose powder and/ or report effects	1.3G
			Colour shell: $\leq 50$ mm, or $\leq 60$ g pyrotechnic composition, with $\leq 2\%$ flash composition as loose powder and/ or report effects	1.4G

<sup>1</sup> This Table contains a list of firework classifications which may be used in the absence of Test Series 6 data (see 2.2.1.1.7.2).

Type	Includes: / Synonym:	Definition	Specification	Classification
	Peanut shell	Device with two or more spherical aerial shells in a common wrapper propelled by the same propellant charge with separate external delay fuses	The most hazardous spherical aerial shell determines the classification	
	Preloaded mortar, shell in mortar	Assembly comprising a spherical or cylindrical shell inside a mortar from which the shell is designed to be projected	All report shells	1.1G
			Colour shell: $\geq 180$ mm	1.1G
			Colour shell: $> 25\%$ flash composition as loose powder and/or report effects	1.1G
			Colour shell: $> 50$ mm and $< 180$ mm	1.2G
			Colour shell: $\leq 50$ mm, or $\leq 60$ g pyrotechnic composition, with $\leq 25\%$ flash composition as loose powder and/ or report effects	1.3G
	Shell of shells (spherical)  (Reference to percentages for shell of shells are to the gross mass of the fireworks article)	Device without propellant charge, with delay fuse and bursting charge, containing report shells and inert materials and designed to be projected from a mortar	$> 120$ mm	1.1G
		Device without propellant charge, with delay fuse and bursting charge, containing report shells $\leq 25$ g flash composition per report unit, with $\leq 33\%$ flash composition and $\geq 60\%$ inert materials and designed to be projected from a mortar	$\leq 120$ mm	1.3G
		Device without propellant charge, with delay fuse and bursting charge, containing colour shells and/or pyrotechnic units and designed to be projected from a mortar	$> 300$ mm	1.1G
		Device without propellant charge, with delay fuse and bursting charge, containing colour shells $\leq 70$ mm and/or pyrotechnic units, with $\leq 25\%$ flash composition and $\leq 60\%$ pyrotechnic composition and designed to be projected from a mortar	$> 200$ mm and $\leq 300$ mm	1.3G
		Device with propellant charge, with delay fuse and bursting charge, containing colour shells $\leq 70$ mm and/or pyrotechnic units, with $\leq 25\%$ flash composition and $\leq 60\%$ pyrotechnic composition and designed to be projected from a mortar	$\leq 200$ mm	1.3G

Type	Includes: / Synonym:	Definition	Specification	Classification
Battery/ combination	Barrage, bombardos, cakes, finale box, flowerbed, hybrid, multiple tubes, shell cakes, banger batteries, flash banger batteries	Assembly including several elements either containing the same type or several types each corresponding to one of the types of fireworks listed in this table, with one or two points of ignition	The most hazardous firework type determines the classification	
Roman candle	Exhibition candle, candle, bombettes	Tube containing a series of pyrotechnic units consisting of alternate pyrotechnic composition, propellant charge, and transmitting fuse	$\geq 50$ mm inner diameter, containing flash composition, or $< 50$ mm with $>25\%$ flash composition	1.1G
			$\geq 50$ mm inner diameter, containing no flash composition	1.2G
			$< 50$ mm inner diameter and $\leq 25\%$ flash composition	1.3G
			$\leq 30$ mm inner diameter, each pyrotechnic unit $\leq 25$ g and $\leq 5\%$ flash composition	1.4G
Shot tube	Single shot Roman candle, small pre-loaded mortar	Tube containing a pyrotechnic unit consisting of pyrotechnic composition, propellant charge with or without transmitting fuse	$\leq 30$ mm inner diameter and pyrotechnic unit $> 25$ g, or $> 5\%$ and $\leq 25\%$ flash composition	1.3G
			$\leq 30$ mm inner diameter, pyrotechnic unit $\leq 25$ g and $\leq 5\%$ flash composition	1.4G
Rocket	Avalanche rocket, signal rocket, whistling rocket, bottle rocket, sky rocket, missile type rocket, table rocket	Tube containing pyrotechnic composition and/or pyrotechnic units, equipped with stick(s) or other means for stabilization of flight, and designed to be propelled into the air	Flash composition effects only	1.1G
			Flash composition $> 25\%$ of the pyrotechnic composition	1.1G
			$> 20$ g pyrotechnic composition and flash composition $\leq 25\%$	1.3G
			$\leq 20$ g pyrotechnic composition, black powder bursting charge and $\leq 0.13$ g flash composition per report and $\leq 1$ g in total	1.4G
Mine	Pot-a-feu, ground mine, bag mine, cylinder mine	Tube containing propellant charge and pyrotechnic units and designed to be placed on the ground or to be fixed in the ground. The principal effect is ejection of all the pyrotechnic units in a single burst producing a widely dispersed visual and/or aural effect in the air or:  Cloth or paper bag or cloth or paper cylinder containing propellant charge and pyrotechnic units, designed to be placed in a mortar and to function as a mine	$> 25\%$ flash composition, as loose powder and/ or report effects	1.1G
			$\geq 180$ mm and $\leq 25\%$ flash composition, as loose powder and/ or report effects	1.1G
			$< 180$ mm and $\leq 25\%$ flash composition, as loose powder and/ or report effects	1.3G
			$\leq 150$ g pyrotechnic composition, containing $\leq 5\%$ flash composition as loose powder and/ or report effects. Each pyrotechnic unit $\leq 25$ g, each report effect $< 2$ g, each whistle, if any, $\leq 3$ g	1.4G



Type	Includes: / Synonym:	Definition	Specification	Classification
Fountain	Volcanos, gerbs, showers, lances, Bengal fire, flitter sparkle, cylindrical fountains, cone fountains, illuminating torch	Non-metallic case containing pressed or consolidated pyrotechnic composition producing sparks and flame	$\geq 1$ kg pyrotechnic composition	1.3G
			$< 1$ kg pyrotechnic composition	1.4G
Sparkler	Handheld sparklers, non-handheld sparklers, wire sparklers	Rigid wire partially coated (along one end) with slow burning pyrotechnic composition with or without an ignition tip	Perchlorate based sparklers: $> 5$ g per item or $> 10$ items per pack	1.3G
			Perchlorate based sparklers: $\leq 5$ g per item and $\leq 10$ items per pack; Nitrate based sparklers: $\leq 30$ g per item	1.4G
Bengal stick	Dipped stick	Non-metallic stick partially coated (along one end) with slow-burning pyrotechnic composition and designed to be held in the hand	Perchlorate based items: $> 5$ g per item or $> 10$ items per pack	1.3G
			Perchlorate based items: $\leq 5$ g per item and $\leq 10$ items per pack; Nitrate based items: $\leq 30$ g per item	1.4G
Low hazard fireworks and novelties	Table bombs, throwdowns, crackling granules, smokes, fog, snakes, glow worm, serpents, snaps, party poppers	Device designed to produce very limited visible and/ or audible effect which contains small amounts of pyrotechnic and/ or explosive composition.	Throwdowns and snaps may contain up to 1.6 mg of silver fulminate; snaps and party poppers may contain up to 16 mg of potassium chlorate/ red phosphorous mixture; other articles may contain up to 5 g of pyrotechnic composition, but no flash composition	1.4G
Spinner	Aerial spinner, helicopter, chaser, ground spinner	Non-metallic tube or tubes containing gas- or spark-producing pyrotechnic composition, with or without noise producing composition, with or without aerofoils attached	Pyrotechnic composition per item $> 20$ g, containing $\leq 3\%$ flash composition as report effects, or whistle composition $\leq 5$ g	1.3G
			Pyrotechnic composition per item $\leq 20$ g, containing $\leq 3\%$ flash composition as report effects, or whistle composition $\leq 5$ g	1.4G
Wheels	Catherine wheels, Saxon	Assembly including drivers containing pyrotechnic composition and provided with a means of attaching it to a support so that it can rotate	$\geq 1$ kg total pyrotechnic composition, no report effect, each whistle (if any) $\leq 25$ g and $\leq 50$ g whistle composition per wheel	1.3G
			$< 1$ kg total pyrotechnic composition, no report effect, each whistle (if any) $\leq 5$ g and $\leq 10$ g whistle composition per wheel	1.4G

Type	Includes: / Synonym:	Definition	Specification	Classification
Aerial wheel	Flying Saxon, UFO's, rising crown	Tubes containing propellant charges and sparks-flame- and/ or noise producing pyrotechnic compositions, the tubes being fixed to a supporting ring	> 200 g total pyrotechnic composition or > 60 g pyrotechnic composition per driver, $\leq 3\%$ flash composition as report effects, each whistle (if any) $\leq 25$ g and $\leq 50$ g whistle composition per wheel	1.3G
			$\leq 200$ g total pyrotechnic composition and $\leq 60$ g pyrotechnic composition per driver, $\leq 3\%$ flash composition as report effects, each whistle (if any) $\leq 5$ g and $\leq 10$ g whistle composition per wheel	1.4G
Selection pack	Display selection box, display selection pack, garden selection box, indoor selection box; assortment	A pack of more than one type each corresponding to one of the types of fireworks listed in this table	The most hazardous firework type determines the classification	
Firecracker	Celebration cracker, celebration roll, string cracker	Assembly of tubes (paper or cardboard) linked by a pyrotechnic fuse, each tube intended to produce an aural effect	Each tube $\leq 140$ mg of flash composition or $\leq 1$ g black powder	1.4G
Banger	Salute, flash banger, lady cracker	Non-metallic tube containing report composition intended to produce an aural effect	> 2 g flash composition per item	1.1G
			$\leq 2$ g flash composition per item and $\leq 10$ g per inner packaging	1.3G
			$\leq 1$ g flash composition per item and $\leq 10$ g per inner packaging or $\leq 10$ g black powder per item	1.4G

#### 2.2.1.1.8 Glossary of names

**NOTE 1:** The descriptions in the glossary are not intended to replace the test procedures, nor to determine the hazard classification of a substance or article of Class 1. Assignment to the correct division and a decision on whether compatibility group S is appropriate shall be based on testing of the product in accordance with the Manual of Tests and Criteria, Part I or by analogy with similar products which have already been tested and assigned in accordance with the procedures of the Manual of Tests and Criteria.

**2:** The figures given after the names refer to the relevant UN numbers (Column 1 of Table A of Chapter 3.2). For the classification code, see 2.2.1.1.4.

**AIR BAG INFLATORS or AIR BAG MODULES or SEAT-BELT PRETENSIONERS:** UN No. 0503

Articles which contain pyrotechnic substances and are used as life-saving vehicle airbags or seat-belts.

**AMMUNITION, ILLUMINATING,** with or without burster, expelling charge or propelling charge: UN Nos. 0171, 0254, 0297

Ammunition designed to produce a single source of intense light for lighting up an area. The term includes illuminating cartridges, grenades and projectiles; and illuminating and target identification bombs.

**NOTE:** The following articles: CARTRIDGES, SIGNAL; SIGNAL DEVICES HAND; SIGNALS, DISTRESS; FLARES, AERIAL; FLARES, SURFACE are not included in this definition. They are listed separately.

**AMMUNITION, INCENDIARY,** liquid or gel, with burster, expelling charge or propelling charge: UN No. 0247

Ammunition containing liquid or gelatinous incendiary substance. Except when the incendiary substance is an explosive per se, it also contains one or more of the following: a propelling charge with primer and igniter charge; a fuze with burster or expelling charge.

**AMMUNITION, INCENDIARY, WHITE PHOSPHORUS** with burster, expelling charge or propelling charge: UN Nos. 0243, 0244

Ammunition containing white phosphorus as incendiary substance. It also contains one or more of the following: a propelling charge with primer and igniter charge; a fuze with burster or expelling charge.

**AMMUNITION, INCENDIARY** with or without burster, expelling charge or propelling charge: UN Nos. 0009, 0010, 0300

Ammunition containing incendiary composition. Except when the composition is an explosive per se, it also contains one or more of the following: a propelling charge with primer and igniter charge; a fuze with burster or expelling charge.

**AMMUNITION, PRACTICE:** UN Nos. 0362, 0488

Ammunition without a main bursting charge, containing a burster or expelling charge. Normally it also contains a fuze and a propelling charge.

**NOTE:** GRENADES, PRACTICE are not included in this definition. They are listed separately.

**AMMUNITION, PROOF:** UN No. 0363

Ammunition containing pyrotechnic substances, used to test the performance or strength of new ammunition, weapon components or assemblies.

**AMMUNITION, SMOKE, WHITE PHOSPHORUS**, with burster, expelling charge or propelling charge: UN Nos. 0245, 0246

Ammunition containing white phosphorus as a smoke-producing substance. It also contains one or more of the following: a propelling charge with primer and igniter charge; a fuze with burster or expelling charge. The term includes grenades, smoke.

**AMMUNITION, SMOKE** with or without burster, expelling charge or propelling charge: UN Nos. 0015, 0016, 0303

Ammunition containing a smoke-producing substance such as chlorosulphonic acid mixture or titanium tetrachloride; or a smoke-producing pyrotechnic composition based on hexachloroethane or red phosphorus. Except when the substance is an explosive per se, the ammunition also contains one or more of the following: a propelling charge with primer and igniter charge; a fuze with burster or expelling charge. The term includes grenades, smoke.

**NOTE:** SIGNALS, SMOKE are not included in this definition. They are listed separately.

**AMMUNITION, TEAR-PRODUCING**, with burster, expelling charge or propelling charge: UN Nos. 0018, 0019, 0301

Ammunition containing a tear-producing substance. It also contains one or more of the following: a pyrotechnic substance; a propelling charge with primer and igniter charge; a fuze with burster or expelling charge.

**ARTICLES, EXPLOSIVE, EXTREMELY INSENSITIVE (ARTICLES EEI):** UN No. 0486

Articles containing only extremely insensitive detonating substances (EIDS) which demonstrate a negligible probability of accidental initiation or propagation under normal conditions of transport, and which have passed Test Series 7.

**ARTICLES, PYROPHORIC:** UN No. 0380

Articles which contain a pyrophoric substance (capable of spontaneous ignition when exposed to air) and an explosive substance or component. The term excludes articles containing white phosphorus.

**ARTICLES, PYROTECHNIC**, for technical purposes: UN Nos. 0428, 0429, 0430, 0431, 0432

Articles which contain pyrotechnic substances and are used for technical purposes such as heat generation, gas generation, theatrical effects, etc.

**NOTE:** The following articles: all ammunition; CARTRIDGES, SIGNAL; CUTTERS, CABLE, EXPLOSIVE; FIREWORKS; FLARES, AERIAL; FLARES, SURFACE; RELEASE DEVICES, EXPLOSIVE; RIVETS, EXPLOSIVE; SIGNAL DEVICES, HAND; SIGNALS, DISTRESS; SIGNALS, RAILWAY TRACK, EXPLOSIVES; SIGNALS, SMOKE are not included in this definition. They are listed separately.

**BLACK POWDER (GUNPOWDER), COMPRESSED or BLACK POWDER (GUNPOWDER), IN PELLETS:** UN No. 0028

Substance consisting of a pelletized form of black powder.

**BLACK POWDER (GUNPOWDER),** granular or as meal: UN No. 0027

Substance consisting of an intimate mixture of charcoal or other carbon and either potassium nitrate or sodium nitrate, with or without sulphur.

**BOMBS, WITH FLAMMABLE LIQUID,** with bursting charge: UN Nos. 0399, 0400

Articles which are dropped from aircraft, consisting of a tank filled with inflammable liquid and bursting charge.

**BOMBS, PHOTO-FLASH:** UN No. 0038

Explosive articles which are dropped from aircraft to provide brief, intense illumination for photography. They contain a charge of detonating explosive without means of initiation or with means of initiation containing two or more effective protective features.

**BOMBS, PHOTO-FLASH:** UN No. 0037

Explosive articles which are dropped from aircraft to provide brief, intense illumination for photography. They contain a charge of detonating explosive with means of initiation not containing two or more effective protective features.

**BOMBS, PHOTO-FLASH:** UN Nos. 0039, 0299

Explosive articles which are dropped from aircraft to provide brief, intense illumination for photography. They contain a photo-flash composition.

**BOMBS** with bursting charge: UN Nos. 0034; 0035

Explosive articles which are dropped from aircraft, without means of initiation or with means of initiation containing two or more effective protective features.

**BOMBS** with bursting charge: UN Nos. 0033, 0291

Explosive articles which are dropped from aircraft, with means of initiation not containing two or more effective protective features.

**BOOSTERS WITH DETONATOR:** UN Nos. 0225, 0268

Articles consisting of a charge of detonating explosive with means of initiation. They are used to increase the initiating power of detonators or detonating cord.

**BOOSTERS** without detonator: UN Nos. 0042, 0283

Articles consisting of a charge of detonating explosive without means of initiation. They are used to increase the initiating power of detonators or detonating cord.

**BURSTERS,** explosive: UN No. 0043

Articles consisting of a small charge of explosive used to open projectiles or other ammunition in order to disperse their contents.

**CARTRIDGES, FLASH:** UN Nos. 0049, 0050

Articles consisting of a casing, a primer and flash powder, all assembled in one piece ready for firing.

**CARTRIDGES FOR WEAPONS, BLANK:** UN Nos. 0326, 0413, 0327, 0338, 0014

Ammunition consisting of a closed cartridge case with a centre or rim fire primer and a charge of smokeless or black powder but no projectile. It produces a loud noise and is used for training, saluting, propelling charge, starter pistols, etc. The term includes ammunition, blank.

**CARTRIDGES FOR WEAPONS, INERT PROJECTILE:** UN Nos. 0328, 0417, 0339, 0012

Ammunition consisting of a projectile without bursting charge but with a propelling charge with or without a primer. The articles may include a tracer, provided that the predominant hazard is that of the propelling charge.

**CARTRIDGES FOR WEAPONS** with bursting charge: UN Nos. 0006, 0321, 0412

Ammunition consisting of a projectile with a bursting charge without means of initiation or with means of initiation containing two or more effective protective features; and a propelling charge with or without a primer. The term includes fixed (assembled) ammunition, semi-fixed (partially assembled) ammunition and separate loading ammunition when the components are packed together.

**CARTRIDGES FOR WEAPONS** with bursting charge: UN Nos. 0005, 0007, 0348

Ammunition consisting of a projectile with a bursting charge with means of initiation not containing two or more effective protective features; and a propelling charge with or without a primer. The term includes fixed (assembled) ammunition, semi-fixed (partially assembled) ammunition and separate loading ammunition when the components are packed together.

**CARTRIDGES, OIL WELL:** UN Nos. 0277, 0278

Articles consisting of a thin casing of fibreboard, metal or other material containing only propellant powder which projects a hardened projectile to perforate an oil well casing.

**NOTE:** CHARGES, SHAPED are not included in this definition. They are listed separately.

**CARTRIDGES, POWER DEVICE:** UN Nos. 0275, 0276, 0323, 0381

Articles designed to accomplish mechanical actions. They consist of a casing with a charge of deflagrating explosive and a means of ignition. The gaseous products of the deflagration produce inflation, linear or rotary motion or activate diaphragms, valves or switches or project fastening devices or extinguishing agents.

**CARTRIDGES, SIGNAL:** UN Nos. 0054, 0312, 0405

Articles designed to fire coloured flares or other signals from signal pistols, etc.

**CARTRIDGES, SMALL ARMS:** UN Nos. 0417, 0339, 0012

Ammunition consisting of a cartridge case fitted with a centre or rim fire primer and containing both a propelling charge and solid projectile. They are designed to be fired in weapons of calibre not larger than 19.1 mm. Shot-gun cartridges of any calibre are included in this description.

**NOTE:** CARTRIDGES, SMALL ARMS, BLANK, are not included in this definition. They are listed separately. Some military small arms cartridges are not included in this definition. They are listed under CARTRIDGES FOR WEAPONS, INERT PROJECTILE.

**CARTRIDGES, SMALL ARMS, BLANK:** UN Nos. 0014, 0327, 0338

Ammunition consisting of a closed cartridge case with a centre or rim fire primer and a charge of smokeless or black powder. The cartridge cases contain no projectiles. The cartridges are designed to be fired from weapons with a calibre of at most 19.1 mm and serve to produce a loud noise and are used for training, saluting, propelling charge, starter pistols, etc.

**CASES, CARTRIDGE, EMPTY, WITH PRIMER:** UN Nos. 0379; 0055

Articles consisting of a cartridge case made from metal, plastics or other non-inflammable material, in which the only explosive component is the primer.

**CASES, COMBUSTIBLE, EMPTY, WITHOUT PRIMER:** UN Nos. 0447, 0446

Articles consisting of a cartridge case made partly or entirely from nitrocellulose.

**CHARGES, BURSTING, PLASTICS BONDED:** UN Nos. 0457, 0458, 0459, 0460

Articles consisting of a charge of detonating explosive, plastics bonded, manufactured in a specific form without a casing and without means of initiation. They are designed as components of ammunition such as warheads.

**CHARGES, DEMOLITION:** UN No. 0048

Articles containing a charge of a detonating explosive in a casing of fibreboard, plastics, metal or other material. The articles are without means of initiation or with means of initiation containing two or more effective protective features.

**NOTE:** The following articles: BOMBS; MINES; PROJECTILES are not included in this definition. They are listed separately.

**CHARGES, DEPTH:** UN No. 0056

Articles consisting of a charge of detonating explosive contained in a drum or projectile without means of initiation or with means of initiation containing two or more effective protective features. They are designed to detonate under water.

**CHARGES, EXPLOSIVE, COMMERCIAL** without detonator: UN Nos. 0442, 0443, 0444, 0445

Articles consisting of a charge of detonating explosive without means of initiation, used for explosive welding, jointing, forming and other metallurgical processes.

**CHARGES, PROPELLING, FOR CANNON:** UN Nos. 0242, 0279, 0414

Charges of propellant in any physical form for separate-loading ammunition for cannon.

**CHARGES, PROPELLING:** UN Nos. 0271, 0272, 0415, 0491

Articles consisting of a charge of a propellant charge in any physical form, with or without a casing, as a component of rocket motors or for reducing the drag of projectiles.

**CHARGES, SHAPED,** without detonator: UN Nos. 0059, 0439, 0440, 0441

Articles consisting of a casing containing a charge of detonating explosive with a cavity lined with rigid material, without means of initiation. They are designed to produce a powerful, penetrating jet effect.

**CHARGES, SHAPED, FLEXIBLE, LINEAR:** UN Nos. 0237, 0288

Articles consisting of a V-shaped core of a detonating explosive clad by a flexible sheath.

**CHARGES, SUPPLEMENTARY, EXPLOSIVE:** UN No. 0060

Articles consisting of a small removable booster placed in the cavity of a projectile between the fuze and the bursting charge.

**COMPONENTS, EXPLOSIVE TRAIN, N.O.S.:** UN Nos. 0382, 0383, 0384, 0461

Articles containing an explosive designed to transmit detonation or deflagration within an explosive train.

**CONTRIVANCES, WATER-ACTIVATED** with burster, expelling charge or propelling charge: UN Nos. 0248, 0249

Articles whose functioning depends upon physico-chemical reaction of their contents with water.

**CORD, DETONATING,** flexible: UN Nos. 0065, 0289

Article consisting of a core of detonating explosive enclosed in spun fabric and a plastics or other covering. The covering is not necessary if the spun fabric is sift-proof.

**CORD (FUSE) DETONATING,** metal clad: UN Nos. 0102, 0290

Article consisting of a core of detonating explosive clad by a soft metal tube with or without protective covering.

**CORD (FUSE) DETONATING, MILD EFFECT,** metal clad: UN No. 0104

Article consisting of a core of detonating explosive clad by a soft metal tube with or without a protective covering. The quantity of explosive substance is so small that only a mild effect is manifested outside the cord.

**CORD, IGNITER:** UN No. 0066

Article consisting of textile yarns covered with black powder or another fast burning pyrotechnic composition and of a flexible protective covering; or it consists of a core of black powder surrounded by a flexible woven fabric. It burns progressively along its length with an external flame and is used to transmit ignition from a device to a charge or primer.

**CUTTERS, CABLE, EXPLOSIVE:** UN No. 0070

Articles consisting of a knife-edged device which is driven by a small charge of deflagrating explosive into an anvil.

**DETONATOR ASSEMBLIES, NON-ELECTRIC** for blasting: UN Nos. 0360, 0361, 0500

Non-electric detonators assembled with and activated by such means as safety fuse, shock tube, flash tube or detonating cord. They may be of instantaneous design or incorporate delay elements. Detonating relays incorporating detonating cord are included.

**DETONATORS, ELECTRIC** for blasting: UN Nos. 0030, 0255, 0456

Articles specially designed for the initiation of blasting explosives. These detonators may be constructed to detonate instantaneously or may contain a delay element. Electric detonators are activated by an electric current.

**DETONATORS FOR AMMUNITION:** UN Nos. 0073, 0364, 0365, 0366

Articles consisting of a small metal or plastics tube containing explosives such as lead azide, PETN or combinations of explosives. They are designed to start a detonation train.

**DETONATORS, NON-ELECTRIC** for blasting: UN Nos. 0029, 0267, 0455

Articles specially designed for the initiation of blasting explosives. These detonators may be constructed to detonate instantaneously or may contain a delay element. Non-electric detonators are activated by such means as shock tube, flash tube, safety fuse, other igniferous device or flexible detonating cord. Detonating relays without detonating cord are included.

**EXPLOSIVE, BLASTING, TYPE A:** UN No. 0081

Substances consisting of liquid organic nitrates such as nitroglycerine or a mixture of such ingredients with one or more of the following: nitrocellulose; ammonium nitrate or other inorganic nitrates; aromatic nitro-derivatives, or combustible materials, such as wood-meal and aluminium powder. They may contain inert components such as kieselguhr, and additives such as colouring agents and stabilizers. Such explosives shall be in powdery, gelatinous or elastic form. The term includes dynamite; gelatine, blasting and gelatine dynamites.

**EXPLOSIVE, BLASTING, TYPE B:** UN Nos. 0082, 0331

Substances consisting of

- (a) a mixture of ammonium nitrate or other inorganic nitrates with an explosive such as trinitrotoluene, with or without other substances such as wood-meal and aluminium powder; or
- (b) a mixture of ammonium nitrate or other inorganic nitrates with other combustible substances which are not explosive ingredients. In both cases they may contain inert components such as kieselguhr, and additives such as colouring agents and stabilizers. Such explosives must not contain nitroglycerine, similar liquid organic nitrates or chlorates.

**EXPLOSIVE, BLASTING, TYPE C:** UN No. 0083

Substances consisting of a mixture of either potassium or sodium chlorate or potassium, sodium or ammonium perchlorate with organic nitro-derivatives or combustible materials such as wood-meal or aluminium powder or a hydrocarbon. They may contain inert components such as kieselguhr and additives such as colouring agents and stabilizers. Such explosives must not contain nitroglycerine or similar liquid organic nitrates.

**EXPLOSIVE, BLASTING, TYPE D:** UN No. 0084

Substances consisting of a mixture of organic nitrated compounds and combustible materials such as hydrocarbons and aluminium powder. They may contain inert components such as kieselguhr and additives such as colouring agents and stabilizers. Such explosives must not contain nitroglycerine, similar liquid organic nitrates, chlorates and ammonium nitrate. The term generally includes plastic explosives.

**EXPLOSIVES, BLASTING, TYPE E:** UN Nos. 0241, 0332

Substances consisting of water as an essential ingredient and high proportions of ammonium nitrate or other oxidizers, some or all of which are in solution. The other constituents may include nitro-derivatives such as trinitrotoluene, hydrocarbons or aluminium powder. They may contain inert components such as kieselguhr and additives such as colouring agents and stabilizers. The term includes explosives, emulsion, explosives, slurry and explosives, watergel.

**FIREWORKS:** UN Nos. 0333, 0334, 0335, 0336, 0337

Pyrotechnic articles designed for entertainment.



**FLARES, AERIAL:** UN Nos. 0093, 0403, 0404, 0420, 0421;

Articles containing pyrotechnic substances which are designed to be dropped from an aircraft to illuminate, identify, signal or warn.

**FLARES, SURFACE:** UN Nos. 0092, 0418, 0419

Articles containing pyrotechnic substances which are designed for use on the surface to illuminate, identify, signal or warn.

**FLASH POWDER:** UN Nos. 0094, 0305

Pyrotechnic substance which, when ignited, produces an intense light.

**FRACTURING DEVICES, EXPLOSIVE** without detonator, for oil wells: UN No. 0099

Articles consisting of a charge of detonating explosive contained in a casing without means of initiation. They are used to fracture the rock around a drill shaft to assist the flow of crude oil from the rock.

**FUSE, IGNITER**, tubular, metal clad: UN No. 0103

Article consisting of a metal tube with a core of deflagrating explosive.

**FUSE, NON-DETONATING:** UN No. 0101

Article consisting of cotton yarns impregnated with fine black powder (quickmatch). It burns with an external flame and is used in ignition trains for fireworks, etc.

**FUSE, SAFETY:** UN No. 0105

Article consisting of a core of fine grained black powder surrounded by a flexible woven fabric with one or more protective outer coverings. When ignited, it burns at a predetermined rate without any external explosive effect.

**FUZES, DETONATING:** UN Nos. 0106, 0107, 0257, 0367

Articles with explosive components designed to produce a detonation in ammunition. They incorporate mechanical, electrical, chemical or hydrostatic components to initiate the detonation. They generally incorporate protective features.

**FUZES, DETONATING** with protective features: UN Nos. 0408, 0409, 0410

Articles with explosive components designed to produce a detonation in ammunition. They incorporate mechanical, electrical, chemical or hydrostatic components to initiate the detonation. The detonating fuze must incorporate two or more effective protective features.

**FUZES, IGNITING:** UN Nos. 0316, 0317, 0368

Articles with primary explosive components designed to produce a deflagration in ammunition. They incorporate mechanical, electrical, chemical or hydrostatic components to start the deflagration. They generally incorporate protective features.

**GRENADES**, hand or rifle, with bursting charge: UN Nos. 0284, 0285

Articles which are designed to be thrown by hand or to be projected by a rifle. They are without means of initiation or with means of initiation containing two or more effective protective features.

**GRENADES**, hand or rifle, with bursting charge: UN Nos. 0292, 0293

Articles which are designed to be thrown by hand or to be projected by a rifle. They are with means of initiation not containing two or more effective protective features.

**GRENADES, PRACTICE**, hand or rifle: UN Nos. 0110, 0372, 0318, 0452

Articles without a main bursting charge which are designed to be thrown by hand or to be projected by a rifle. They contain the priming device and may contain a spotting charge.

**HEXOTONAL:** UN No. 0393

Substance consisting of an intimate mixture of cyclotrimethylene-trinitramine (RDX), trinitrotoluene (TNT) and aluminium.



**HEXOLITE (HEXOTOL)**, dry or wetted with less than 15% water, by mass: UN No. 0118

Substance consisting of an intimate mixture of cyclotrimethylene-trinitramine (RDX) and trinitrotoluene (TNT). The term includes "Composition B".

**IGNITERS**: UN Nos. 0121, 0314, 0315, 0325, 0454

Articles containing one or more explosive substances designed to produce a deflagration in an explosive train. They may be actuated chemically, electrically or mechanically.

**NOTE:** The following articles: CORD, IGNITER; FUSE, IGNITER; FUSE, NON-DETONATING; FUZES, IGNITING; LIGHTERS, FUSE; PRIMERS, CAP TYPE; PRIMERS, TUBULAR are not included in this definition. They are listed separately.

**JET PERFORATING GUNS, CHARGED**, oil well, without detonator: UN Nos. 0124, 0494

Articles consisting of a steel tube or metallic strip, into which are inserted shaped charges connected by detonating cord, without means of initiation.

**LIGHTERS, FUSE**: UN No. 0131

Articles of various design actuated by friction, percussion or electricity and used to ignite safety fuse.

**MINES** with bursting charge: UN Nos. 0137, 0138

Articles consisting normally of metal or composition receptacles filled with a detonating explosive, without means of initiation or with means of initiation containing two or more effective protective features. They are designed to be operated by the passage of ships, vehicles or personnel. The term includes "Bangalore torpedoes".

**MINES** with bursting charge: UN Nos. 0136, 0294

Articles consisting normally of metal or composition receptacles filled with a detonating explosive, with means of initiation not containing two or more effective protective features. They are designed to be operated by the passage of ships, vehicles or personnel. The term includes "Bangalore torpedoes".

**OCTOLITE (OCTOL)**, dry or wetted with less than 15% water, by mass: UN No. 0266

Substance consisting of an intimate mixture of cyclotetramethylene-tetranitramine (HMX) and trinitrotoluene (TNT).

**OCTONAL**: UN No. 0496

Substance consisting of an intimate mixture of cyclotetramethylenetetranitramine (HMX), trinitrotoluene (TNT) and aluminium.

**PENTOLITE**, dry or wetted with less than 15% water, by mass: UN No. 0151

Substance consisting of an intimate mixture of pentaerythrite tetranitrate (PETN) and trinitrotoluene (TNT).

**POWDER CAKE (POWDER PASTE), WETTED** with not less than 17% alcohol, by mass; **POWDER CAKE (POWDER PASTE), WETTED** with not less than 25% water, by mass: UN Nos. 0433, 0159

Substance consisting of nitrocellulose impregnated with not more than 60% of nitroglycerine or other liquid organic nitrates or a mixture of these.

**POWDER, SMOKELESS**: UN Nos. 0160, 0161

Substance based on nitrocellulose used as propellant. The term includes propellants with a single base (nitrocellulose (NC) alone), those with a double base (such as NC and nitroglycerine/(NG)) and those with a triple base (such as NC/NG/nitroguanidine).

**NOTE:** Cast, pressed or bag-charges of smokeless powder are listed under CHARGES, PROPELLING or CHARGES, PROPELLING, FOR CANON.

**PRIMERS, CAP TYPE**: UN Nos. 0044, 0377, 0378

Articles consisting of a metal or plastics cap containing a small amount of primary explosive mixture that is readily ignited by impact. They serve as igniting elements in small arms cartridges and in percussion primers for propelling charges.

**PRIMERS, TUBULAR:** UN Nos. 0319, 0320, 0376

Articles consisting of a primer for ignition and an auxiliary charge of deflagrating explosive such as black powder used to ignite the propelling charge in a cartridge case for cannon, etc.

**PROJECTILES,** inert with tracer: UN Nos. 0345, 0424, 0425

Articles such as a shell or bullet, which are projected from a cannon or other gun, rifle or other small arm.

**PROJECTILES** with burster or expelling charge: UN Nos. 0346, 0347

Articles such as a shell or bullet, which are projected from a cannon or other gun. They are without means of initiation or with means of initiation containing two or more effective protective features. They are used to scatter dyes for spotting or other inert materials.

**PROJECTILES** with burster or expelling charge: UN Nos. 0426, 0427

Articles such as a shell or bullet, which are projected from a cannon or other gun. They are with means of initiation not containing two or more effective protective features. They are used to scatter dyes for spotting or other inert materials.

**PROJECTILES** with burster or expelling charge: UN Nos. 0434, 0435

Articles such as a shell or bullet, which are projected from a cannon or other gun, rifle or other small arm. They are used to scatter dyes for spotting or other inert materials.

**PROJECTILES** with bursting charge: UN Nos. 0168, 0169, 0344

Articles such as a shell or bullet, which are projected from a cannon or other gun. They are without means of initiation or with means of initiation containing two or more effective protective features.

**PROJECTILES** with bursting charge: UN Nos. 0167, 0324

Articles such as a shell or bullet, which are projected from a cannon or other gun. They are with means of initiation not containing two or more effective protective features.

**PROPELLANT, LIQUID:** UN Nos. 0495, 0497

Substance consisting of a deflagrating liquid explosive, used for propulsion.

**PROPELLANT, SOLID:** UN Nos. 0498, 0499, 0501

Substance consisting of a deflagrating solid explosive, used for propulsion.

**RELEASE DEVICES, EXPLOSIVE:** UN No. 0173

Articles consisting of a small charge of explosive with means of initiation and rods or links. They sever the rods or links to release equipment quickly.

**RIVETS, EXPLOSIVE:** UN No. 0174

Articles consisting of a small charge of explosive inside a metallic rivet.

**ROCKET MOTORS:** UN Nos. 0186, 0280, 0281

Articles consisting of a charge of explosive, generally a solid propellant, contained in a cylinder fitted with one or more nozzles. They are designed to propel a rocket or a guided missile.

**ROCKET MOTORS, LIQUID FUELLED:** UN Nos. 0395, 0396

Articles consisting of a liquid fuel within a cylinder fitted with one or more nozzles. They are designed to propel a rocket or a guided missile.

**ROCKET MOTORS WITH HYPERGOLIC LIQUIDS** with or without expelling charge: UN Nos. 0322, 0250

Articles consisting of a hypergolic fuel contained in a cylinder fitted with one or more nozzles. They are designed to propel a rocket or a guided missile.

**ROCKETS, LINE THROWING:** UN Nos. 0238, 0240, 0453

Articles consisting of a rocket motor which is designed to extend a line.

**ROCKETS, LIQUID FUELLED** with bursting charge: UN Nos. 0397, 0398

Articles consisting of a liquid fuel within a cylinder fitted with one or more nozzles and fitted with a warhead. The term includes guided missiles.

**ROCKETS** with bursting charge: UN Nos. 0181, 0182

Articles consisting of a rocket motor and a warhead without means of initiation or with means of initiation containing two or more effective protective features. The term includes guided missiles.

**ROCKETS** with bursting charge: UN Nos. 0180, 0295

Articles consisting of a rocket motor and a warhead with means of initiation not containing two or more effective protective features. The term includes guided missiles.

**ROCKETS** with expelling charge: UN Nos. 0436, 0437, 0438

Articles consisting of a rocket motor and a charge to expel the payload from a rocket head. The term includes guided missiles.

**ROCKETS** with inert head: UN Nos. 0183, 0502

Articles consisting of a rocket motor and an inert head. The term includes guided missiles.

**SAMPLES, EXPLOSIVE**, other than initiating explosive UN No. 0190

New or existing explosive substances or articles, not yet assigned to a name in Table A of Chapter 3.2 and carried in conformity with the instructions of the competent authority and generally in small quantities, inter alia, for the purposes of testing, classification, research and development, or quality control, or as commercial samples.

**NOTE:** Explosive substances or articles already assigned to another name in Table A of Chapter 3.2 are not included in this definition.

**SIGNAL DEVICES, HAND:** UN Nos. 0191, 0373

Portable articles containing pyrotechnic substances which produce visual signals or warnings. The term includes small surface flares such as highway or railway flares and small distress flares.

**SIGNALS, DISTRESS**, ship: UN Nos. 0194, 0195, 0505, 0506

Articles containing pyrotechnic substances designed to produce signals by means of sound, flame or smoke or any combination thereof.

**SIGNALS, RAILWAY TRACK, EXPLOSIVE:** UN Nos. 0192, 0193, 0492, 0493

Articles containing a pyrotechnic substance which explodes with a loud report when the article is crushed. They are designed to be placed on a rail.

**SIGNALS, SMOKE:** UN Nos. 0196, 0197, 0313, 0487, 0507

Articles containing pyrotechnic substances which emit smoke. In addition they may contain devices for emitting audible signals.

**SOUNDING DEVICES, EXPLOSIVE:** UN Nos. 0374, 0375

Articles consisting of a charge of detonating explosive, without means of initiation or with means of initiation containing two or more effective protective features. They are dropped from ships and function when they reach a predetermined depth or the sea bed.

**SOUNDING DEVICES, EXPLOSIVE:** UN Nos. 0204, 0296

Articles consisting of a charge of detonating explosive with means of initiation not containing two or more effective protective features. They are dropped from ships and function when they reach a predetermined depth or the sea bed.

**SUBSTANCES, EXPLOSIVE, VERY INSENSITIVE (SUBSTANCES, EVI), N.O.S.:** UN No. 0482

Substances presenting a mass explosion hazard but which are so insensitive that there is very little probability of initiation or of transition from burning to detonation under normal conditions of transport, and which have passed Test Series 5.

**TORPEDOES, LIQUID FUELLED** with inert head: UN No. 0450

Articles consisting of a liquid explosive system to propel the torpedo through the water, with an inert head.

**TORPEDOES, LIQUID FUELLED** with or without bursting charge: UN No. 0449

Articles consisting of either a liquid explosive system to propel the torpedo through the water, with or without a warhead; or a liquid non-explosive system to propel the torpedo through the water, with a warhead.

**TORPEDOES** with bursting charge: UN No. 0451

Articles consisting of a non-explosive system to propel the torpedo through the water, and a warhead without means of initiation or with means of initiation containing two or more effective protective features.

**TORPEDOES** with bursting charge: UN No. 0329

Articles consisting of an explosive system to propel the torpedo through the water, and a warhead without means of initiation or with means of initiation containing two or more effective protective features.

**TORPEDOES** with bursting charge: UN No. 0330

Articles consisting of an explosive or non-explosive system to propel the torpedo through the water, and a warhead with means of initiation not containing two or more effective protective features.

**TRACERS FOR AMMUNITION:** UN Nos. 0212, 0306

Sealed articles containing pyrotechnic substances, designed to reveal the trajectory of a projectile.

**TRITONAL:** UN No. 0390

Substance consisting of trinitrotoluene (TNT) mixed with aluminium.

**WARHEADS, ROCKET** with burster or expelling charge: UN No. 0370

Articles consisting of an inert payload and a small charge of detonating or deflagrating explosive, without means of initiation or with means of initiation containing two or more effective protective features. They are designed to be fitted to a rocket motor to scatter inert material. The term includes warheads for guided missiles.

**WARHEADS, ROCKET** with burster or expelling charge: UN No. 0371

Articles consisting of an inert payload and a small charge of detonating or deflagrating explosive, with means of initiation not containing two or more effective protective features. They are designed to be fitted to a rocket motor to scatter inert material. The term includes warheads for guided missiles.

**WARHEADS, ROCKET** with bursting charge: UN Nos. 0286, 0287

Articles consisting of a detonating explosive, without means of initiation or with means of initiation containing two or more effective protective features. They are designed to be fitted to a rocket. The term includes warheads for guided missiles.

**WARHEADS, ROCKET** with bursting charge: UN No. 0369

Articles consisting of a detonating explosive, with means of initiation not containing two or more effective protective features. They are designed to be fitted to a rocket. The term includes warheads for guided missiles.

**WARHEADS, TORPEDO** with bursting charge: UN No. 0221

Articles consisting of a detonating explosive, without means of initiation or with means of initiation containing two or more effective protective features. They are designed to be fitted to a torpedo.

**2.2.1.2 Substances and articles not accepted for carriage**

**2.2.1.2.1** Explosive substances which are unduly sensitive according to the criteria of the Manual of Tests and Criteria, Part I, or are liable to spontaneous reaction, as well as explosive substances and articles which cannot be assigned to a name or n.o.s. entry listed in Table A of Chapter 3.2, shall not be accepted for carriage.

**2.2.1.2.2** Substances of compatibility group A shall not be accepted for carriage by rail (1.1 A, UN Nos. 0074, 0113, 0114, 0129, 0130, 0135, 0224 and 0473).

Articles of compatibility group K shall not be accepted for carriage (1.2 K, UN No. 0020 and 1.3 K, UN No. 0021).

## 2.2.1.3 List of collective entries

Classification code (see 2.2.1.1.4)	UN No.	Name of the substance or article
1.1 A	0473	SUBSTANCES, EXPLOSIVE, N.O.S. (not accepted for carriage by rail, see 2.2.1.2.2)
1.1 B	0461	COMPONENTS, EXPLOSIVE TRAIN, N.O.S.
1.1 C	0474 0497 0498 0462	SUBSTANCES, EXPLOSIVE, N.O.S. PROPELLANT, LIQUID PROPELLANT, SOLID ARTICLES, EXPLOSIVE, N.O.S.
1.1 D	0475 0463	SUBSTANCES, EXPLOSIVE, N.O.S. ARTICLES, EXPLOSIVE, N.O.S.
1.1 E	0464	ARTICLES, EXPLOSIVE, N.O.S.
1.1 F	0465	ARTICLES, EXPLOSIVE, N.O.S.
1.1 G	0476	SUBSTANCES, EXPLOSIVE, N.O.S.
1.1 L	0357 0354	SUBSTANCES, EXPLOSIVE, N.O.S. ARTICLES, EXPLOSIVE, N.O.S.
1.2 B	0382	COMPONENTS, EXPLOSIVE TRAIN, N.O.S.
1.2 C	0466	ARTICLES, EXPLOSIVE, N.O.S.
1.2 D	0467	ARTICLES, EXPLOSIVE, N.O.S.
1.2 E	0468	ARTICLES, EXPLOSIVE, N.O.S.
1.2 F	0469	ARTICLES, EXPLOSIVE, N.O.S.
1.2 L	0358 0248 0355	SUBSTANCES, EXPLOSIVE, N.O.S. CONTRIVANCES, WATER-ACTIVATED with burster, expelling charge or propelling charge ARTICLES, EXPLOSIVE, N.O.S.
1.3 C	0132 0477 0495 0499 0470	DEFLAGRATING METAL SALTS OF AROMATIC NITRO-DERIVATIVES, N.O.S. SUBSTANCES, EXPLOSIVE, N.O.S. PROPELLANT, LIQUID PROPELLANT, SOLID ARTICLES, EXPLOSIVE, N.O.S.
1.3 G	0478	SUBSTANCES, EXPLOSIVE, N.O.S.
1.3 L	0359 0249 0356	SUBSTANCES, EXPLOSIVE, N.O.S. CONTRIVANCES, WATER-ACTIVATED with burster, expelling charge or propelling charge ARTICLES, EXPLOSIVE, N.O.S.
1.4 B	0350 0383	ARTICLES, EXPLOSIVE, N.O.S. COMPONENTS, EXPLOSIVE TRAIN, N.O.S.
1.4 C	0479 0501 0351	SUBSTANCES, EXPLOSIVE, N.O.S. PROPELLANT, SOLID ARTICLES, EXPLOSIVE, N.O.S.
1.4 D	0480 0352	SUBSTANCES, EXPLOSIVE, N.O.S. ARTICLES, EXPLOSIVE, N.O.S.
1.4 E	0471	ARTICLES, EXPLOSIVE, N.O.S.
1.4 F	0472	ARTICLES, EXPLOSIVE, N.O.S.
1.4 G	0485 0353	SUBSTANCES, EXPLOSIVE, N.O.S. ARTICLES, EXPLOSIVE, N.O.S.
1.4 S	0481 0349 0384	SUBSTANCES, EXPLOSIVE, N.O.S. ARTICLES, EXPLOSIVE, N.O.S. COMPONENTS, EXPLOSIVE TRAIN, N.O.S.
1.5 D	0482	SUBSTANCES, EXPLOSIVE, VERY INSENSITIVE (SUBSTANCES, EVI) N.O.S.
1.6 N	0486 0190	ARTICLES, EXPLOSIVE, EXTREMELY INSENSITIVE (ARTICLES, EEI) SAMPLES, EXPLOSIVE other than initiating explosive
<b>NOTE:</b> Division and compatibility group shall be defined as directed by the competent authority and according to the principles in 2.2.1.1.4.		

**2.2.2 Class 2: Gases****2.2.2.1 Criteria****2.2.2.1.1** The heading of Class 2 covers pure gases, mixtures of gases, mixtures of one or more gases with one or more other substances and articles containing such substances.

A gas is a substance which:

- (a) at 50 °C has a vapour pressure greater than 300 kPa (3 bar); or
- (b) is completely gaseous at 20 °C at the standard pressure of 101.3 kPa.

**NOTE 1:** UN No. 1052 HYDROGEN FLUORIDE is nevertheless classified in Class 8.

**2:** A pure gas may contain other components deriving from its production process or added to preserve the stability of the product, provided that the level of these components does not change its classification or its conditions of carriage, such as filling ratio, filling pressure, test pressure.

**3:** N.O.S. entries in 2.2.2.3 may cover pure gases as well as mixtures.

**4:** Carbonated beverages are not subject to the provisions of RID.

**2.2.2.1.2** The substances and articles of Class 2 are subdivided as follows:

1. *Compressed gas*: a gas which when packaged under pressure for carriage is entirely gaseous at -50 °C; this category includes all gases with a critical temperature less than or equal to -50 °C;
2. *Liquefied gas*: a gas which when packaged under pressure for carriage is partially liquid at temperatures above -50 °C. A distinction is made between:
  - High pressure liquefied gas*: a gas with a critical temperature above -50 °C and equal to or below +65 °C; and
  - Low pressure liquefied gas*: a gas with a critical temperature above +65 °C;
3. *Refrigerated liquefied gas*: a gas which when packaged for carriage is made partially liquid because of its low temperature;
4. *Dissolved gas*: a gas which when packaged under pressure for carriage is dissolved in a liquid phase solvent;
5. Aerosol dispensers and receptacles, small, containing gas (gas cartridges);
6. Other articles containing gas under pressure;
7. Non-pressurized gases subject to special requirements (gas samples).

**2.2.2.1.3** Substances and articles (except aerosols) of Class 2 are assigned to one of the following groups according to their hazardous properties, as follows:

- A asphyxiant;
- O oxidizing;
- F flammable;
- T toxic;
- TF toxic, flammable;
- TC toxic, corrosive;
- TO toxic, oxidizing;
- TFC toxic, flammable, corrosive;
- TOC toxic, oxidizing, corrosive.

For gases and gas mixtures presenting hazardous properties associated with more than one group according to the criteria, the groups designated by letter T take precedence over all other groups. The groups designated by letter F take precedence over the groups designated by letters A or O.

**NOTE 1:** In the UN Model Regulations, the IMDG Code and the ICAO Technical Instructions, gases are assigned to one of the following three divisions, based on the primary hazard:

Division 2.1: flammable gases (corresponding to the groups designated by the capital letter F);

Division 2.2: non-flammable, non-toxic gases (corresponding to the groups designated by the capital letters A or O);

Division 2.3: toxic gases (corresponding to the groups designated by the capital letter T (i.e. T, TF, TC, TO, TFC and TOC).

**2:** Receptacles, small containing gas (UN No. 2037) shall be assigned to the groups A to TOC according to the hazard of the contents. For aerosols (UN No. 1950), see 2.2.2.1.6.

**3:** Corrosive gases are considered to be toxic, and are therefore assigned to the group TC, TFC or TOC.

**4:** Mixtures containing more than 21% oxygen by volume shall be classified as oxidizing.

**2.2.2.1.4** If a mixture of Class 2 mentioned by name in Table A of Chapter 3.2 meets different criteria as mentioned in 2.2.2.1.2 and 2.2.2.1.5, this mixture shall be classified according to the criteria and assigned to an appropriate N.O.S. entry.

**2.2.2.1.5** Substances and articles (except aerosols) of Class 2 which are not mentioned by name in Table A of Chapter 3.2 shall be classified under a collective entry listed in 2.2.2.3 in accordance with 2.2.2.1.2 and 2.2.2.1.3. The following criteria shall apply:

#### **Asphyxiant gases**

Gases which are non-oxidizing, non-flammable and non-toxic and which dilute or replace oxygen normally in the atmosphere.

#### **Flammable gases**

Gases which at 20 °C and a standard pressure of 101.3 kPa:

- (a) are ignitable when in a mixture of 13% or less by volume with air; or
- (b) have a flammable range with air of at least 12 percentage points regardless of the lower flammable limit.

Flammability shall be determined by tests or by calculation, in accordance with methods adopted by ISO (see ISO 10156:1996).

Where insufficient data are available to use these methods, tests by a comparable method recognized by the competent authority of the country of origin may be used.

If the country of origin is not a COTIF Member State these methods shall be recognized by the competent authority of the first COTIF Member State reached by the consignment.

#### **Oxidizing gases**

Gases, which may, generally by providing oxygen, cause or contribute to the combustion of other material more than air does. Oxidizing ability is determined either by tests or by calculation methods adopted by ISO (see ISO 10156:1996 and ISO 10156-2:2005).

#### **Toxic gases**

**NOTE:** Gases meeting the criteria for toxicity in part or completely owing to their corrosivity are to be classified as toxic. See also the criteria under the heading "Corrosive gases" for a possible subsidiary corrosivity risk.

Gases which:

- (a) are known to be so toxic or corrosive to humans as to pose a hazard to health; or
- (b) are presumed to be toxic or corrosive to humans because they have a LC<sub>50</sub> value for acute toxicity equal to or less than 5 000 ml/m<sup>3</sup> (ppm) when tested in accordance with 2.2.61.1.

In the case of gas mixtures (including vapours of substances from other classes) the following formula may be used:

$$LC_{50} \text{ Toxic (mixture)} = \frac{1}{\sum_{i=1}^n \frac{f_i}{T_i}}$$

where

$f_i$  = mole fraction of the  $i^{\text{th}}$  component substance of the mixture;

$T_i$  = toxicity index of the  $i^{\text{th}}$  component substance of the mixture. The  $T_i$  equals the LC<sub>50</sub> value as found in packing instruction P200 of 4.1.4.1. When no LC<sub>50</sub> value is listed in packing instruction P200 of 4.1.4.1, a LC<sub>50</sub> value available in scientific literature shall be used. When the LC<sub>50</sub> value is unknown, the toxicity index is determined by using the lowest LC<sub>50</sub> value of substances of similar physiological and chemical effects, or through testing if this is the only practical possibility.

#### **Corrosive gases**

Gases or gas mixtures meeting the criteria for toxicity completely owing to their corrosivity are to be classified as toxic with a subsidiary corrosivity risk.

A gas mixture that is considered to be toxic due to the combined effects of corrosivity and toxicity has a subsidiary risk of corrosivity when the mixture is known by human experience to be destructive to the skin, eyes or mucous membranes or when the LC<sub>50</sub> value of the corrosive components of the mixture is equal to or less than 5 000 ml/m<sup>3</sup> (ppm) when the LC<sub>50</sub> is calculated by the formula:

$$LC_{50} \text{ Corrosive (mixture)} = \frac{1}{\sum_{i=1}^n \frac{fc_i}{T_{ci}}}$$

where

$fc_i$  = mole fraction of the  $i^{\text{th}}$  corrosive component substance of the mixture;

$T_{ci}$  = toxicity index of the  $i^{\text{th}}$  corrosive component substance of the mixture. The  $T_{ci}$  equals the  $LC_{50}$  value as found in packing instruction P200 of 4.1.4.1. When no  $LC_{50}$  value is listed in packing instruction P200 of 4.1.4.1, a  $LC_{50}$  value available in scientific literature shall be used. When the  $LC_{50}$  value is unknown the toxicity index is determined by using the lowest  $LC_{50}$  value of substances of similar physiological and chemical effects, or through testing if this is the only practical possibility.

#### 2.2.2.1.6 Aerosols

Aerosols (UN No. 1950) are assigned to one of the following groups according to their hazardous properties, as follows:

- A asphyxiant;
- O oxidizing;
- F flammable;
- T toxic;
- C corrosive;
- CO corrosive, oxidizing;
- FC flammable, corrosive;
- TF toxic, flammable;
- TC toxic, corrosive;
- TO toxic, oxidizing;
- TFC toxic, flammable, corrosive
- TOC toxic, oxidizing, corrosive.

The classification depends on the nature of the contents of the aerosol dispenser.

**NOTE:** Gases, which meet the definition of toxic gases according to 2.2.2.1.5 or of pyrophoric gases according to packing instruction P200 in 4.1.4.1, shall not be used as a propellant in an aerosol dispenser. Aerosols with contents meeting the criteria for packing group I for toxicity or corrosivity shall not be accepted for carriage (see also 2.2.2.2.2).

The following criteria shall apply:

- (a) Assignment to group A shall apply when the contents do not meet the criteria for any other group according to sub-paragraphs (b) to (f) below;
- (b) Assignment to group O shall apply when the aerosol contains an oxidizing gas according to 2.2.2.1.5;
- (c) Assignment to group F shall apply if the contents include 85% by mass or more flammable components and the chemical heat of combustion is 30 kJ/g or more.

It shall not apply if the contents contain 1% by mass or less flammable components and the heat of combustion is less than 20 kJ/g.

Otherwise the aerosol shall be tested for flammability in accordance with the tests described in the Manual of Tests and Criteria, Part III, section 31. Extremely flammable and flammable aerosols shall be assigned to group F.

**NOTE:** Flammable components are flammable liquids, flammable solids or flammable gases and gas mixtures as defined in Notes 1 to 3 of sub-section 31.1.3 of Part III of the Manual of Tests and Criteria. This designation does not cover pyrophoric, self-heating or water-reactive substances. The chemical heat of combustion shall be determined by one of the following methods: ASTM D 240, ISO/FDIS 13943:1999 (E/F) 86.1 to 86.3 or NFPA 30B;

- (d) Assignment to group T shall apply when the contents, other than the propellant of aerosol dispensers to be ejected, are classified as Class 6.1, packing groups II or III;
- (e) Assignment to group C shall apply when the contents, other than the propellant of aerosol dispensers to be ejected, meet the criteria for Class 8, packing groups II or III;
- (f) When the criteria for more than one group amongst groups O, F, T, and C are met, assignment to groups CO, FC, TF, TC TO, TFC or TOC shall apply, as relevant.



**2.2.2.2 Gases not accepted for carriage**

**2.2.2.2.1** Chemically unstable substances of Class 2 shall not be accepted for carriage, unless the necessary steps have been taken to prevent all possibility of a dangerous reaction e.g. decomposition, dismutation or polymerisation under normal conditions during transport. To this end particular care shall be taken to ensure that receptacles and tanks do not contain any substances liable to promote these reactions.

**2.2.2.2.2** The following substances and mixtures shall not be accepted for carriage:

- UN No. 2186 HYDROGEN CHLORIDE, REFRIGERATED LIQUID;
- UN No. 2421 NITROGEN TRIOXIDE;
- UN No. 2455 METHYL NITRITE;
- Refrigerated liquefied gases which cannot be assigned to classification codes 3A, 3O or 3F;
- Dissolved gases which cannot be classified under UN Nos. 1001, 2073 or 3318;
- Aerosols where gases which are toxic according to 2.2.2.1.5 or pyrophoric according to packing instruction P200 in 4.1.4.1 are used as propellants;
- Aerosols with contents meeting the criteria for packing group I for toxicity or corrosivity (see 2.2.61 and 2.2.8);
- Receptacles, small, containing gases which are very toxic (LC<sub>50</sub> lower than 200 ppm) or pyrophoric according to packing instruction P200 in 4.1.4.1.

**2.2.2.3 List of collective entries**

<b>Compressed gases</b>		
Classification code	UN No.	Name of the substance or article
<b>1 A</b>	1956	COMPRESSED GAS, N.O.S.
<b>1 O</b>	3156	COMPRESSED GAS, OXIDIZING, N.O.S.
<b>1 F</b>	1964	HYDROCARBON GAS MIXTURE, COMPRESSED, N.O.S.
	1954	COMPRESSED GAS, FLAMMABLE, N.O.S.
<b>1 T</b>	1955	COMPRESSED GAS, TOXIC, N.O.S.
<b>1 TF</b>	1953	COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S.
<b>1 TC</b>	3304	COMPRESSED GAS, TOXIC, CORROSIVE, N.O.S.
<b>1 TO</b>	3303	COMPRESSED GAS, TOXIC, OXIDIZING, N.O.S.
<b>1 TFC</b>	3305	COMPRESSED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S.
<b>1 TOC</b>	3306	COMPRESSED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.

<b>Liquefied gases</b>		
Classification code	UN No.	Name of the substance or article
<b>2 A</b>	1058	LIQUEFIED GASES, non-flammable, charged with nitrogen, carbon dioxide or air
	1078	REFRIGERANT GAS, N.O.S. such as mixtures of gases, Indicated by the letter R..., which as: Mixture F1, have a vapour pressure at 70 °C not exceeding 1.3 MPa (13 bar) and a density at 50 °C not lower than that of dichlorofluoromethane (1.30 kg/l); Mixture F2, have a vapour pressure at 70 °C not exceeding 1.9 MPa (19 bar) and a density at 50 °C not lower than that of dichlorodifluoromethane (1.21 kg/l); Mixture F3, have a vapour pressure at 70 °C not exceeding 3 MPa (30 bar) and a density at 50 °C not lower than that of chlorodifluoromethane (1.09 kg/l). <b>NOTE:</b> Trichlorofluoromethane (Refrigerant R 11), 1,1,2-trichloro-1,2,2-trifluoroethane (Refrigerant R 113), 1,1,1-trichloro-2,2,2-trifluoroethane (Refrigerant R 113a), 1-chloro-1,2,2-trifluoroethane (Refrigerant R 133) and 1-chloro-1,1,2-trifluoroethane (Refrigerant R 133b) are not substances of Class 2. They may, however, enter into the composition of mixtures F1 to F3.
	1968	INSECTICIDE GAS, N.O.S.
	3163	LIQUEFIED GAS, N.O.S.
<b>2 O</b>	3157	LIQUEFIED GAS, OXIDIZING, N.O.S.

<b>Liquefied gases (cont'd)</b>		
Classification code	UN No.	Name of the substance or article
<b>2 F</b>	1010	BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED, having a vapour pressure at 70 °C not exceeding 1.1 MPa (11 bar) and a density at 50 °C not lower than 0.525 kg/l. <b>NOTE:</b> Butadienes, stabilized are also classified under UN No. 1010, see Table A of chapter 3.2.
	1060	METHYLACETYLENE AND PROPADIENE MIXTURE, STABILIZED such as mixtures of methylacetylene and propadiene with hydrocarbons, which as: Mixture P1, contain not more than 63% methylacetylene and propadiene by volume and not more than 24% propane and propylene by volume, the percentage of C <sub>4</sub> - saturated hydrocarbons being not less than 14% by volume; and as Mixture P2, contain not more than 48% methylacetylene and propadiene by volume and not more than 50% propane and propylene by volume, the percentage of C <sub>4</sub> - saturated hydrocarbons being not less than 5% by volume, as well as mixtures of propadiene with 1 to 4% methylacetylene.
	1965	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. such as mixtures, which as: Mixture A, have a vapour pressure at 70 °C not exceeding 1.1 MPa (11 bar) and a density at 50 °C not lower than 0.525 kg/l; Mixture A01, have a vapour pressure at 70 °C not exceeding 1.6 MPa (16 bar) and a relative density at 50 °C not lower than 0.516 kg/l; Mixture A02, have a vapour pressure at 70 °C not exceeding 1.6 MPa (16 bar) and a relative density at 50 °C not lower than 0.505 kg/l; Mixture A0, have a vapour pressure at 70 °C not exceeding 1.6 MPa (16 bar) and a density at 50 °C not lower than 0.495 kg/l; Mixture A1, have a vapour pressure at 70 °C not exceeding 2.1 MPa (21 bar) and a density at 50 °C not lower than 0.485 kg/l; Mixture B1 have a vapour pressure at 70 °C not exceeding 2.6 MPa (26 bar) and a relative density at 50 °C not lower than 0.474 kg/l; Mixture B2 have a vapour pressure at 70 °C not exceeding 2.6 MPa (26 bar) and a relative density at 50 °C not lower than 0.463 kg/l; Mixture B, have a vapour pressure at 70 °C not exceeding 2.6 MPa (26 bar) and a density at 50 °C not lower than 0.450 kg/l; Mixture C, have a vapour pressure at 70 °C not exceeding 3.1 MPa (31 bar) and a relative density at 50 °C not lower than 0.440 kg/l; <b>NOTE 1:</b> In the case of the foregoing mixtures, the use of the following names customary in the trade is permitted for describing these substances: for mixtures A, A01, A02 and A0: BUTANE; for mixture C: PROPANE. <b>2:</b> UN No. 1075 PETROLEUM GASES, LIQUEFIED may be used as an alternative entry for UN No. 1965 HYDROCARBON GAS MIXTURE LIQUEFIED, N.O.S. for carriage prior to or following maritime or air carriage.
	3354	INSECTICIDE GAS, FLAMMABLE, N.O.S.
	3161	LIQUEFIED GAS, FLAMMABLE, N.O.S.
<b>2 T</b>	1967	INSECTICIDE GAS, TOXIC, N.O.S.
	3162	LIQUEFIED GAS, TOXIC, N.O.S.
<b>2 TF</b>	3355	INSECTICIDE GAS, TOXIC, FLAMMABLE, N.O.S.
	3160	LIQUEFIED GAS, TOXIC, FLAMMABLE, N.O.S.
<b>2 TC</b>	3308	LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S.
<b>2 TO</b>	3307	LIQUEFIED GAS, TOXIC, OXIDIZING, N.O.S.
<b>2 TFC</b>	3309	LIQUEFIED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S.
<b>2 TOC</b>	3310	LIQUEFIED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.

<b>Refrigerated liquefied gases</b>		
Classification code	UN No.	Name of the substance or article
<b>3 A</b>	3158	GAS, REFRIGERATED LIQUID, N.O.S.
<b>3 O</b>	3311	GAS, REFRIGERATED LIQUID, OXIDIZING, N.O.S.
<b>3 F</b>	3312	GAS, REFRIGERATED LIQUID, FLAMMABLE, N.O.S.

<b>Dissolved gases</b>		
Classification code	UN No.	Name of the substance or article
<b>4</b>	Only substances listed in Table A of Chapter 3.2 are to be accepted for carriage.	

<b>Aerosols and receptacles, small, containing gas</b>		
Classification code	UN No.	Name of the substance or article
<b>5</b>	1950	AEROSOLS
	2037	RECEPTACLES, SMALL CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable

<b>Other articles containing gas under pressure</b>		
Classification code	UN No.	Name of the substance or article
<b>6A</b>	2857	REFRIGERATING MACHINES containing non-flammable, non-toxic gases or ammonia solutions (UN 2672)
	3164	ARTICLES, PRESSURIZED, PNEUMATIC (containing non-flammable gas) or
	3164	ARTICLES, PRESSURIZED, HYDRAULIC (containing non-flammable gas)
<b>6F</b>	3150	DEVICES, SMALL, HYDROCARBON GAS POWERED or
	3150	HYDROCARBON GAS REFILLS FOR SMALL DEVICES, with release device
	3478	FUEL CELL CARTRIDGES, containing liquefied flammable gas or
	3478	FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT, containing liquefied flammable gas or
	3478	FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing liquefied flammable gas
	3479	FUEL CELL CARTRIDGES, containing hydrogen in metal hydride or
	3479	FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT, containing hydrogen in metal hydride or
	3479	FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing hydrogen in metal hydride

<b>Gas samples</b>		
Classification code	UN No.	Name of the substance or article
<b>7 F</b>	3167	GAS SAMPLE, NON-PRESSURIZED, FLAMMABLE, N.O.S., not refrigerated liquid
<b>7 T</b>	3169	GAS SAMPLE, NON-PRESSURIZED, TOXIC, N.O.S., not refrigerated liquid
<b>7 TF</b>	3168	GAS SAMPLE, NON-PRESSURIZED, TOXIC, FLAMMABLE, N.O.S., not refrigerated liquid

**2.2.3 Class 3: Flammable liquids****2.2.3.1 Criteria**

**2.2.3.1.1** The heading of Class 3 covers substances and articles containing substances of this Class which:

- are liquids according to subparagraph (a) of the definition for "liquid" in 1.2.1;
- have at 50 °C a vapour pressure of not more than 300 kPa (3 bar) and are not completely gaseous at 20 °C and at standard pressure of 101.3 kPa; and
- have a flash-point of not more than 60 °C (see 2.3.3.1 for the relevant test).

The heading of Class 3 also covers liquid substances and molten solid substances with a flash-point of more than 60 °C and which are carried or handed over for carriage whilst heated at temperatures equal to or higher than their flash-point. These substances are assigned to UN No. 3256.

The heading of Class 3 also covers liquid desensitized explosives. Liquid desensitized explosives are explosive substances which are dissolved or suspended in water or other liquid substances, to form an homogeneous liquid mixture to suppress their explosive properties. Such entries in Table A of Chapter 3.2 are UN Nos. 1204, 2059, 3064, 3343, 3357 and 3379.

- NOTE**
- 1:** Substances having a flash-point above 35 °C, non-toxic and non-corrosive, which do not sustain combustion according to the criteria of sub-section 32.2.5 of Part III of the Manual of Tests and Criteria, are not substances of Class 3; if, however, these substances are handed over for carriage and carried whilst heated at temperatures equal to or higher than their flash-point, they are substances of Class 3.
  - 2:** By derogation from paragraph 2.2.3.1.1 above, diesel fuel, gasoil, heating oil (light) having a flash-point above 60 °C and not more than 100 °C shall be deemed substances of Class 3, UN No. 1202.
  - 3:** Liquids which are highly toxic on inhalation, having a flash-point below 23 °C and toxic substances, having a flash-point of 23 °C or above are substances of Class 6.1 (see 2.2.61.1).
  - 4:** Flammable liquid substances and preparations used as pesticides, which are highly toxic, toxic or slightly toxic and have a flash-point of 23 °C or above are substances of Class 6.1 (see 2.2.61.1).

**2.2.3.1.2** The substances and articles of Class 3 are subdivided as follows:

- F** Flammable liquids, without subsidiary risk:
- F1** Flammable liquids having a flash-point of or below 60 °C;
  - F2** Flammable liquids having a flash-point above 60 °C which are carried or handed over for carriage at or above their flash-point (elevated temperature substances);
- FT** Flammable liquids, toxic:
- FT1** Flammable liquids, toxic;
  - FT2** Pesticides;
- FC** Flammable liquids, corrosive;
- FTC** Flammable liquids, toxic, corrosive;
- D** Liquid desensitized explosives.

**2.2.3.1.3** Substances and articles classified in Class 3 are listed in Table A of Chapter 3.2. Substances not mentioned by name in Table A of Chapter 3.2 shall be assigned to the relevant entry of 2.2.3.3 and the relevant packing group in accordance with the provisions of this section. Flammable liquids shall be assigned to one of the following packing groups according to the degree of danger they present for carriage:

Packing group	Flash-point (closed cup)	Initial boiling point
I	-	≤ 35 °C
II <sup>(a)</sup>	< 23 °C	> 35 °C
III <sup>(a)</sup>	≥ 23 °C and ≤ 60 °C	> 35 °C

(a) See also 2.2.3.1.4.

For a liquid with (a) subsidiary risk(s), the packing group determined in accordance with the table above and the packing group based on the severity of the subsidiary risk(s) shall be considered; the classification and packing group shall then be determined in accordance with the table of precedence of hazards in 2.1.3.10.

**2.2.3.1.4** Liquid or viscous mixtures and preparations, including those containing no more than 20% nitrocellulose with a nitrogen content not exceeding 12.6% (by dry mass), shall be assigned to packing group III only if the following requirements are met:

- (a) the height of the separated layer of solvent is less than 3% of the total height of the sample in the solvent-separation test (see Manual of Tests and Criteria, Part III, sub-section 32.5.1); and
- (b) the viscosity<sup>2</sup> and flash-point are in accordance with the following table:

Kinematic viscosity (extrapolated) $\nu$ (at near-zero shear rate) $\text{mm}^2/\text{s}$ at 23 °C	Flow time $t$ in accordance with ISO 2431:1993		Flash-point in °C
	in s	Jet diameter in mm	
20 < $\nu$ ≤ 80	20 < $t$ ≤ 60	4	above 17
80 < $\nu$ ≤ 135	60 < $t$ ≤ 100	4	above 10
135 < $\nu$ ≤ 220	20 < $t$ ≤ 32	6	above 5
220 < $\nu$ ≤ 300	32 < $t$ ≤ 44	6	above - 1
300 < $\nu$ ≤ 700	44 < $t$ ≤ 100	6	above - 5
700 < $\nu$	100 < $t$	6	- 5 and below

**NOTE:** Mixtures containing more than 20% but not more than 55% nitrocellulose with a nitrogen content not exceeding 12.6% by dry mass are substances assigned to UN No. 2059.

Mixtures having a flash-point below 23 °C and containing:

- more than 55% nitrocellulose, whatever their nitrogen content; or
  - not more than 55% nitrocellulose with a nitrogen content above 12.6% by dry mass,
- are substances of Class 1 (UN Nos. 0340 or 0342) or of Class 4.1 (UN Nos. 2555, 2556 or 2557).

**2.2.3.1.5** Non-toxic, non-corrosive and non-environmentally hazardous solutions and homogeneous mixtures having a flash-point of 23 °C or above (viscous substances, such as paints or varnishes, excluding substances containing more than 20% nitrocellulose) packed in receptacles of less than 450 litres capacity, are not subject to RID if, in the solvent-separation test (see Manual of Tests and Criteria, Part III, sub-section 32.5.1), the height of the separated layer of solvent is less than 3% of the total height, and if the substances at 23 °C have, in the flow cup conforming to ISO 2431:1993 having a jet 6 mm in diameter, a flow time of:

- (a) not less than 60 seconds, or
- (b) not less than 40 seconds and contain not more than 60% of substances of Class 3.

**2.2.3.1.6** If substances of Class 3, as a result of admixtures, come into categories of risk different from those to which the substances mentioned by name in Table A of Chapter 3.2 belong, these mixtures or solutions shall be assigned to the entries to which they belong on the basis of their actual degree of danger.

**NOTE:** For the classification of solutions and mixtures (such as preparations and wastes) see also 2.1.3.

**2.2.3.1.7** On the basis of the test procedures in accordance with 2.3.3.1 and 2.3.4, and the criteria set out in 2.2.3.1.1, it may also be determined whether the nature of a solution or a mixture mentioned by name or containing a substance mentioned by name is such that the solution or mixture is not subject to the provisions for this Class (see also 2.1.3).

## **2.2.3.2 Substances not accepted for carriage**

**2.2.3.2.1** Substances of Class 3 which are liable to form peroxides easily (as happens with ethers or with certain heterocyclic oxygenated substances) shall not be accepted for carriage if their peroxide content, calculated as hydrogen peroxide ( $\text{H}_2\text{O}_2$ ), exceeds 0.3%. The peroxide content shall be determined as indicated in 2.3.3.2.

**2.2.3.2.2** The chemically unstable substances of Class 3 shall not be accepted for carriage unless the necessary steps have been taken to prevent their dangerous decomposition or polymerization during carriage. To this end, it shall be ensured in particular that receptacles and tanks do not contain any substance liable to promote these reactions.

**2.2.3.2.3** Liquid desensitized explosives other than those listed in Table A of Chapter 3.2 shall not be accepted for carriage as substances of Class 3.

<sup>2</sup> Viscosity determination: Where the substance concerned is non-Newtonian, or where a flow cup method of viscosity determination is otherwise unsuitable, a variable shear-rate viscometer shall be used to determine the dynamic viscosity coefficient of the substance, at 23 °C, at a number of shear rates. The values obtained are plotted against shear rate and then extrapolated to zero shear rate. The dynamic viscosity thus obtained, divided by the density, gives the apparent kinematic viscosity at near-zero shear rate.

## 2.2.3.3 List of collective entries

Subsidiary risk	Classification code	UN No.	Name of the substance or article
<b>Flammable liquids</b>			
without subsidiary risk <b>F</b>	<b>F1</b>	1133	ADHESIVES containing flammable liquid
		1136	COAL TAR DISTILLATES, FLAMMABLE
		1139	COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining)
		1169	EXTRACTS, AROMATIC, LIQUID
		1197	EXTRACTS, FLAVOURING, LIQUID
		1210	PRINTING INK, flammable or
		1210	PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable
		1263	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or
		1263	PAINT RELATED MATERIAL (including paint thinning or reducing compound)
		1266	PERFUMERY PRODUCTS with flammable solvents
		1293	TINCTURES, MEDICINAL
		1306	WOOD PRESERVATIVES, LIQUID
		1866	RESIN SOLUTION, flammable
		1999	TARS, LIQUID, including road asphalt and oils, bitumen and cut backs
		3065	ALCOHOLIC BEVERAGES
		3269	POLYESTER RESIN KITS
		1224	KETONES, LIQUID, N.O.S.
		1268	PETROLEUM DISTILLATES, N.O.S. or
		1268	PETROLEUM PRODUCTS, N.O.S.
		1987	ALCOHOLS, N.O.S.
		1989	ALDEHYDES, N.O.S.
		2319	TERPENE HYDROCARBONS, N.O.S.
		3271	ETHERS, N.O.S.
		3272	ESTERS, N.O.S.
		3295	HYDROCARBONS, LIQUID, N.O.S.
		3336	MERCAPTANS, LIQUID, FLAMMABLE, N.O.S. or
		3336	MERCAPTANS MIXTURE, LIQUID, FLAMMABLE, N.O.S.
		1993	FLAMMABLE LIQUID, N.O.S.
	<b>F2 elevated temperature</b>	3256	ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S., with flash-point above 60 °C, at or above its flash-point

		1228 MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.O.S. or 1228 MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, TOXIC, N.O.S. 1986 ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. 1988 ALDEHYDES, FLAMMABLE, TOXIC, N.O.S. 2478 ISOCYANATES, FLAMMABLE, TOXIC, N.O.S. or 2478 ISOCYANATE SOLUTION, FLAMMABLE, TOXIC, N.O.S. 3248 MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S. 3273 NITRILES, FLAMMABLE, TOXIC, N.O.S. 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.
<b>Toxic FT</b>	<b>FT1</b>	
	<b>pesticide (flash point below 23 °C) FT2</b>	2758 CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC 2760 ARSENICAL PESTICIDE, LIQUID, FLAMMABLE, TOXIC 2762 ORGANOCHLORINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC 2764 TRIAZINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC 2772 THIOCARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC 2776 COPPER BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC 2778 MERCURY BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC 2780 SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, FLAMMA- BLE, TOXIC 2782 BIPYRIDILIUM PESTICIDE, LIQUID, FLAMMABLE, TOXIC 2784 ORGANOPHOSPHORUS PESTICIDE, LIQUID, FLAMMABLE, TOXIC 2787 ORGANOTIN PESTICIDE, LIQUID, FLAMMABLE, TOXIC 3024 COUMARIN DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC 3346 PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC 3350 PYRETHROID PESTICIDE, LIQUID, FLAMMABLE TOXIC 3021 PESTICIDE, LIQUID, FLAMMABLE, TOXIC, N.O.S. <b>NOTE:</b> The classification of a pesticide under an entry shall be effected on the basis of the active ingredient, of the physical state of the pesti- cide and any subsidiary risks it may exhibit.
<b>Corrosive</b>	<b>FC</b>	3469 PAINT, FLAMMABLE, CORROSIVE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or 3469 PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE (includ- ing paint thinning and reducing compound) 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S. or 2733 POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S. 2985 CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S. 3274 ALCOHOLATES SOLUTION, N.O.S., in alcohol 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.
<b>Toxic, cor- rosive</b>	<b>FTC</b>	3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.
<b>Liquid de- sensitized explosive</b>	<b>D</b>	3343 NITROGLYCERIN MIXTURE, DESENSITIZED, LIQUID, FLAMMA- BLE, N.O.S. with not more than 30% nitroglycerin by mass 3357 NITROGLYCERIN MIXTURE, DESENSITIZED, LIQUID, N.O.S. with not more than 30% nitroglycerin by mass 3379 DESENSITIZED EXPLOSIVE, LIQUID, N.O.S.

**2.2.41 Class 4.1: Flammable solids, self-reactive substances and solid desensitized explosives****2.2.41.1 Criteria**

**2.2.41.1.1** The heading of Class 4.1 covers flammable substances and articles, desensitized explosives which are solids according to subparagraph (a) of the definition "solid" in 1.2.1 and self-reactive liquids or solids.

The following are assigned to Class 4.1:

- readily flammable solid substances and articles (see paragraphs 2.2.41.1.3 to 2.2.41.1.8);
- self-reactive solids or liquids (see paragraphs 2.2.41.1.9 to 2.2.41.1.16);
- solid desensitized explosives (see 2.2.41.1.18);
- substances related to self-reactive substances (see 2.2.41.1.19).

**2.2.41.1.2** The substances and articles of Class 4.1 are subdivided as follows:

F Flammable solids, without subsidiary risk:

- F1 Organic;
- F2 Organic, molten;
- F3 Inorganic;

FO Flammable solids, oxidizing;

FT Flammable solids, toxic:

- FT1 Organic, toxic;
- FT2 Inorganic, toxic;

FC Flammable solids, corrosive:

- FC1 Organic, corrosive;
- FC2 Inorganic, corrosive;

D Solid desensitized explosives without subsidiary risk;

DT Solid desensitized explosives, toxic;

SR Self-reactive substances:

- SR1 Not requiring temperature control;
- SR2 Requiring temperature control (not accepted for carriage by rail).

**Flammable solids***Definition and properties*

**2.2.41.1.3** *Flammable solids* are readily combustible solids and solids which may cause fire through friction.

*Readily combustible solids* are powdered, granular, or pasty substances which are dangerous if they can be easily ignited by brief contact with an ignition source, such as a burning match, and if the flame spreads rapidly. The danger may come not only from the fire but also from toxic combustion products. Metal powders are especially dangerous because of the difficulty of extinguishing a fire since normal extinguishing agents such as carbon dioxide or water can increase the hazard.

*Classification*

**2.2.41.1.4** Substances and articles classified as flammable solids of Class 4.1 are listed in Table A of Chapter 3.2. The assignment of organic substances and articles not mentioned by name in Table A of Chapter 3.2 to the relevant entry of 2.2.41.3 in accordance with the provisions of Chapter 2.1 can be based on experience or on the results of the test procedures in accordance with Part III, sub-section 33.2.1 of the Manual of Tests and Criteria. The assignment of inorganic substances not mentioned by name shall be based on the results of the test procedures in accordance with Part III, sub-section 33.2.1 of the Manual of Tests and Criteria; experience shall also be taken into account when it leads to a more stringent assignment.

**2.2.41.1.5** When substances not mentioned by name are assigned to one of the entries listed in 2.2.41.3 on the basis of the test procedures in accordance with the Manual of Tests and Criteria, Part III, sub-section 33.2.1, the following criteria apply:

- (a) With the exception of metal powders or powders of metal alloys, powdery, granular or pasty substances shall be classified as readily flammable substances of Class 4.1 if they can be easily ignited by brief contact with an ignition source (e.g. a burning match), or if, in the event of ignition, the flame spreads rapidly, the burning time is less than 45 seconds for a measured distance of 100 mm or the rate of burning is greater than 2.2 mm/s.



- (b) Metal powders or powders of metal alloys shall be assigned to Class 4.1 if they can be ignited by a flame and the reaction spreads over the whole length of the sample in 10 minutes or less.

Solids which may cause fire through friction shall be classified in Class 4.1 by analogy with existing entries (e.g. matches) or in accordance with any appropriate special provision.

- 2.2.41.1.6** On the basis of the test procedure in accordance with the Manual of Tests and Criteria, Part III, Section 33.2.1 and the criteria set out in 2.2.41.1.4 and 2.2.41.1.5, it may also be determined whether the nature of a substance mentioned by name is such that the substance is not subject to the provisions for this Class.

- 2.2.41.1.7** If substances of Class 4.1, as a result of admixtures, come into different categories of risk from those to which the substances mentioned by name in Table A of Chapter 3.2 belong, these mixtures shall be assigned to the entries to which they belong on the basis of their actual degree of danger.

**NOTE:** For the classification of solutions and mixtures (such as preparations and wastes), see also 2.1.3.

*Assignment of packing groups*

- 2.2.41.1.8** Flammable solids classified under the various entries in Table A of Chapter 3.2 shall be assigned to packing groups II or III on the basis of test procedures of the Manual of Tests and Criteria, Part III, sub-section 33.2.1, in accordance with the following criteria:

- (a) Readily flammable solids which, when tested, have a burning time of less than 45 seconds over a measured distance of 100 mm shall be assigned to:

Packing group II: if the flame passes the wetted zone;

Packing group III: if the wetted zone stops the flame for at least four minutes;

- (b) Metal powders or powders of metal alloys shall be assigned to:

Packing group II: if, when tested, the reaction spreads over the whole length of the sample in five minutes or less;

Packing group III: if, when tested, the reaction spreads over the whole length of the sample in more than five minutes.

For solids which may cause fire through friction, the packing group shall be assigned by analogy with existing entries or in accordance with any special provision.

**Self-reactive substances**

*Definitions*

- 2.2.41.1.9** For the purposes of RID, *self-reactive substances* are thermally unstable substances liable to undergo a strongly exothermic decomposition even without participation of oxygen (air). Substances are not considered to be self-reactive substances of Class 4.1, if:

- (a) they are explosives according to the criteria of Class 1;
- (b) they are oxidizing substances according to the classification procedure for Class 5.1 (see 2.2.51.1) except that mixtures of oxidizing substances which contain 5% or more of combustible organic substances shall be subjected to the classification procedure defined in Note 2;
- (c) they are organic peroxides according to the criteria of Class 5.2 (see 2.2.52.1);
- (d) their heat of decomposition is less than 300 J/g; or
- (e) their self-accelerating decomposition temperature (SADT) (see Note 3 below) is greater than 75 °C for a 50 kg package.

**NOTE 1:** The heat of decomposition can be determined using any internationally recognised method e.g. differential scanning calorimetry and adiabatic calorimetry.

- 2:** Mixtures of oxidizing substances meeting the criteria of Class 5.1 which contain 5% or more of combustible organic substances, which do not meet the criteria mentioned in (a), (c), (d) or (e) above, shall be subjected to the self-reactive substance classification procedure.

A mixture showing the properties of a self-reactive substance, type B to F, shall be classified as a self-reactive substance of Class 4.1.

A mixture showing the properties of a self-reactive substance, type G, according to the principle given in sub-section 20.4.3 (g) of Part II of the Manual of Tests and Criteria shall be considered for classification as a substance of Class 5.1 (see 2.2.51.1).

- 3:** The self-accelerating decomposition temperature (SADT) is the lowest temperature at which self-accelerating decomposition may occur with a substance in the packaging as used during carriage. Requirements for the determination of the SADT are given in the Manual of Tests and Criteria, Part II, Chapter 20 and section 28.4.

- 4:** Any substance which shows the properties of a self-reactive substance shall be classified as such, even if this substance gives a positive test result according to 2.2.42.1.5 for inclusion in Class 4.2.

*Properties*

- 2.2.41.1.10** The decomposition of self-reactive substances can be initiated by heat, contact with catalytic impurities (e.g. acids, heavy-metal compounds, bases), friction or impact. The rate of decomposition increases with temperature and varies with the substance. Decomposition, particularly if no ignition occurs, may result in the evolution of toxic gases or vapours. For certain self-reactive substances, the temperature shall be controlled. Some self-reactive substances may decompose explosively, particularly if confined. This characteristic may be modified by the addition of diluents or by the use of appropriate packagings. Certain self-reactive substances burn vigorously. Self-reactive substances are, for example, some compounds of the types listed below:

aliphatic azo compounds (-C-N=N-C-);  
organic azides (-C-N<sub>3</sub>);  
diazonium salts (-CN<sub>2</sub><sup>+</sup> Z<sup>-</sup>);  
N-nitroso compounds (-N-N=O); and  
aromatic sulphonylhydrazides (-SO<sub>2</sub>-NH-NH<sub>2</sub>).

This list is not exhaustive and substances with other reactive groups and some mixtures of substances may have similar properties.

*Classification*

- 2.2.41.1.11** Self-reactive substances are classified into seven types according to the degree of danger they present. The types of self-reactive substances range from type A, which is not accepted for carriage in the packaging in which it is tested, to type G, which is not subject to the provisions for self-reactive substances of Class 4.1. The classification of types B to F is directly related to the maximum quantity allowed in one packaging. The principles to be applied for classification as well as the applicable classification procedures, test methods and criteria and an example of a suitable test report are given in Part II of the Manual of Tests and Criteria.

- 2.2.41.1.12** Self-reactive substances which have already been classified and are already permitted for carriage in packagings are listed in 2.2.41.4, those already permitted for carriage in IBCs are listed in 4.1.4.2, packing instruction IBC520 and those already permitted for carriage in tanks according to Chapter 4.2 are listed in 4.2.5.2, portable tank instruction T23. Each permitted substance listed is assigned to a generic entry of Table A of Chapter 3.2 (UN Nos. 3221 to 3240) and appropriate subsidiary risks and remarks providing relevant transport information are given.

The collective entries specify:

- self-reactive substances types B to F, see 2.2.41.1.11 above;
- physical state (liquid/solid).

The classification of the self-reactive substances listed in 2.2.41.4 is based on the technically pure substance (except where a concentration of less than 100% is specified).

- 2.2.41.1.13** Classification of self-reactive substances not listed in 2.2.41.4, 4.1.4.2, packing instruction IBC520 or 4.2.5.2, portable tank instruction T23 and assignment to a collective entry shall be made by the competent authority of the country of origin on the basis of a test report. The statement of approval shall contain the classification and the relevant conditions of carriage. If the country of origin is not a COTIF Member State, the classification and the conditions of carriage shall be recognized by the competent authority of the first COTIF Member State reached by the consignment.

- 2.2.41.1.14** Activators, such as zinc compounds, may be added to some self-reactive substances to change their reactivity. Depending on both the type and the concentration of the activator, this may result in a decrease in thermal stability and a change in explosive properties. If either of these properties is altered, the new formulation shall be assessed in accordance with the classification procedure.

- 2.2.41.1.15** Samples of self-reactive substances or formulations of self-reactive substances not listed in 2.2.41.4, for which a complete set of test results is not available and which are to be carried for further testing or evaluation, shall be assigned to one of the appropriate entries for self-reactive substances type C provided the following conditions are met:

- the available data indicate that the sample would be no more dangerous than self-reactive substances type B;
- the sample is packaged in accordance with packing method OP2 and the quantity per wagon is limited to 10 kg;

Samples requiring temperature control shall not be accepted for carriage by rail.

*Desensitization*

**2.2.41.1.16** In order to ensure safety during carriage, self-reactive substances are in many cases desensitized by use of a diluent. Where a percentage of a substance is stipulated, this refers to the percentage by mass, rounded to the nearest whole number. If a diluent is used, the self-reactive substance shall be tested with the diluent present in the concentration and form used in carriage. Diluents which may allow a self-reactive substance to concentrate to a dangerous extent in the event of leakage from a packaging shall not be used. Any diluent shall be compatible with the self-reactive substance. In this regard, compatible diluents are those solids or liquids which have no detrimental influence on the thermal stability and hazard type of the self-reactive substance.

**2.2.41.1.17** (Reserved)

**Solid desensitized explosives**

**2.2.41.1.18** Solid desensitized explosives are substances which are wetted with water or alcohols or are diluted with other substances to suppress their explosive properties. Such entries in Table A of Chapter 3.2 are: UN Nos. 1310, 1320, 1321, 1322, 1336, 1337, 1344, 1347, 1348, 1349, 1354, 1355, 1356, 1357, 1517, 1571, 2555, 2556, 2557, 2852, 2907, 3317, 3319, 3344, 3364, 3365, 3366, 3367, 3368, 3369, 3370, 3376, 3380 and 3474.

**Substances related to self-reactive substances**

**2.2.41.1.19** Substances that:

- (a) have been provisionally accepted into Class 1 according to Test Series 1 and 2 but exempted from Class 1 by Test Series 6;
- (b) are not self-reactive substances of Class 4.1; and
- (c) are not substances of Classes 5.1 or 5.2

are also assigned to Class 4.1. UN Nos. 2956, 3241, 3242 and 3251 are such entries.

**2.2.41.2 Substances not accepted for carriage**

**2.2.41.2.1** The chemically unstable substances of Class 4.1 shall not be accepted for carriage unless the necessary steps have been taken to prevent their dangerous decomposition or polymerization during carriage. To this end, it shall in particular be ensured that receptacles and tanks do not contain any substance liable to promote these reactions.

**2.2.41.2.2** Flammable solids, oxidizing, assigned to UN No. 3097 shall not be accepted for carriage unless they meet the requirements for Class 1 (see also 2.1.3.7).

**2.2.41.2.3** The following substances shall not be accepted for carriage:

- Self-reactive substances of type A (see Manual of Tests and Criteria, Part II, paragraph 20.4.2 (a));
- Phosphorus sulphides which are not free from yellow and white phosphorus;
- Solid sensitized explosives other than those listed in Table A of Chapter 3.2;
- Inorganic flammable substances in the molten form other than UN No. 2448 SULPHUR, MOLTEN.

The following substances shall not be accepted for carriage by rail:

- Barium azide with a water content less than 50% (mass);
- Self-reactive substances with an SADT  $\leq 55$  °C, therefore requiring temperature control:
  - UN 3231 SELF-REACTIVE LIQUID TYPE B, TEMPERATURE CONTROLLED;
  - UN 3232 SELF-REACTIVE SOLID TYPE B, TEMPERATURE CONTROLLED;
  - UN 3233 SELF-REACTIVE LIQUID TYPE C, TEMPERATURE CONTROLLED;
  - UN 3234 SELF-REACTIVE SOLID TYPE C, TEMPERATURE CONTROLLED;
  - UN 3235 SELF-REACTIVE LIQUID TYPE D, TEMPERATURE CONTROLLED;
  - UN 3236 SELF-REACTIVE SOLID TYPE D, TEMPERATURE CONTROLLED;
  - UN 3237 SELF-REACTIVE LIQUID TYPE E, TEMPERATURE CONTROLLED;
  - UN 3238 SELF-REACTIVE SOLID TYPE E, TEMPERATURE CONTROLLED;
  - UN 3239 SELF-REACTIVE LIQUID TYPE F, TEMPERATURE CONTROLLED;
  - UN 3240 SELF-REACTIVE SOLID TYPE F, TEMPERATURE CONTROLLED.

## 2.2.41.3 List of collective entries

Subsidiary risk	Classification code	UN No.	Name of the substance or article
<b>Flammable Solids F</b>	<b>without subsidiary risk</b>	<b>organic F1</b>	3175 SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S. 1353 FIBRES IMPREGNATED WITH WEAKLY NITRATED NITROCELLULOSE, N.O.S. or 1353 FABRICS IMPREGNATED WITH WEAKLY NITRATED NITROCELLULOSE, N.O.S. 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.
		<b>organic molten F2</b>	3176 FLAMMABLE SOLID, ORGANIC, MOLTEN, N.O.S.
		<b>inorganic F3</b>	3089 METAL POWDER, FLAMMABLE, N.O.S. <sup>(a),(b)</sup> 3181 METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S.
			3182 METAL HYDRIDES, FLAMMABLE, N.O.S. <sup>(c)</sup> 3178 FLAMMABLE SOLID, INORGANIC, N.O.S.
	<b>oxidizing</b>	<b>FO</b>	3097 FLAMMABLE SOLID, OXIDIZING, N.O.S. (not allowed, see 2.2.41.2.2)
	<b>toxic FT</b>	<b>organic FT1</b>	2926 FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.
		<b>inorganic FT2</b>	3179 FLAMMABLE SOLID, TOXIC, INORGANIC, N.O.S.
	<b>corrosive FC</b>	<b>organic FC1</b>	2925 FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.
		<b>inorganic FC2</b>	3180 FLAMMABLE SOLID, CORROSIVE, INORGANIC, N.O.S.
<b>Solid desensitized explosives</b>	<b>without subsidiary risk</b>	<b>D</b>	3319 NITROGLYCERIN MIXTURE, DESENSITIZED, SOLID, N.O.S. with more than 2% but not more than 10% nitroglycerin by mass 3344 PENTAERYTHRITOL TETRANITRATE (PEN- TAERYTHRITOL TETRANITRATE, PETN) MIXTURE, DESENSITIZED, SOLID, N.O.S. with more than 10% but not more than 20% PETN by mass 3380 DESENSITIZED EXPLOSIVE, SOLID, N.O.S.
	<b>toxic</b>	<b>DT</b>	Only substances listed in Table A of Chapter 3.2 are to be accepted for carriage as substances of Class 4.1

<b>Self-reactive substances</b> <b>SR</b>	<b>not requiring temperature control</b>	<b>SR1</b>	<p>SELF-REACTIVE LIQUID TYPE A (not accepted for carriage, see 2.2.41.2.3)</p> <p>SELF-REACTIVE SOLID TYPE A (not accepted for carriage, see 2.2.41.2.3)</p> <p>3221 SELF-REACTIVE LIQUID TYPE B</p> <p>3222 SELF-REACTIVE SOLID TYPE B</p> <p>3223 SELF-REACTIVE LIQUID TYPE C</p> <p>3224 SELF-REACTIVE SOLID TYPE C</p> <p>3225 SELF-REACTIVE LIQUID TYPE D</p> <p>3226 SELF-REACTIVE SOLID TYPE D</p> <p>3227 SELF-REACTIVE LIQUID TYPE E</p> <p>3228 SELF-REACTIVE SOLID TYPE E</p> <p>3229 SELF-REACTIVE LIQUID TYPE F</p> <p>3230 SELF-REACTIVE SOLID TYPE F</p> <p>SELF-REACTIVE LIQUID TYPE G (not subject to the provisions applicable to Class 4.1, see 2.2.41.1.11)</p> <p>SELF-REACTIVE SOLID TYPE G (not subject to the provisions applicable to Class 4.1, see 2.2.41.1.11)</p>
	<b>requiring temperature control</b>	<b>SR2</b>	<p>3231 SELF-REACTIVE LIQUID TYPE B, TEMPERATURE CONTROLLED (not accepted for carriage by rail, see 2.2.41.2.3)</p> <p>3232 SELF-REACTIVE SOLID TYPE B, TEMPERATURE CONTROLLED (not accepted for carriage by rail, see 2.2.41.2.3)</p> <p>3233 SELF-REACTIVE LIQUID TYPE C, TEMPERATURE CONTROLLED (not accepted for carriage by rail, see 2.2.41.2.3)</p> <p>3234 SELF-REACTIVE SOLID TYPE C, TEMPERATURE CONTROLLED (not accepted for carriage by rail, see 2.2.41.2.3)</p> <p>3235 SELF-REACTIVE LIQUID TYPE D, TEMPERATURE CONTROLLED (not accepted for carriage by rail, see 2.2.41.2.3)</p> <p>3236 SELF-REACTIVE SOLID TYPE D, TEMPERATURE CONTROLLED (not accepted for carriage by rail, see 2.2.41.2.3)</p> <p>3237 SELF-REACTIVE LIQUID TYPE E, TEMPERATURE CONTROLLED (not accepted for carriage by rail, see 2.2.41.2.3)</p> <p>3238 SELF-REACTIVE SOLID TYPE E, TEMPERATURE CONTROLLED (not accepted for carriage by rail, see 2.2.41.2.3)</p> <p>3239 SELF-REACTIVE LIQUID TYPE F, TEMPERATURE CONTROLLED (not accepted for carriage by rail, see 2.2.41.2.3)</p> <p>3240 SELF-REACTIVE SOLID TYPE F, TEMPERATURE CONTROLLED (not accepted for carriage by rail, see 2.2.41.2.3)</p>

- (a) Metals and metal alloys in powdered or other flammable form, liable to spontaneous combustion, are substances of Class 4.2.
- (b) Metals and metal alloys in powdered or other flammable form, which in contact with water, emit flammable gases, are substances of Class 4.3.
- (c) Metals hydrides which, in contact with water, emit flammable gases, are substances of Class 4.3. Aluminium borohydride or aluminium borohydride in devices are substances of Class 4.2, UN No. 2870.

**2.2.41.4 List of currently assigned self-reactive substances in packagings**

In the column "Packing Method", codes "OP1" to "OP8" refer to packing methods in 4.1.4.1, packing instruction P520 (see also 4.1.7.1). Self-reactive substances to be carried shall fulfil the classification as listed. For substances permitted in IBCs, see 4.1.4.2, packing instruction IBC520 and, for those permitted in tanks according to Chapter 4.2, see 4.2.5.2, portable tank instruction T23.

**NOTE:** The classification given in this table is based on the technically pure substance (except where a concentration of less than 100% is specified). For other concentrations, the substance may be classified differently following the procedures given in Part II of the Manual of Tests and Criteria.

Self-reactive substance	Concentration (%)	Packing method	UN generic entry	Remarks
ACETONE-PYROGALLOL COPOLYMER 2-DIAZO-1-NAPHTHOL-5-SULPHONATE	100	OP8	3228	
AZODICARBONAMIDE FORMULATION TYPE B, TEMPERATURE CONTROLLED	< 100		3232	prohibited
AZODICARBONAMIDE FORMULATION TYPE C	< 100	OP6	3224	(3)
AZODICARBONAMIDE FORMULATION TYPE C, TEMPERATURE CONTROLLED	< 100		3234	prohibited
AZODICARBONAMIDE FORMULATION TYPE D	< 100	OP7	3226	(5)
AZODICARBONAMIDE FORMULATION TYPE D, TEMPERATURE CONTROLLED	< 100		3236	prohibited
2,2'-AZODI(2,4-DIMETHYL-4-METHOXYVALERONITRILE)	100		3236	prohibited
2,2'-AZODI(2,4-DIMETHYLVALERONITRILE)	100		3236	prohibited
2,2'-AZODI(ETHYL-2-METHYLPROPIONATE)	100		3235	prohibited
1,1-AZODI(HEXAHYDROBENZONITRILE)	100	OP7	3226	
2,2'-AZODI(ISOBUTYRONITRILE)	100		3234	prohibited
2,2'-AZODI(ISOBUTYRONITRILE) as a water based paste	≤ 50	OP6	3224	
2,2'-AZODI(2-METHYLBUTYRONITRILE)	100		3236	prohibited
BENZENE-1,3-DISULPHONYL HYDRAZIDE, as a paste	52	OP7	3226	
BENZENE SULPHONYL HYDRAZIDE	100	OP7	3226	
4-(BENZYL(ETHYL)AMINO)-3-ETHOXY-BENZENEDIAZONIUM ZINC CHLORIDE	100	OP7	3226	
4-(BENZYL(METHYL)AMINO)-3-ETHOXYBENZENEDIAZONIUM ZINC CHLORIDE	100		3236	prohibited
3-CHLORO-4-DIETHYLAMINO BENZENE-DIAZONIUM ZINC CHLORIDE	100	OP7	3226	
2-DIAZO-1-NAPHTHOL-4-SULPHONYL CHLORIDE	100	OP5	3222	(2)
2-DIAZO-1-NAPHTHOL-5-SULPHONYL CHLORIDE	100	OP5	3222	(2)

Self-reactive substance	Concentration (%)	Packing method	UN generic entry	Remarks
2-DIAZO-1-NAPHTHOL SULPHONIC ACID ESTER MIXTURE, TYPE D	< 100	OP7	3226	(9)
2,5-DIBUTOXY-4-(4-MORPHOLINYL)-BENZENEDIAZONIUM, TETRACHLOROZIN-CATE (2:1)	100	OP8	3228	
2,5-DIETHOXY-4-MORPHOLINO-BENZENEDIAZONIUM ZINC CHLORIDE	67 – 100		3236	prohibited
2,5-DIETHOXY-4-MORPHOLINO-BENZENEDIAZONIUM ZINC CHLORIDE	66		3236	prohibited
2,5-DIETHOXY-4-MORPHOLINO-BENZENEDIAZONIUM TETRAFLUOROBORATE	100		3236	prohibited
2,5-DIETHOXY-4-(4-MORPHOLINYL)-BENZENEDIAZONIUM SULPHATE	100	OP7	3226	
2,5-DIETHOXY-4-(PHENYLSULPHONYL)-BENZENEDIAZONIUM ZINC CHLORIDE	67		3236	prohibited
DIETHYLENEGLYCOL BIS (ALLYL CARBONATE) + DI-ISOPROPYLPEROXYDICARBONATE	$\geq 88$ $\leq 12$		3237	prohibited
2,5-DIMETHOXY-4-(4-METHYL-PHENYLSULPHONYL)BENZENEDIAZONIUM ZINC CHLORIDE	79		3236	prohibited
4-(DIMETHYLAMINO)-BENZENEDIAZONIUM TRICHLOROZIN-CATE (-1)	100	OP8	3228	
4-DIMETHYLAMINO-6-(2-DIMETHYL-AMINOETHOXY) TOLUENE-2-DIAZONIUM ZINC CHLORIDE	100		3236	prohibited
N,N'-DINITROSO-N,N'-DIMETHYL TEREPHTHALAMIDE, as a paste	72	OP6	3224	
N,N'-DINITROSOPENTAMETHYLENE-TETRAMINE	82	OP6	3224	(7)
DIPHENYLOXIDE-4,4'-DISULPHONYL HYDRAZIDE	100	OP7	3226	
4-DIPROPYLAMINO BENZENEDIAZONIUM ZINC CHLORIDE	100	OP7	3226	
2-(N,N-ETHOXYCARBONYL-PHENYLAMINO)-3-METHOXY-4-(N-METHYL-N-CYCLOHEXYLAMINO) BENZENEDIAZONIUM ZINC CHLORIDE	63 – 92		3236	prohibited
2-(N,N-ETHOXYCARBONYL-PHENYLAMINO)-3-METHOXY-4-(N-METHYL-N-CYCLOHEXYLAMINO) BENZENEDIAZONIUM ZINC CHLORIDE	62		3236	prohibited
N-FORMYL-2-(NITROMETHYLENE)-1,3-PERHYDROTHIAZINE	100		3236	prohibited
2-(2-HYDROXYETHOXY)-1-(PYRROLIDIN-1-YL)BENZENE-4-DIAZONIUM ZINC CHLORIDE	100		3236	prohibited

Self-reactive substance	Concentration (%)	Packing method	UN generic entry	Remarks
3-(2-HYDROXYETHOXY)-4-(PYRROLIDIN-1-YL)BENZENE DIAZONIUM ZINC CHLORIDE	100		3236	prohibited
2-(N,N-METHYLAMINOETHYL-CARBONYL)-4-(3,4-DIMETHYL-PHENYLSULPHONYL)BENZENEDIAZONIUM HYDROGEN SULPHATE	96		3236	prohibited
4-METHYLBENZENESULPHONYL-HYDRAZIDE	100	OP7	3226	
3-METHYL-4-(PYRROLIDIN-1YL) BENZENEDIAZONIUM TETRAFLUOROBORATE	95		3234	prohibited
SODIUM 2-DIAZO-1-NAPHTHOL-4-SULPHONATE	100	OP7	3226	
SODIUM 2-DIAZO-1-NAPHTHOL-5-SULPHONATE	100	OP7	3226	
4-NITROSOPHENOL	100		3236	prohibited
SELF-REACTIVE LIQUID, SAMPLE		OP2	3223	(8)
SELF-REACTIVE LIQUID, SAMPLE, TEMPERATURE CONTROLLED			3233	prohibited
SELF-REACTIVE SOLID, SAMPLE		OP2	3224	(8)
SELF-REACTIVE SOLID, SAMPLE, TEMPERATURE CONTROLLED			3234	prohibited
TETRAMINE PALLADIUM (II) NITRATE	100		3234	prohibited

**Remarks**

- (1) (Reserved)
- (2) "EXPLOSIVE" subsidiary risk label required (Model No. 1, see 5.2.2.2.2).
- (3) Azodicarbonamide formulations which fulfil the criteria of paragraph 20.4.2 (c) of the Manual of Tests and Criteria.
- (4) (Reserved)
- (5) Azodicarbonamide formulations which fulfil the criteria of paragraph 20.4.2 (d) of the Manual of Tests and Criteria.
- (6) (Reserved)
- (7) With a compatible diluent having a boiling point of not less than 150 °C.
- (8) See 2.2.41.1.15.
- (9) This entry applies to mixtures of esters of 2-diazo-1-naphthol-4-sulphonic acid and 2-diazo-1-naphthol-5-sulphonic acid which fulfil the criteria of paragraph 20.4.2 (d) of the Manual of Test and Criteria.



**2.2.42 Class 4.2: Substances liable to spontaneous combustion****2.2.42.1 Criteria****2.2.42.1.1** The heading of Class 4.2 covers:

- *Pyrophoric substances* which are substances, including mixtures and solutions (liquid or solid), which even in small quantities ignite on contact with air within five minutes. These are the Class 4.2 substances the most liable to spontaneous combustion; and
- *Self-heating substances and articles* which are substances and articles, including mixtures and solutions, which, on contact with air, without energy supply, are liable to self-heating. These substances will ignite only in large amounts (kilogrammes) and after long periods of time (hours or days).

**2.2.42.1.2** The substances and articles of Class 4.2 are subdivided as follows:

S Substances liable to spontaneous combustion, without subsidiary risk:

- S1 Organic, liquid;
- S2 Organic, solid;
- S3 Inorganic, liquid;
- S4 Inorganic, solid;
- S5 Organometallic

SWSubstances liable to spontaneous combustion, which, in contact with water, emit flammable gases;

SO Substances liable to spontaneous combustion, oxidizing;

ST Substances liable to spontaneous combustion, toxic:

- ST1 Organic, toxic, liquid;
- ST2 Organic, toxic, solid;
- ST3 Inorganic, toxic, liquid;
- ST4 Inorganic, toxic, solid;

SC Substances liable to spontaneous combustion, corrosive:

- SC1 Organic, corrosive, liquid;
- SC2 Organic, corrosive, solid;
- SC3 Inorganic, corrosive, liquid;
- SC4 Inorganic, corrosive, solid.

*Properties***2.2.42.1.3** Self-heating of these substances, leading to spontaneous combustion, is caused by reaction of the substance with oxygen (in the air) and the heat developed not being conducted away rapidly enough to the surroundings. Spontaneous combustion occurs when the rate of heat production exceeds the rate of heat loss and the auto-ignition temperature is reached.*Classification***2.2.42.1.4** Substances and articles classified in Class 4.2 are listed in Table A of Chapter 3.2. The assignment of substances and articles not mentioned by name in Table A of Chapter 3.2 to the relevant specific n.o.s. entry of 2.2.42.3 in accordance with the provisions of Chapter 2.1 can be based on experience or the results of the test procedures in accordance with the Manual of Tests and Criteria, Part III, Section 33.3. Assignment to general n.o.s. entries of Class 4.2 shall be based on the results of the test procedures in accordance with the Manual of Tests and Criteria, Part III, section 33.3; experience shall also be taken into account when it leads to a more stringent assignment.**2.2.42.1.5** When substances or articles not mentioned by name are assigned to one of the entries listed in 2.2.42.3 on the basis of the test procedures in accordance with the Manual of Tests and Criteria, Part III, section 33.3, the following criteria shall apply:

- (a) Solids liable to spontaneous combustion (pyrophoric) shall be assigned to Class 4.2 when they ignite on falling from a height of 1 m or within five minutes;
- (b) Liquids liable to spontaneous combustion (pyrophoric) shall be assigned to Class 4.2 when:
  - (i) on being poured on an inert carrier, they ignite within five minutes, or
  - (ii) in the event of a negative result of the test according to (i), when poured on a dry, indented filter paper (Whatman No. 3 filter), they ignite or carbonize it within five minutes;
- (c) Substances in which, in a 10 cm sample cube, at 140 °C test temperature, spontaneous combustion or a rise in temperature to over 200 °C is observed within 24 hours shall be assigned to Class 4.2. This criterion is based on the temperature of the spontaneous combustion of charcoal, which is at 50 °C for a sample cube of 27 m<sup>3</sup>. Substances with a temperature of spontaneous combustion higher than 50 °C for a volume of 27 m<sup>3</sup> are not to be assigned to Class 4.2.

- NOTE 1:** Substances carried in packages with a volume of not more than 3 m<sup>3</sup> are exempted from Class 4.2 if, tested with a 10 cm sample cube at 120 °C, no spontaneous combustion nor a rise in temperature to over 180 °C is observed within 24 hours.
- 2:** Substances carried in packages with a volume of not more than 450 litres are exempted from Class 4.2 if, tested with a 10 cm sample cube at 100 °C, no spontaneous combustion nor a rise in temperature to over 160 °C is observed within 24 hours.
- 3:** Since organometallic substances can be classified in Class 4.2 or 4.3 with additional subsidiary risks, depending on their properties, a specific classification flow chart for these substances is given in 2.3.5.

**2.2.42.1.6** If substances of Class 4.2, as a result of admixtures, come into different categories of risk from those to which the substances mentioned by name in Table A of Chapter 3.2 belong, these mixtures shall be assigned to the entries to which they belong on the basis of their actual degree of danger.

**NOTE:** For the classification of solutions and mixtures (such as preparations and wastes), see also 2.1.3.

**2.2.42.1.7** On the basis of the test procedure in the Manual of Tests and Criteria, Part III, section 33.3 and the criteria set out in 2.2.42.1.5, it may also be determined whether the nature of a substance mentioned by name is such that the substance is not subject to the provisions for this Class.

*Assignment of packing groups*

**2.2.42.1.8** Substances and articles classified under the various entries in Table A of Chapter 3.2 shall be assigned to packing groups I, II or III on the basis of test procedures of the Manual of Tests and Criteria, Part III, section 33.3, in accordance with the following criteria:

- (a) Substances liable to spontaneous combustion (pyrophoric) shall be assigned to packing group I;
- (b) Self-heating substances and articles in which, in a 2.5 cm sample cube, at 140 °C test temperature, spontaneous combustion or a rise in temperature to over 200 °C is observed within 24 hours, shall be assigned to packing group II;  
Substances with a temperature of spontaneous combustion higher than 50 °C for a volume of 450 litres are not to be assigned to packing group II;
- (c) Slightly self-heating substances in which, in a 2.5 cm sample cube, the phenomena referred to under (b) are not observed, in the given conditions, but in which in a 10 cm sample cube at 140 °C test temperature spontaneous combustion or a rise in temperature to over 200 °C is observed within 24 hours, shall be assigned to packing group III.

**2.2.42.2 Substances not accepted for carriage**

The following substances shall not be accepted for carriage:

- UN No. 3255 tert-BUTYL HYPOCHLORITE; and
- Self-heating solids, oxidizing, assigned to UN No. 3127 unless they meet the requirements for Class 1 (see 2.1.3.7).

**2.2.42.3 List of collective entries**

Subsidiary risk	Classification code	UN No.	Name of the substance or article
<b>Substances liable to spontaneous combustion</b>			
<b>Without subsidiary risk S</b>	<b>organic</b>	<b>liquid S1</b>	2845 PYROPHORIC LIQUID, ORGANIC, N.O.S. 3183 SELF-HEATING LIQUID, ORGANIC, N.O.S.
		<b>solid S2</b>	1373 FIBRES or FABRICS, ANIMAL or VEGETABLE or SYNTHETIC, N.O.S. with oil 2006 PLASTICS, NITROCELLULOSE-BASED, SELF-HEATING, N.O.S. 3313 ORGANIC PIGMENTS, SELF HEATING 2846 PYROPHORIC SOLID, ORGANIC, N.O.S. 3088 SELF-HEATING SOLID, ORGANIC, N.O.S.

Without subsidiary risk S (cont'd)	inorganic	liquid S3	3194	PYROPHORIC LIQUID, INORGANIC, N.O.S.	
			3186	SELF-HEATING LIQUID, INORGANIC, N.O.S.	
		solid S4	1383	PYROPHORIC METAL, N.O.S. or	
			1383	PYROPHORIC ALLOY, N.O.S.	
			1378	METAL CATALYST, WETTED with a visible excess of liquid	
	2881		METAL CATALYST, DRY		
	3189		METAL POWDER, SELF-HEATING, N.O.S. <sup>(a)</sup>		
	Organo-metallic	S5	3205	ALKALINE EARTH METAL ALCOHOLATES, N.O.S.	
			3200	PYROPHORIC SOLID, INORGANIC, N.O.S.	
			3190	SELF-HEATING SOLID, INORGANIC, N.O.S.	
3391			ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC		
3392			ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC		
		3400	ORGANOMETALLIC SUBSTANCE, SOLID, SELF-HEATING		
Water-reactive	SW	3393	ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC, WATER-REACTIVE		
		3394	ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE		
Oxidizing	organic	liquid ST1	3127	SELF-HEATING SOLID, OXIDIZING, N.O.S. (not accepted for carriage, see 2.2.42.2)	
			3184	SELF-HEATING LIQUID, TOXIC, ORGANIC, N.O.S.	
		solid ST2	3128	SELF-HEATING SOLID, TOXIC, ORGANIC, N.O.S.	
			liquid ST3	3187	SELF-HEATING LIQUID, TOXIC, INORGANIC, N.O.S.
				solid ST4	3191
	inorganic	liquid SC1	3185		SELF-HEATING LIQUID, CORROSIVE, ORGANIC, N.O.S.
			3126		SELF-HEATING SOLID, CORROSIVE, ORGANIC, N.O.S.
		solid SC2	3188	SELF-HEATING LIQUID, CORROSIVE, INORGANIC, N.O.S.	
			liquid SC3	3206	ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S.
				3192	SELF-HEATING SOLID, CORROSIVE, INORGANIC, N.O.S.

## Footnotes

- <sup>(a)</sup> Dust and powder of metals, non toxic in a non-spontaneous combustible form which nevertheless, in contact with water, emit flammable gases, are substances of Class 4.3.

**2.2.43 Class 4.3: Substances which, in contact with water, emit flammable gases****2.2.43.1 Criteria**

**2.2.43.1.1** The heading of Class 4.3 covers substances which react with water to emit flammable gases liable to form explosive mixtures with air, and articles containing such substances.

**2.2.43.1.2** Substances and articles of Class 4.3 are subdivided as follows:

W Substances which, in contact with water, emit flammable gases, without subsidiary risk, and articles containing such substances:

W1 Liquid;

W2 Solid;

W3 Articles;

WF1 Substances which, in contact with water, emit flammable gases, liquid, flammable;

WF2 Substances which, in contact with water, emit flammable gases, solid, flammable;

WS Substances which, in contact with water, emit flammable gases, solid, self-heating;

WO Substances which, in contact with water, emit flammable gases, oxidizing, solid;

WT Substances which, in contact with water, emit flammable gases, toxic:

WT1 Liquid;

WT2 Solid;

WC Substances which, in contact with water, emit flammable gases, corrosive:

WC1 Liquid;

WC2 Solid;

WFC Substances which, in contact with water, emit flammable gases, flammable, corrosive.

*Properties*

**2.2.43.1.3** Certain substances in contact with water may emit flammable gases that can form explosive mixtures with air. Such mixtures are easily ignited by all ordinary sources of ignition, for example naked lights, sparking handtools or unprotected light bulbs. The resulting blast wave and flames may endanger people and the environment. The test method referred to in 2.2.43.1.4 below is used to determine whether the reaction of a substance with water leads to the development of a dangerous amount of gases which may be flammable. This test method shall not be applied to pyrophoric substances.

*Classification*

**2.2.43.1.4** Substances and articles classified in Class 4.3 are listed in Table A of Chapter 3.2. The assignment of substances and articles not mentioned by name in Table A of Chapter 3.2 to the relevant entry of 2.2.43.3 in accordance with the provisions of Chapter 2.1 shall be based on the results of the test procedure in accordance with the Manual of Tests and Criteria, Part III, Section 33.4; experience shall also be taken into account when it leads to a more stringent assignment.

**2.2.43.1.5** When substances not mentioned by name are assigned to one of the entries listed in 2.2.43.3 on the basis of the test procedure in accordance with the Manual of Tests and Criteria, Part III, Section 33.4, the following criteria shall apply:

A substance shall be assigned to Class 4.3 if:

(a) spontaneous ignition of the gas emitted takes place in any step of the test procedure; or

(b) there is an evolution of flammable gas at a rate greater than 1 litre per kilogramme of the substance to be tested per hour.

**NOTE:** Since organometallic substances can be classified in Class 4.2 or 4.3 with additional subsidiary risks, depending on their properties, a specific classification flow chart for these substances is given in 2.3.5.

**2.2.43.1.6** If substances of Class 4.3, as a result of admixtures, come into different categories of risk from those to which the substances mentioned by name in Table A of Chapter 3.2 belong, these mixtures shall be assigned to the entries to which they belong on the basis of their actual degree of danger.

**NOTE:** For the classification of solutions and mixtures (such as preparations and wastes) see also 2.1.3.

**2.2.43.1.7** On the basis of the test procedures in accordance with the Manual of Tests and Criteria, Part III, Section 33.4, and the criteria set out in 2.2.43.1.5, it may also be determined whether the nature of a substance mentioned by name is such that the substance is not subject to the provisions for this Class.

*Assignment of packing groups*

**2.2.43.1.8** Substances and articles classified under the various entries in Table A of Chapter 3.2 shall be assigned to packing groups I, II or III on the basis of test procedures of the Manual of Tests and Criteria, Part III, section 33.4, in accordance with the following criteria:

- (a) Packing group I shall be assigned to any substance which reacts vigorously with water at ambient temperature and generally demonstrates a tendency for the gas produced to ignite spontaneously, or one which reacts readily with water at ambient temperatures such that the rate of evolution of flammable gas is equal to or greater than 10 litres per kilogramme of substance over any one minute period;
- (b) Packing group II shall be assigned to any substance which reacts readily with water at ambient temperature such that the maximum rate of evolution of flammable gas is equal to or greater than 20 litres per kilogramme of substance per hour, and which does not meet the criteria of packing group I;
- (c) Packing group III shall be assigned to any substance which reacts slowly with water at ambient temperature such that the maximum rate of evolution of flammable gas is greater than 1 litre per kilogramme of substance per hour, and which does not meet the criteria of packing groups I or II.

**2.2.43.2 Substances not accepted for carriage**

**Water-reactive** solids, oxidizing, assigned to UN No. **3133 shall** not be accepted for carriage unless they meet the requirements for Class 1 (see also 2.1.3.7).

**2.2.43.3 List of collective entries**

Subsidiary risk	Classification code	UN No.	Name of the substance or article
<b>Substances which, in contact with water, emit flammable gases</b>			
<b>without subsidiary risk</b> <b>W</b>	<b>liquid</b>	<b>W1</b>	1389 ALKALI METAL AMALGAM, LIQUID 1391 ALKALI METAL DISPERSION having a flash-point above 60 °C or 1391 ALKALINE EARTH METAL DISPERSION having a flash-point above 60 °C 1392 ALKALINE EARTH METAL AMALGAM, LIQUID 1420 POTASSIUM METAL ALLOYS, LIQUID 1422 POTASSIUM SODIUM ALLOYS, LIQUID 3398 ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE 1421 ALKALI METAL ALLOY, LIQUID, N.O.S. 3148 WATER-REACTIVE LIQUID, N.O.S.
	<b>solid</b>	<b>W2<sup>(a)</sup></b>	1390 ALKALI METAL AMIDES 3170 ALUMINIUM SMELTING BY-PRODUCTS or 3170 ALUMINIUM REMELTING BY-PRODUCTS 3401 ALKALI METAL AMALGAM, SOLID 3402 ALKALINE EARTH METAL AMALGAM, SOLID 3403 POTASSIUM METAL ALLOYS, SOLID 3404 POTASSIUM SODIUM ALLOYS, SOLID 3395 ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE 1393 ALKALINE EARTH METAL ALLOY, N.O.S. 1409 METAL HYDRIDES, WATER-REACTIVE, N.O.S. 3208 METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S. 2813 WATER-REACTIVE SOLID, N.O.S.
	<b>articles</b>	<b>W3</b>	3292 BATTERIES, CONTAINING SODIUM or 3292 CELLS, CONTAINING SODIUM

<b>Liquid, flammable</b>	<b>WF1</b>	1391	ALKALI METAL DISPERSION having a flash-point of not more than 60 °C or
		1391	ALKALINE EARTH METAL DISPERSION having a flash-point of not more than 60 °C
<b>Solid, flammable</b>	<b>WF2</b>	3399	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE
		3396	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE
<b>Solid, self-heating</b>	<b>WS<sup>(b)</sup></b>	3132	WATER-REACTIVE SOLID, FLAMMABLE, <b>N.O.S.</b>
		3397	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, SELF-HEATING
<b>Solid, oxidizing</b>	<b>WO</b>	3209	METALLIC SUBSTANCE, WATER-REACTIVE, SELF-HEATING, N.O.S.
		3135	WATER-REACTIVE SOLID, SELF-HEATING, <b>N.O.S.</b>
<b>Toxic</b>	<b>WT</b>	3133	WATER-REACTIVE SOLID, OXIDIZING, N.O.S. (not accepted for carriage, see 2.2.43.2)
		3130	WATER-REACTIVE LIQUID, TOXIC, N.O.S.
<b>Corrosive</b>	<b>WC</b>	3134	WATER-REACTIVE SOLID, TOXIC, N.O.S.
		3129	WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.
<b>Flammable, corrosive</b>	<b>WFC<sup>(c)</sup></b>	3131	WATER-REACTIVE SOLID, CORROSIVE, N.O.S.
		2988	CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, NO.S. (No other collective entry with this classification code available; if need be, classification under a collective entry with a classification code to be determined according to the table of precedence of hazard in 2.1.3.10.)

## Footnotes

- <sup>(a)</sup> Metals and metal alloys which, in contact with water, do not emit flammable gases and are not pyrophoric or self-heating, but which are readily flammable, are substances of Class 4.1. Alkaline-earth metals and alkaline-earth metal alloys in pyrophoric form are substances of Class 4.2. Dust and powders of metals in pyrophoric form are substances of Class 4.2. Metals and metal alloys in pyrophoric form are substances of Class 4.2. Compounds of phosphorus with heavy metals such as iron, copper, etc. are not subject to the provisions of RID.
- <sup>(b)</sup> Metals and metal alloys in pyrophoric form are substances of Class 4.2.
- <sup>(c)</sup> Chlorosilanes, having a flash-point of less than 23 °C and which, in contact with water, do not emit flammable gases, are substances of Class 3. Chlorosilanes, having a flash-point equal to or greater than 23 °C and which, in contact with water, do not emit flammable gases, are substances of Class 8.

**2.2.51 Class 5.1: Oxidizing substances****2.2.51.1 Criteria**

**2.2.51.1.1** The heading of Class 5.1 covers substances which, while in themselves not necessarily combustible, may, generally by yielding oxygen, cause or contribute to the combustion of other material, and articles containing such substances.

**2.2.51.1.2** The substances of Class 5.1 and articles containing such substances are subdivided as follows:

O Oxidizing substances without subsidiary risk or articles containing such substances:

O1 Liquid;

O2 Solid;

O3 Articles;

OF Oxidizing substances, solid, flammable;

OS Oxidizing substances, solid, self-heating;

OW Oxidizing substances, solid which, in contact with water, emit flammable gases;

OT Oxidizing substances, toxic:

OT1 Liquid;

OT2 Solid;

OC Oxidizing substances, corrosive:

OC1 Liquid;

OC2 Solid;

OTC Oxidizing substances, toxic, corrosive.

**2.2.51.1.3** Substances and articles classified in Class 5.1 are listed in Table A of Chapter 3.2. The assignment of substances and articles not mentioned by name in Table A of Chapter 3.2 to the relevant entry of 2.2.51.3 in accordance with the provisions of Chapter 2.1 can be based on the tests, methods and criteria in 2.2.51.1.6 to 2.2.51.1.9 below and the Manual of Tests and Criteria, Part III, Section 34.4. In the event of divergence between test results and known experience, judgement based on known experience shall take precedence over test results.

**2.2.51.1.4** If substances of Class 5.1, as a result of admixtures, come into different categories of risk from those to which the substances mentioned by name in Table A of Chapter 3.2 belong, these mixtures or solutions shall be assigned to the entries to which they belong on the basis of their actual degree of danger.

**NOTE:** For the classification of solutions and mixtures (such as preparations and wastes), see also Section 2.1.3.

**2.2.51.1.5** On the basis of the test procedures in the Manual of Tests and Criteria, Part III, Section 34.4 and the criteria set out in 2.2.51.1.6 to 2.2.51.1.9 it may also be determined whether the nature of a substance mentioned by name in Table A of Chapter 3.2 is such that the substance is not subject to the provisions for this class.

***Oxidizing solids******Classification***

**2.2.51.1.6** When oxidizing solid substances not mentioned by name in Table A of Chapter 3.2 are assigned to one of the entries listed in 2.2.51.3 on the basis of the test procedure in accordance with the Manual of Tests and Criteria, Part III, sub-section 34.4.1, the following criteria shall apply:

A solid substance shall be assigned to Class 5.1 if, in the 4:1 or the 1:1 sample-to-cellulose ratio (by mass) tested, it ignites or burns or exhibits mean burning times equal to or less than that of a 3:7 mixture (by mass) of potassium bromate and cellulose.

***Assignment of packing groups***

**2.2.51.1.7** Oxidizing solids classified under the various entries in Table A of Chapter 3.2 shall be assigned to packing groups I, II or III on the basis of test procedures of the Manual of Tests and Criteria, Part III, sub-section 34.4.1, in accordance with the following criteria:

(a) Packing group I: any substance which, in the 4:1 or 1:1 sample-to-cellulose ratio (by mass) tested, exhibits a mean burning time less than the mean burning time of a 3:2 mixture, by mass, of potassium bromate and cellulose;

(b) Packing group II: any substance which, in the 4:1 or 1:1 sample-to-cellulose ratio (by mass) tested, exhibits a mean burning time equal to or less than the mean burning time of a 2:3 mixture (by mass) of potassium bromate and cellulose and the criteria for packing group I are not met;

- (c) Packing group III: any substance which, in the 4:1 or 1:1 sample-to-cellulose ratio (by mass) tested, exhibits a mean burning time equal to or less than the mean burning time of a 3:7 mixture (by mass) of potassium bromate and cellulose and the criteria for packing groups I and II are not met.

### ***Oxidizing liquids***

#### *Classification*

- 2.2.51.1.8** When oxidizing liquid substances not mentioned by name in Table A of Chapter 3.2 are assigned to one of the entries listed in 2.2.51.3 on the basis of the test procedure in accordance with the Manual of Tests and Criteria, Part III, sub-section 34.4.2, the following criteria shall apply:

A liquid substance shall be assigned to Class 5.1 if, in the 1:1 mixture, by mass, of substance and cellulose tested, it exhibits a pressure rise of 2070 kPa gauge or more and a mean pressure rise time equal to or less than the mean pressure rise time of a 1:1 mixture, by mass, of 65% aqueous nitric acid and cellulose.

#### *Assignment of packing groups*

- 2.2.51.1.9** Oxidizing liquids classified under the various entries in Table A of Chapter 3.2 shall be assigned to packing groups I, II or III on the basis of test procedures of the Manual of Tests and Criteria, Part III, section 34.4.2, in accordance with the following criteria:

- (a) Packing group I: any substance which, in the 1:1 mixture, by mass, of substance and cellulose tested, spontaneously ignites; or the mean pressure rise time of a 1:1 mixture, by mass, of substance and cellulose is less than that of a 1:1 mixture, by mass, of 50% perchloric acid and cellulose;
- (b) Packing group II: any substance which, in the 1:1 mixture, by mass, of substance and cellulose tested, exhibits a mean pressure rise time less than or equal to the mean pressure rise time of a 1:1 mixture, by mass, of 40% aqueous sodium chlorate solution and cellulose; and the criteria for packing group I are not met;
- (c) Packing group III: any substance which, in the 1:1 mixture, by mass, of substance and cellulose tested, exhibits a mean pressure rise time less than or equal to the mean pressure rise time of a 1:1 mixture, by mass, of 65% aqueous nitric acid and cellulose; and the criteria for packing groups I and II are not met.

**2.2.51.2 Substances not accepted for carriage**

- 2.2.51.2.1** The chemically unstable substances of Class 5.1 shall not be accepted for carriage unless the necessary steps have been taken to prevent their dangerous decomposition or polymerization during carriage. To this end it shall in particular be ensured that receptacles and tanks do not contain any material liable to promote these reactions.

- 2.2.51.2.2** The following substances and mixtures shall not be accepted for carriage:

- Oxidizing solids, self-heating, assigned to UN No. 3100, oxidizing solids, water-reactive, assigned to UN No. 3121 and oxidizing solids, flammable, assigned to UN No. 3137, unless they meet the requirements for Class 1 (see also 2.1.3.7);
- Hydrogen peroxide, not stabilized or hydrogen peroxide, aqueous solutions, not stabilized containing more than 60% hydrogen peroxide;
- Tetranitromethane not free from combustible impurities;
- Perchloric acid solutions containing more than 72% (mass) acid, or mixtures of perchloric acid with any liquid other than water;
- Chloric acid solution containing more than 10% chloric acid or mixtures of chloric acid with any liquid other than water;
- Halogenated fluor compounds other than UN Nos. 1745 BROMINE PENTAFLUORIDE; 1746 BROMINE TRIFLUORIDE and 2495 IODINE PENTAFLUORIDE of Class 5.1 as well as UN Nos. 1749 CHLORINE TRIFLUORIDE and 2548 CHLORINE PENTAFLUORIDE of Class 2;
- Ammonium chlorate and its aqueous solutions and mixtures of a chlorate with an ammonium salt;
- Ammonium chlorite and its aqueous solutions and mixtures of a chlorite with an ammonium salt;
- Mixtures of a hypochlorite with an ammonium salt;
- Ammonium bromate and its aqueous solutions and mixtures of a bromate with an ammonium salt;
- Ammonium permanganate and its aqueous solutions and mixtures of a permanganate with an ammonium salt;
- Ammonium nitrate containing more than 0.2% combustible substances (including any organic substance calculated as carbon) unless it is a constituent of a substance or article of Class 1;
- Fertilizers having an ammonium nitrate content (in determining the ammonium nitrate content, all nitrate ions for which a molecular equivalent of ammonium ions is present in the mixture shall be calculated as ammonium nitrate) or a content in combustible substances exceeding the values specified in special provision 307 except under the conditions applicable to Class 1;



- Ammonium nitrite and its aqueous solutions and mixtures of an inorganic nitrite with an ammonium salt;
- Mixtures of potassium nitrate, sodium nitrite and an ammonium salt.

### 2.2.51.3 List of collective entries

Subsidiary risk	Classification code	UN No.	Name of the substance or article
<b>Oxidizing substances</b>			
<b>Without subsidiary risk</b> <b>O</b>	<b>liquid</b>	<b>O1</b>	3210 CHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
			3211 PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
			3213 BROMATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
			3214 PERMANGANATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
			3216 PERSULPHATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
<b>Without subsidiary risk</b> <b>O</b>	<b>solid</b>	<b>O2</b>	3218 NITRATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
			3219 NITRITES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
			3139 OXIDIZING LIQUID, N.O.S.
			1450 BROMATES, INORGANIC, N.O.S.
			1461 CHLORATES, INORGANIC, N.O.S.
<b>Without subsidiary risk</b> <b>O</b>	<b>solid</b>	<b>O2</b>	1462 CHLORITES, INORGANIC, N.O.S.
			1477 NITRATES, INORGANIC, N.O.S.
			1481 PERCHLORATES, INORGANIC, N.O.S.
			1482 PERMANGANATES, INORGANIC, N.O.S.
			1483 PEROXIDES, INORGANIC, N.O.S.
<b>Without subsidiary risk</b> <b>O</b>	<b>solid</b>	<b>O2</b>	2627 NITRITES, INORGANIC, N.O.S.
			3212 HYPOCHLORITES, INORGANIC, N.O.S.
			3215 PERSULPHATES, INORGANIC, N.O.S.
			1479 OXIDIZING SOLID, N.O.S.
<b>Without subsidiary risk</b> <b>O</b>	<b>articles</b>	<b>O3</b>	3356 OXYGEN GENERATOR, CHEMICAL
<b>Solid, flammable</b>	<b>OF</b>		3137 OXIDIZING SOLID, FLAMMABLE, N.O.S. (not accepted for carriage, see 2.2.51.2)
<b>Solid, self-heating</b>	<b>OS</b>		3100 OXIDIZING SOLID, SELF-HEATING, N.O.S. (not accepted for carriage, see 2.2.51.2)
<b>Solid, water reactive</b>	<b>OW</b>		3121 OXIDIZING SOLID, WATER REACTIVE, N.O.S. (not accepted for carriage, see 2.2.51.2)
<b>Toxic</b> <b>OT</b>	<b>liquid</b>	<b>OT1</b>	3099 OXIDIZING LIQUID, TOXIC, N.O.S.
	<b>solid</b>	<b>OT2</b>	3087 OXIDIZING SOLID, TOXIC, N.O.S.
<b>Corrosive</b> <b>OC</b>	<b>liquid</b>	<b>OC1</b>	3098 OXIDIZING LIQUID, CORROSIVE, N.O.S.
	<b>solid</b>	<b>OC2</b>	3085 OXIDIZING SOLID, CORROSIVE, N.O.S.
<b>Toxic, corrosive</b>	<b>OTC</b>		(No collective entry with this classification code available; if need be, classification under a collective entry with a classification code to be determined according to the table of precedence of hazard in 2.1.3.10.)

**2.2.52 Class 5.2: Organic peroxides****2.2.52.1 Criteria**

**2.2.52.1.1** The heading of Class 5.2 covers organic peroxides and formulations of organic peroxides.

**2.2.52.1.2** The substances of Class 5.2 are subdivided as follows:

P1 Organic peroxides, not requiring temperature control;

P2 Organic peroxides, requiring temperature control (not accepted for carriage by rail).

*Definition*

**2.2.52.1.3** *Organic peroxides* are organic substances which contain the bivalent -O-O- structure and may be considered derivatives of hydrogen peroxide, where one or both of the hydrogen atoms have been replaced by organic radicals.

*Properties*

**2.2.52.1.4** Organic peroxides are liable to exothermic decomposition at normal or elevated temperatures. The decomposition can be initiated by heat, contact with impurities (e.g. acids, heavy-metal compounds, amines), friction or impact. The rate of decomposition increases with temperature and varies with the organic peroxide formulation. Decomposition may result in the evolution of harmful, or flammable, gases or vapours. Some organic peroxides may decompose explosively, particularly if confined. This characteristic may be modified by the addition of diluents or by the use of appropriate packagings. Many organic peroxides burn vigorously. Contact of organic peroxides with the eyes is to be avoided. Some organic peroxides will cause serious injury to the cornea, even after brief contact, or will be corrosive to the skin.

**NOTE:** Test methods for determining the flammability of organic peroxides are set out in the Manual of Tests and Criteria, Part III, sub-section 32.4. Because organic peroxides may react vigorously when heated, it is recommended to determine their flash-point using small sample sizes such as described in ISO 3679:1983.

*Classification*

**2.2.52.1.5** Any organic peroxide shall be considered for classification in Class 5.2 unless the organic peroxide formulation contains:

(a) Not more than 1.0% available oxygen from the organic peroxides when containing not more than 1.0% hydrogen peroxide;

(b) Not more than 0.5% available oxygen from the organic peroxides when containing more than 1.0% but not more than 7.0% hydrogen peroxide.

**NOTE:** The available oxygen content (%) of an organic peroxide formulation is given by the formula

$$16 \times \sum (n_i \times c_i / m_i)$$

where:

$n_i$  = number of peroxygen groups per molecule of organic peroxide  $i$ ;

$c_i$  = concentration (mass %) of organic peroxide  $i$ ; and

$m_i$  = molecular mass of organic peroxide  $i$ .

**2.2.52.1.6** Organic peroxides are classified into seven types according to the degree of danger they present. The types of organic peroxide range from type A, which is not accepted for carriage in the packaging in which it is tested, to type G, which is not subject to the provisions of Class 5.2. The classification of types B to F is directly related to the maximum quantity allowed in one packaging. The principles to be applied to the classification of substances not listed in 2.2.52.4 are set out in the Manual of Tests and Criteria, Part II.

**2.2.52.1.7** Organic peroxides which have already been classified and are already permitted for carriage in packagings are listed in 2.2.52.4, those already permitted for carriage in IBCs are listed in 4.1.4.2, packing instruction IBC520 and those already permitted for carriage in tanks in accordance with Chapters 4.2 and 4.3 are listed in 4.2.5.2, portable tank instruction T23. Each permitted substance listed is assigned to a generic entry of Table A of Chapter 3.2 (UN Nos. 3101 to 3120) and appropriate subsidiary risks and remarks providing relevant transport information are given.

These generic entries specify:

- the type (B to F) of organic peroxide (see 2.2.52.1.6 above);
- physical state (liquid/solid).

Mixtures of these formulations may be classified as the same type of organic peroxide as that of the most dangerous component and be carried under the conditions of carriage given for this type. However, as two stable components can form a thermally less stable mixture, the self-accelerating decomposition temperature (SADT) of the mixture shall be determined.

**2.2.52.1.8** Classification of organic peroxides, formulations or mixtures of organic peroxides not listed in 2.2.52.4, 4.1.4.2, packing instruction IBC520 or 4.2.5.2, portable tank instruction T23, and assignment to a collective entry shall be made by the competent authority of the country of origin. The statement of approval shall contain the classification and the relevant conditions of carriage. If the country of origin is not a COTIF Member State, the classification and conditions of carriage shall be recognized by the competent authority of the first COTIF Member State reached by the consignment.

**2.2.52.1.9** Samples of organic peroxides or formulations of organic peroxides not listed in 2.2.52.4, for which a complete set of test results is not available and which are to be carried for further testing or evaluation, shall be assigned to one of the appropriate entries for organic peroxides type C provided the following conditions are met:

- the available data indicate that the sample would be no more dangerous than organic peroxides type B;
- the sample is packaged in accordance with packing method OP2 and the quantity per wagon is limited to 10 kg.

Samples requiring temperature control shall not be accepted for carriage by rail.

*Desensitization of organic peroxides*

**2.2.52.1.10** In order to ensure safety during carriage, organic peroxides are in many cases desensitized by organic liquids or solids, inorganic solids or water. Where a percentage of a substance is stipulated, this refers to the percentage by mass, rounded to the nearest whole number. In general, desensitization shall be such that, in case of spillage, the organic peroxide will not concentrate to a dangerous extent.

**2.2.52.1.11** Unless otherwise stated for the individual organic peroxide formulation, the following definition(s) shall apply to diluents used for desensitization:

- diluents type A are organic liquids which are compatible with the organic peroxide and which have a boiling point of not less than 150 °C. Type A diluents may be used for desensitizing all organic peroxides.
- diluents type B are organic liquids which are compatible with the organic peroxide and which have a boiling point of less than 150 °C but not less than 60 °C and a flash-point of not less than 5 °C.

Type B diluents may be used for desensitization of all organic peroxides, provided that the boiling point of the liquid is at least 60 °C higher than the SADT in a 50 kg package.

**2.1.52.1.12** Diluents, other than type A or type B, may be added to organic peroxide formulations as listed in 2.2.52.4, provided that they are compatible. However, replacement of all or part of a type A or type B diluent by another diluent with differing properties requires that the organic peroxide formulation be re-assessed in accordance with the normal acceptance procedure for Class 5.2.

**2.2.52.1.13** Water may only be used for the desensitization of organic peroxides which are listed in 2.2.52.4 or in the competent authority decision according to 2.2.52.1.8 as being "with water" or "as a stable dispersion in water". Samples of organic peroxides or formulations of organic peroxides not listed in 2.2.52.4 may also be desensitized with water provided the requirements of 2.2.52.1.9 are met.

**2.2.52.1.14** Organic and inorganic solids may be used for desensitization of organic peroxides, provided that they are compatible. Compatible liquids and solids are those which have no detrimental influence on the thermal stability and hazard type of the organic peroxide formulation.

**2.2.52.1.15 –**

**2.2.52.1.18** (Reserved)

**2.2.52.2 Substances not accepted for carriage**

The following organic peroxides shall not be accepted for carriage under the requirements of Class 5.2:

- Organic peroxides, type A (see Manual of Tests and Criteria, Part II, paragraph 20.4.3 (a)).

The following organic peroxides requiring temperature control are not to be accepted for carriage by rail:

- Organic peroxides, types B and C with an SADT ≤ 50 °C:
  - UN 3111 ORGANIC PEROXIDE TYPE B, LIQUID, TEMPERATURE CONTROLLED;
  - UN 3112 ORGANIC PEROXIDE TYPE B, SOLID, TEMPERATURE CONTROLLED;
  - UN 3113 ORGANIC PEROXIDE TYPE C, LIQUID, TEMPERATURE CONTROLLED;
  - UN 3114 ORGANIC PEROXIDE TYPE C, SOLID, TEMPERATURE CONTROLLED;
- Organic peroxides type D showing a violent or medium effect when heated under confinement with an SADT ≤ 50 °C or showing a low or no effect when heated under confinement with an SADT ≤ 45 °C:
  - UN 3115 ORGANIC PEROXIDE TYPE D, LIQUID, TEMPERATURE CONTROLLED;
  - UN 3116 ORGANIC PEROXIDE TYPE D, SOLID, TEMPERATURE CONTROLLED;
- Organic peroxides types E and F with an SADT ≤ 45 °C:

UN 3117 ORGANIC PEROXIDE TYPE E, LIQUID, TEMPERATURE CONTROLLED;  
 UN 3118 ORGANIC PEROXIDE TYPE E, SOLID, TEMPERATURE CONTROLLED;  
 UN 3119 ORGANIC PEROXIDE TYPE F, LIQUID, TEMPERATURE CONTROLLED;  
 UN 3120 ORGANIC PEROXIDE TYPE F, SOLID, TEMPERATURE CONTROLLED

### 2.2.52.3 List of collective entries

Classification code		UN No.	Name of the substance or article
<b>Organic peroxides</b>			
<b>Not requiring temperature control</b>	<b>P1</b>		ORGANIC PEROXIDE TYPE A, LIQUID (not accepted for carriage, see 2.2.52.2) ORGANIC PEROXIDE TYPE A, SOLID (not accepted for carriage, see 2.2.52.2)
		3101 3102 3103 3104	ORGANIC PEROXIDE TYPE B, LIQUID ORGANIC PEROXIDE TYPE B, SOLID ORGANIC PEROXIDE TYPE C, LIQUID ORGANIC PEROXIDE TYPE C, SOLID
<b>Requiring temperature control</b>	<b>P2</b>	3105 3106 3107 3108 3109 3110	ORGANIC PEROXIDE TYPE D, LIQUID ORGANIC PEROXIDE TYPE D, SOLID ORGANIC PEROXIDE TYPE E, LIQUID ORGANIC PEROXIDE TYPE E, SOLID ORGANIC PEROXIDE TYPE F, LIQUID ORGANIC PEROXIDE TYPE F, SOLID
			ORGANIC PEROXIDE TYPE G, LIQUID (not subject to the provisions applicable to Class 5.2, see 2.2.52.1.6) ORGANIC PEROXIDE TYPE G, SOLID (not subject to the provisions applicable to Class 5.2, see 2.2.52.1.6)
<b>Requiring temperature control</b>	<b>P2</b>	3111 3112 3113 3114 3115 3116 3117 3118 3119 3120	ORGANIC PEROXIDE TYPE B, LIQUID, TEMPERATURE CONTROLLED (not accepted for carriage by rail, see 2.2.52.2) ORGANIC PEROXIDE TYPE B, SOLID, TEMPERATURE CONTROLLED (not accepted for carriage by rail, see 2.2.52.2) ORGANIC PEROXIDE TYPE C, LIQUID, TEMPERATURE CONTROLLED (not accepted for carriage by rail, see 2.2.52.2) ORGANIC PEROXIDE TYPE C, SOLID, TEMPERATURE CONTROLLED (not accepted for carriage by rail, see 2.2.52.2) ORGANIC PEROXIDE TYPE D, LIQUID, TEMPERATURE CONTROLLED (not accepted for carriage by rail, see 2.2.52.2) ORGANIC PEROXIDE TYPE D, SOLID, TEMPERATURE CONTROLLED (not accepted for carriage by rail, see 2.2.52.2) ORGANIC PEROXIDE TYPE E, LIQUID, TEMPERATURE CONTROLLED (not accepted for carriage by rail, see 2.2.52.2) ORGANIC PEROXIDE TYPE E, SOLID, TEMPERATURE CONTROLLED (not accepted for carriage by rail, see 2.2.52.2) ORGANIC PEROXIDE TYPE F, LIQUID, TEMPERATURE CONTROLLED (not accepted for carriage by rail, see 2.2.52.2) ORGANIC PEROXIDE TYPE F, SOLID, TEMPERATURE CONTROLLED (not accepted for carriage by rail, see 2.2.52.2)

### 2.2.52.4 List of currently assigned organic peroxides in packagings

In the column "Packing Method", codes "OP1" to "OP8" refer to packing methods in 4.1.4.1 packing instruction P520 (see also 4.1.7.1). Organic peroxides to be carried shall fulfil the classification as listed. For substances permitted in IBCs, see 4.1.4.2, packing instruction IBC520 and, for those permitted in tanks according to Chapters 4.2 and 4.3, see 4.2.5.2, portable tank instruction T23.

Organic peroxide	Concentration (%)	Diluent type A (%)	Diluent type B (%) <sup>1</sup>	Inert solid (%)	Water	Packing method	Number (generic entry)	Subsidiary risks and remarks
ACETYL ACETONE PEROXIDE	≤ 42	≥ 48			≥ 8	OP7	3105	(2)
"	≤ 32 as a paste					OP7	3106	(20)
ACETYL CYCLOHEXANESULPHONYL PEROXIDE	≤ 82				≥ 12		3112	prohibited
"	≤ 32		≥ 68				3115	prohibited
tert-AMYL HYDROPEROXIDE	≤ 88	≥ 6			≥ 6	OP8	3107	
tert-AMYL PEROXYACETATE	≤ 62	≥ 38				OP7	3105	
tert-AMYL PEROXYBENZOATE	≤ 100					OP5	3103	
tert-AMYL PEROXY-2-ETHYLHEXANOATE	≤ 100						3115	prohibited
tert-AMYL PEROXY-2-ETHYLHEXYL CARBONATE	≤ 100					OP7	3105	
tert-AMYLPEROXY ISOPROPYL CARBONATE	≤ 77	≥ 23				OP5	3103	
tert-AMYL PEROXYNEODECANOATE	≤ 77		≥ 23				3115	prohibited
"	≤ 47	≥ 53					3119	prohibited
tert-AMYL PEROXYPIVALATE	≤ 77		≥ 23				3113	prohibited
tert-AMYLPEROXY-3,5,5-TRIMETHYLHEXANOATE	≤ 100					OP7	3105	(3)
tert-BUTYL CUMYL PEROXIDE	> 42 – 100					OP8	3107	
"	≤ 52			≥ 48		OP8	3108	
n-BUTYL-4,4-DI-(tert-BUTYLPEROXY) VALERATE	> 52 – 100					OP5	3103	
"	≤ 52			≥ 48		OP8	3108	
tert-BUTYL HYDROPEROXIDE	> 79 – 90				≥ 10	OP5	3103	(13)
"	≤ 80	≥ 20				OP7	3105	(4) (13)
"	≤ 79				> 14	OP8	3107	(13) (23)

Organic peroxide	Concentration (%)	Diluent type A (%)	Diluent type B (%) <sup>1</sup>	Inert solid (%)	Water	Packing method	Number (generic entry)	Subsidiary risks and remarks
"	≤ 72				≥ 28	OP8	3109	(13)
tert-BUTYL HYDROPEROXIDE + DI-tert-BUTYLPEROXIDE	< 82 + > 9				≥ 7	OP5	3103	(13)
tert-BUTYL MONOPEROXYMALEATE	> 52 – 100					OP5	3102	(3)
"	≤ 52	≥ 48				OP6	3103	
"	≤ 52			≥ 48		OP8	3108	
"	≤ 52 as a paste					OP8	3108	
tert-BUTYL PEROXYACETATE	> 52 – 77	≥ 23				OP5	3101	(3)
"	> 32 – 52	≥ 48				OP6	3103	
"	≤ 32		≥ 68			OP8	3109	
tert-BUTYL PEROXYBENZOATE	> 77 – 100					OP5	3103	
"	> 52 – 77	≥ 23				OP7	3105	
"	≤ 52			≥ 48		OP7	3106	
tert-BUTYL PEROXYBUTYL FUMARATE	≤ 52	≥ 48				OP7	3105	
tert-BUTYL PEROXYCROTONATE	≤ 77	≥ 23				OP7	3105	
tert-BUTYL PEROXYDIETHYLACETATE	≤ 100						3113	prohibited
tert-BUTYL PEROXY-2-ETHYLHEXANOATE	> 52 – 100						3113	prohibited
"	> 32 – 52		≥ 48				3117	prohibited
"	≤ 32			≥ 48			3118	prohibited
"	≤ 32		≥ 68				3119	prohibited
tert-BUTYL PEROXY-2-ETHYLHEXANOATE +	≤ 12 + ≤ 14	≥ 14		≥ 60		OP7	3106	

Organic peroxide	Concentration (%)	Diluent type A (%)	Diluent type B (%) <sup>1</sup>	Inert solid (%)	Water	Packing method	Number (generic entry)	Subsidiary risks and remarks
2,2-DI-(tert-BUTYLPEROXY)BUTANE								
"	$\leq 31 + \leq 36$		$\geq 33$				3115	prohibited
tert-BUTYL PEROXY-2-ETHYLHEXYLCARBONATE	$\leq 100$					OP7	3105	
tert-BUTYL PEROXYISOBUTYRATE	$> 52 - 77$		$\geq 23$				3111	prohibited
"	$\leq 52$		$\geq 48$				3115	prohibited
tert-BUTYLPEROXY ISOPROPYLCARBONATE	$\leq 77$	$\geq 23$				OP5	3103	
1-(2-tert-BUTYLPEROXY ISOPROPYL)-3-ISOPROPENYLBENZENE	$\leq 77$	$\geq 23$				OP7	3105	
"	$\leq 42$			$\geq 58$		OP8	3108	
tert-BUTYL PEROXY-2-METHYLBENZOATE	$\leq 100$					OP5	3103	
tert-BUTYL PEROXYNEODECANOATE	$> 77 - 100$						3115	prohibited
"	$\leq 77$	$\geq 23$					3115	prohibited
"	$\leq 52$ as a stable dispersion in water						3119	prohibited
"	$\leq 42$ as a stable dispersion in water (frozen)						3118	prohibited
"	$\leq 32$	$\geq 68$					3119	prohibited
tert-BUTYL PEROXYNEOHEPTANOATE	$\leq 77$	$\geq 23$					3115	prohibited
"	$\leq 42$ as a stable dispersion in water						3117	prohibited
tert-BUTYL PEROXYPIVALATE	$> 67 - 77$	$\geq 23$					3113	prohibited

Organic peroxide	Concentration (%)	Diluent type A (%)	Diluent type B (%) <sup>1</sup>	Inert solid (%)	Water	Packing method	Number (generic entry)	Subsidiary risks and remarks
"	> 27 – 67		≥ 33				3115	prohibited
"	≤ 27		≥ 73				3119	prohibited
tert-BUTYL PEROXY STEARYLCARBONATE	≤ 100					OP7	3106	
tert-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE	> 32 – 100					OP7	3105	
"	≤ 42			≥ 58		OP7	3106	
"	≤ 32		≥ 68			OP8	3109	
3-CHLOROPEROXYBENZOIC ACID	> 57 – 86			≥ 14		OP1	3102	(3)
"	≤ 57			≥ 3	≥ 40	OP7	3106	
"	≤ 77			≥ 6	≥ 17	OP7	3106	
CUMYL HYDROPEROXIDE	> 90 – 98	≤ 10				OP8	3107	(13)
"	≤ 90	≥ 10				OP8	3109	(13) (18)
CUMYL PEROXYNEODECANOATE	≤ 87	≥ 13					3115	prohibited
"	≤ 77		≥ 23				3115	prohibited
"	≤ 52 as a stable dispersion in water						3119	prohibited
CUMYL PEROXYNEOHEPTANOATE	≤ 77	≥ 23					3115	prohibited
CUMYL PEROXYPIVALATE	≤ 77		≥ 23				3115	prohibited
CYCLOHEXANONE PEROXIDE(S)	≤ 91				≥ 9	OP6	3104	(13)
"	≤ 72	≥ 28				OP7	3105	(5)
"	≤ 72 as a paste					OP7	3106	(5) (20)



Organic peroxide	Concentration (%)	Diluent type A (%)	Diluent type B (%) <sup>1</sup>	Inert solid (%)	Water	Packing method	Number (generic entry)	Subsidiary risks and remarks
"	≤ 32			≥ 68			exempt	(29)
DIACETONE ALCOHOL PEROXIDES	≤ 57		≥ 26		≥ 8		3115	prohibited
DIACETYL PEROXIDE	≤ 27		≥ 73				3115	prohibited
DI-tert-AMYL PEROXIDE	≤ 100					OP8	3107	
2,2-DI-(tert-AMYLPEROXY)-BUTANE	≤ 57	≥ 43				OP7	3105	
1,1-DI-(tert-AMYLPEROXY)CYCLOHEXANE	≤ 82	≥ 18				OP6	3103	
DIBENZOYL PEROXIDE	> 51 – 100			≤ 48		OP2	3102	(3)
"	> 77 – 94				≥ 6	OP4	3102	(3)
"	≤ 77				≥ 23	OP6	3104	
"	≤ 62			≥ 28	≥ 10	OP7	3106	
"	> 52 – 62 as a paste					OP7	3106	(20)
"	> 35 – 52			≥ 48		OP7	3106	
"	> 36 – 42	≥ 18			≤ 40	OP8	3107	
"	≤ 56.5 as a paste				≥ 15	OP8	3108	
"	≤ 52 as a paste					OP8	3108	(20)
"	≤ 42 as a stable dispersion in water					OP8	3109	
"	≤ 35			≥ 65			exempt	(29)
DI-(4-tert-BUTYLCYCLOHEXYL)-PEROXYDICARBONATE	≤ 100						3114	prohibited
"	≤ 42 as a stable						3119	prohibited

Organic peroxide	Concentration (%)	Diluent type A (%)	Diluent type B (%) <sup>1</sup>	Inert solid (%)	Water	Packing method	Number (generic entry)	Subsidiary risks and remarks
	dispersion in water							
DI-tert-BUTYL PEROXIDE	> 52 – 100					OP8	3107	
"	≤ 52		≥ 48			OP8	3109	(25)
DI-tert-BUTYL PEROXYAZELATE	≤ 52	≥ 48				OP7	3105	
2,2-DI-(tert-BUTYLPEROXY)BUTANE	≤ 52	≥ 48				OP6	3103	
1,6-Di-(tert-BUTYLPEROXY-CARBONYLOXY) HEXANE	≤ 72	≥ 28				OP5	3103	
1,1-DI-(tert-BUTYLPEROXY) CYCLOHEXANE	> 80 – 100					OP5	3101	(3)
"	≤ 72		≥ 28			OP5	3103	(30)
"	> 52 – 80	≥ 20				OP5	3103	
"	> 42 – 52	≥ 48				OP7	3105	
"	≤ 42	≥ 13		≥ 45		OP7	3106	
"	≤ 42	≥ 58				OP8	3109	
"	≤ 27	≥ 25				OP8	3107	(21)
"	≤ 13	≥ 13	≥ 74			OP8	3109	
1,1-DI-(tert-BUTYLPEROXY) CYCLOHEXANE + tert-BUTYL PEROXY-2-ETHYLHEXANOATE	≤ 43 + ≤ 16	≥ 41				OP7	3105	
DI-n-BUTYL PEROXYDICARBONATE	> 27 – 52		≥ 48				3115	prohibited
"	≤ 27		≥ 73				3117	prohibited
"	≤ 42 as a stable dispersion in water (frozen)						3118	prohibited

Organic peroxide	Concentration (%)	Diluent type A (%)	Diluent type B (%) <sup>1</sup>	Inert solid (%)	Water	Packing method	Number (generic entry)	Subsidiary risks and remarks
DI-sec-BUTYL PEROXYDICARBONATE	> 52 – 100						3113	prohibited
"	≤ 52		≥ 48				3115	prohibited
DI-(2-tert-BUTYLPEROXYISOPROPYL) BENZENE(S)	> 42 – 100			≤ 57		OP7	3106	
"	≤ 42			≥ 58			exempt	(29)
DI-(tert-BUTYLPEROXY) PHTHALATE	> 42 – 52	≥ 48				OP7	3105	
"	≤ 52 as a paste					OP7	3106	(20)
"	≤ 42	≥ 58				OP8	3107	
2,2-DI-(tert-BUTYLPEROXY) PROPANE	≤ 52	≥ 48				OP7	3105	
"	≤ 42	≥ 13		≥ 45		OP7	3106	
1,1-DI-(tert-BUTYLPEROXY)-3,3,5-TRIMETHYLCYCLOHEXANE	> 90 – 100					OP5	3101	(3)
"	≤ 90		≥ 10			OP5	3103	(30)
"	> 57 – 90	≥ 10				OP5	3103	
"	≤ 77		≥ 23			OP5	3103	
"	≤ 57			≥ 43		OP8	3110	
"	≤ 57	≥ 43				OP8	3107	
"	≤ 32	≥ 26	≥ 42			OP8	3107	
DICETYL PEROXYDICARBONATE	≤ 100						3116	prohibited
"	≤ 42 as a stable dispersion in water						3119	prohibited
DI-4-CHLOROBENZOYL PEROXIDE	≤ 77				≥ 23	OP5	3102	(3)

Organic peroxide	Concentration (%)	Diluent type A (%)	Diluent type B (%) <sup>1</sup>	Inert solid (%)	Water	Packing method	Number (generic entry)	Subsidiary risks and remarks
"	≤ 52 as a paste					OP7	3106	(20)
"	≤ 32			≥ 68			exempt	(29)
DICUMYL PEROXIDE	> 52 – 100					OP8	3110	(12)
"	≤ 52			≥ 48			exempt	(29)
DICYCLOHEXYL PEROXYDICARBONATE	> 91 – 100						3112	prohibited
"	≤ 91				≥ 9		3114	prohibited
"	≤ 42 as a stable dispersion in water						3119	prohibited
DIDECANOYL PEROXIDE	≤ 100						3114	prohibited
2,2-DI-(4,4-DI (tert-BUTYLPEROXY) CYCLOHEXYL) PROPANE	≤ 42			≥ 58		OP7	3106	
"	≤ 22		≥ 78			OP8	3107	
DI-2,4-DICHLOROBENZOYL PEROXIDE	≤ 77				≥ 23	OP5	3102	(3)
"	≤ 52 as a paste						3118	prohibited
"	≤ 52 as a paste with silicon oil					OP7	3106	
DI-(2-ETHOXYETHYL) PEROXYDICARBONATE	≤ 52		≥ 48				3115	prohibited
DI-(2-ETHYLHEXYL) PEROXYDICARBONATE	> 77 – 100						3113	prohibited
"	≤ 77		≥ 23				3115	prohibited
"	≤ 62 as a stable dispersion in water						3119	prohibited

Organic peroxide	Concentration (%)	Diluent type A (%)	Diluent type B (%) <sup>1</sup>	Inert solid (%)	Water	Packing method	Number (generic entry)	Subsidiary risks and remarks
	≤ 52 as a stable dispersion in water (frozen)						3120	prohibited
2,2-DIHYDROPEROXYPROPANE	≤ 27			≥ 73		OP5	3102	(3)
DI-(1-HYDROXYCYCLOHEXYL) PEROXIDE	≤ 100					OP7	3106	
DIISOBUTYRYL PEROXIDE	> 32 – 52		≥ 48				3111	prohibited
"	≤ 32		≥ 68				3115	prohibited
DI-ISOPROPYLBENZENE DIHYDROPEROXIDE	≤ 82	≥ 5			≥ 5	OP7	3106	(24)
DIISOPROPYL PEROXYDICARBONATE	> 52 – 100						3112	prohibited
"	≤ 52		≥ 48				3115	prohibited
"	≤ 28	≥ 72					3115	prohibited
DILAULOYL PEROXIDE	≤ 100					OP7	3106	
"	≤ 42 as a stable dispersion in water					OP8	3109	
DI-(3-METHOXYBUTYL) PEROXYDICARBONATE	≤ 52		≥ 48				3115	prohibited
DI-(2-METHYLBENZOYL) PEROXIDE	≤ 87				≥ 13		3112	prohibited
DI-(4-METHYLBENZOYL) PEROXIDE	≤ 52 as a paste with silicon oil					OP7	3106	
DI-(3-METHYLBENZOYL) PEROXIDE + BENZOYL (3-METHYLBENZOYL) PEROXIDE + DIBENZOYL PEROXIDE	≤ 20 + ≤ 18 + ≤ 4		≥ 58				3115	prohibited
2,5-DIMETHYL-2,5-DI-(BENZOYLPEROXY) HEXANE	> 82 – 100					OP5	3102	(3)
"	≤ 82			≥ 18		OP7	3106	

Organic peroxide	Concentration (%)	Diluent type A (%)	Diluent type B (%) <sup>1</sup>	Inert solid (%)	Water	Packing method	Number (generic entry)	Subsidiary risks and remarks
"	≤ 82				≥ 18	OP5	3104	
2,5-DIMETHYL-2,5-DI-(tert-BUTYLPEROXY) HEXANE	> 52 – 100					OP7	3105	
"	≤ 77			≥ 23		OP8	3108	
"	≤ 52	≥ 48				OP8	3109	
"	≤ 47 as a paste					OP8	3108	
2,5-DIMETHYL-2,5-DI-(tert-BUTYLPEROXY) HEXYNE-3	> 86 – 100					OP5	3101	(3)
"	>52 – 86	≥ 14				OP5	3103	(26)
	≤ 52			≥ 48		OP7	3106	
2,5-DIMETHYL-2,5-DI-(2-ETHYLHEXANOYLPEROXY) HEXANE	≤ 100						3113	prohibited
2,5-DIMETHYL-2,5-DIHYDROPEROXYHEXANE	≤ 82				≥ 18	OP6	3104	
2,5-DIMETHYL-2,5-DI-(3,5,5-TRIMETHYLHEXANOYLPEROXY) HEXANE	≤ 77	≥ 23				OP7	3105	
1,1-DIMETHYL-3-HYDROXYBUTYLPEROXYNEOHEPTANOATE	≤ 52	≥ 48					3117	prohibited
DIMYRISTYL PEROXYDICARBONATE	≤ 100						3116	prohibited
"	≤ 42 as a stable dispersion in water						3119	prohibited
DI-(2-NEODECANOYLPEROXYISOPROPYL) BENZENE	≤ 52	≥ 48					3115	prohibited
DI-n-NONANOYL PEROXIDE	≤ 100						3116	prohibited
DI-n-OCTANOYL PEROXIDE	≤ 100						3114	prohibited

Organic peroxide	Concentration (%)	Diluent type A (%)	Diluent type B (%) <sup>1</sup>	Inert solid (%)	Water	Packing method	Number (generic entry)	Subsidiary risks and remarks
DI-(2-PHENOXYETHYL) PEROXYDICARBONATE	> 85 – 100					OP5	3102	(3)
"	≤ 85				≥ 15	OP7	3106	
DIPROPIONYL PEROXIDE	≤ 27		≥ 73				3117	prohibited
DI-n-PROPYL PEROXYDICARBONATE	≤ 100						3113	prohibited
"	≤ 77		≥ 23				3113	prohibited
DISUCCINIC ACID PEROXIDE	> 72 – 100					OP4	3102	(3) (17)
"	≤ 72				≥ 28		3116	prohibited
DI-(3,5,5-TRIMETHYLHEXANOYL) PEROXIDE	> 38 – 82	≥ 18					3115	prohibited
"	≤ 52 as a stable dispersion in water						3119	prohibited
"	≤ 38	≥ 62					3119	prohibited
ETHYL 3,3-DI-(tert-AMYLPEROXY) BUTYRATE	≤ 67	≥ 33				OP7	3105	
ETHYL 3,3-DI-(tert-BUTYLPEROXY) BUTYRATE	> 77 – 100					OP5	3103	
"	≤ 77	≥ 23				OP7	3105	
"	≤ 52			≥ 48		OP7	3106	
1-(2-ETHYLHEXANOYL-PEROXY)-1,3-DIMETHYLBUTYL PEROXYPIVALATE	≤ 52	≥ 45	≥ 10				3115	prohibited
tert-HEXYL PEROXYNEODECANOATE	≤ 71	≥ 29					3115	prohibited
tert-HEXYL PEROXYPIVALATE	≤ 72		≥ 28				3115	prohibited
3-HYDROXY-1,1-DIMETHYLBUTYL PEROXYNEODECANOATE	≤ 77	≥ 23					3115	prohibited
"	≤ 52 as a stable dispersion in water						3119	prohibited

Organic peroxide	Concentration (%)	Diluent type A (%)	Diluent type B (%) <sup>1</sup>	Inert solid (%)	Water	Packing method	Number (generic entry)	Subsidiary risks and remarks
"	≤ 52	≥ 48					3117	prohibited
ISOPROPYL sec-BUTYL PEROXYDICARBONATE + DI-sec-BUTYL PEROXYDICARBONATE + DI-ISOPROPYL PEROXYDICARBONATE	≤ 32 + ≤ 15 – 18 + ≤ 12 – 15	≥ 38					3115	prohibited
"	≤ 52 + ≤ 28 + ≤ 22						3111	prohibited
ISOPROPYLCUMYL HYDROPEROXIDE	≤ 72	≥ 28				OP8	3109	(13)
p-MENTHYL HYDROPEROXIDE	> 72 – 100					OP7	3105	(13)
"	≤ 72	≥ 28				OP8	3109	(27)
METHYLCYCLOHEXANONE PEROXIDE(S)	≤ 67		≥ 33				3115	prohibited
METHYL ETHYL KETONE PEROXIDE(S)	see remark (8)	≥ 48				OP5	3101	(3) (8) (13)
"	see remark (9)	≥ 55				OP7	3105	(9)
"	see remark (10)	≥ 60				OP8	3107	(10)
METHYL ISOBUTYL KETONE PEROXIDE(S)	≤ 62	≥ 19				OP7	3105	(22)
METHYL ISOPROPYL KETONE PEROXIDE(S)	see remark (31)	≥ 70				OP8	3109	(31)
ORGANIC PEROXIDE, LIQUID, SAMPLE						OP2	3103	(11)
ORGANIC PEROXIDE, LIQUID, SAMPLE, TEMPERATURE CONTROLLED							3113	prohibited
ORGANIC PEROXIDE, SOLID, SAMPLE						OP2	3104	(11)
ORGANIC PEROXIDE, SOLID, SAMPLE, TEMPERATURE CONTROLLED							3114	prohibited
3,3,5,7,7-PENTAMETHYL-1,2,4-TRIOXEPANE	≤ 100					OP8	3107	



Organic peroxide	Concentration (%)	Diluent type A (%)	Diluent type B (%) <sup>1</sup>	Inert solid (%)	Water	Packing method	Number (generic entry)	Subsidiary risks and remarks
PEROXYACETIC ACID, TYPE D, stabilized	≤ 43					OP7	3105	(13) (14) (19)
PEROXYACETIC ACID, TYPE E, stabilized	≤ 43					OP8	3107	(13) (15) (19)
PEROXYACETIC ACID, TYPE F, stabilized	≤ 43					OP8	3109	(13) (16) (19)
PEROXYLAURIC ACID	≤ 100						3118	prohibited
PINANYL HYDROPEROXIDE	> 56 – 100					OP7	3105	(13)
"	≤ 56	≥ 44				OP8	3109	
POLYETHER POLY-tert-BUTYLPEROXYCARBONATE	≤ 52		≥ 48			OP8	3107	
1,1,3,3-TETRAMETHYLBUTYL HYDROPEROXIDE	≤ 100					OP7	3105	
1,1,3,3-TETRAMETHYLBUTYL PEROXY-2 ETHYLHEXANOATE	≤ 100						3115	prohibited
1,1,3,3- TETRAMETHYLBUTYL PEROXYNEODECANOATE	≤ 72		≥ 28				3115	prohibited
"	≤ 52 as a stable dispersion in water						3119	prohibited
1,1,3,3-TETRAMETHYL-BUTYL PEROXYPIVALATE	≤ 77	≥ 23					3115	prohibited
3,6,9-TRIETHYL-3,6,9-TRIMETHYL-1,4,7 TRIPEROXONANE	≤ 42	≥ 58				OP7	3105	(28)

**Remarks** (refer to the last column of the Table in 2.2.52.4):

- (1) Diluent type B may always be replaced by diluent type A. The boiling point of diluent type B shall be at least 60 °C higher than the SADT of the organic peroxide.
- (2) Available oxygen  $\leq 4.7\%$ .
- (3) "EXPLOSIVE" subsidiary risk label required (Model No.1, see 5.2.2.2.2).
- (4) Diluent may be replaced by di-tert-butyl peroxide.
- (5) Available oxygen  $\leq 9\%$ .
- (6) (Reserved)
- (7) (Reserved)
- (8) Available oxygen  $> 10\%$  and  $\leq 10.7\%$ , with or without water.
- (9) Available oxygen  $\leq 10\%$ , with or without water.
- (10) Available oxygen  $\leq 8.2\%$ , with or without water.
- (11) See 2.2.52.1.9.
- (12) Up to 2 000 kg per receptacle assigned to ORGANIC PEROXIDE TYPE F on the basis of large scale trials.
- (13) "CORROSIVE" subsidiary risk label required (Model No.8, see 5.2.2.2.2).
- (14) Peroxyacetic acid formulations which fulfil the criteria of the Manual of Tests and Criteria, paragraph 20.4.3 (d).
- (15) Peroxyacetic acid formulations which fulfil the criteria of the Manual of Tests and Criteria, paragraph 20.4.3 (e).
- (16) Peroxyacetic acid formulations which fulfil the criteria of the Manual of Tests and Criteria, paragraph 20.4.3 (f).
- (17) Addition of water to this organic peroxide will decrease its thermal stability.
- (18) No "CORROSIVE" subsidiary risk label (Model No.8, see 5.2.2.2.2) required for concentrations below 80%.
- (19) Mixtures with hydrogen peroxide, water and acid(s).
- (20) With diluent type A, with or without water.
- (21) With  $\geq 25\%$  diluent type A by mass, and in addition ethylbenzene.
- (22) With  $\geq 19\%$  diluent type A by mass, and in addition methyl isobutyl ketone.
- (23) With  $< 6\%$  di-tert-butyl peroxide.
- (24) With  $\leq 8\%$  1-isopropylhydroperoxy-4-isopropylhydroxybenzene.
- (25) Diluent type B with boiling point  $> 110\text{ }^{\circ}\text{C}$ .
- (26) With  $< 0.5\%$  hydroperoxides content.
- (27) For concentrations more than 56%, "CORROSIVE" subsidiary risk label required (Model No.8, see 5.2.2.2.2).
- (28) Available active oxygen  $\leq 7.6\%$  in diluent Type A having a 95% boil-off point in the range of  $200\text{ }^{\circ}\text{C}$  –  $260\text{ }^{\circ}\text{C}$ .
- (29) Not subject to the requirements of RID for Class 5.2.
- (30) Diluent type B with boiling point  $> 130\text{ }^{\circ}\text{C}$ .
- (31) Active oxygen  $\leq 6.7\%$ .

**2.2.61 Class 6.1: Toxic substances****2.2.61.1 Criteria**

**2.2.61.1.1** The heading of Class 6.1 covers substances of which it is known by experience or regarding which it is presumed from experiments on animals that in relatively small quantities they are able by a single action or by action of short duration to cause damage to human health, or death, by inhalation, by cutaneous absorption or by ingestion.

**2.2.61.1.2** Substances of Class 6.1 are subdivided as follows:

- T Toxic substances without subsidiary risk:
  - T1 Organic, liquid;
  - T2 Organic, solid;
  - T3 Organometallic substances;
  - T4 Inorganic, liquid;
  - T5 Inorganic, solid;
  - T6 Liquid, used as pesticides;
  - T7 Solid, used as pesticides;
  - T8 Samples;
  - T9 Other toxic substances;
- TF Toxic substances, flammable:
  - TF1 Liquid;
  - TF2 Liquid, used as pesticides;
  - TF3 Solid;
- TS Toxic substances, self-heating, solid;
- TW Toxic substances, which, in contact with water, emit flammable gases:
  - TW1 Liquid;
  - TW2 Solid;
- TO Toxic substances, oxidizing:
  - TO1 Liquid;
  - TO2 Solid;
- TC Toxic substances, corrosive:
  - TC1 Organic, liquid;
  - TC2 Organic, solid;
  - TC3 Inorganic, liquid;
  - TC4 Inorganic, solid;
- TFC Toxic substances, flammable, corrosive.

*Definitions*

**2.2.61.1.3** For the purposes of RID:

*LD<sub>50</sub> (median lethal dose) for acute oral toxicity* is the statistically derived single dose of a substance that can be expected to cause death within 14 days in 50 per cent of young adult albino rats when administered by the oral route. The LD<sub>50</sub> value is expressed in terms of mass of test substance per mass of test animal (mg/kg);

*LD<sub>50</sub> for acute dermal toxicity* is that dose of the substance which, administered by continuous contact for 24 hours with the bare skin of albino rabbits, is most likely to cause death within 14 days in one half of the animals tested. The number of animals tested shall be sufficient to give a statistically significant result and be in conformity with good pharmacological practice. The result is expressed in milligrams per kg body mass;

*LC<sub>50</sub> for acute toxicity on inhalation* is that concentration of vapour, mist or dust which, administered by continuous inhalation to both male and female young adult albino rats for one hour, is most likely to cause death within 14 days in one half of the animals tested. A solid substance shall be tested if at least 10% (by mass) of its total mass is likely to be dust in a respirable range, e.g. the aerodynamic diameter of that particle-fraction is 10 µm or less. A liquid substance shall be tested if a mist is likely to be generated in a leakage of the transport containment. Both for solid and liquid substances more than 90% (by mass) of a specimen prepared for inhalation toxicity shall be in the respirable range as defined above. The result is expressed in milligrams per litre of air for dusts and mists or in millilitres per cubic metre of air (parts per million) for vapours.

*Classification and assignment of packing groups*

**2.2.61.1.4** Substances of Class 6.1 shall be classified in three packing groups according to the degree of danger they present for carriage, as follows:

- Packing group I: highly toxic substances  
 Packing group II: toxic substances  
 Packing group III: slightly toxic substances.

**2.2.61.1.5** Substances, mixtures, solutions and articles classified in Class 6.1 are listed in Table A of Chapter 3.2. The assignment of substances, mixtures and solutions not mentioned by name in Table A of Chapter 3.2 to the relevant entry of 2.2.61.3 and to the relevant packing group in accordance with the provisions of Chapter 2.1, shall be made according to the following criteria in 2.2.61.1.6 to 2.2.61.1.11.

**2.2.61.1.6** To assess the degree of toxicity, account shall be taken of human experience of instances of accidental poisoning, as well as special properties possessed by any individual substances: liquid state, high volatility, any special likelihood of cutaneous absorption, and special biological effects.

**2.2.61.1.7** In the absence of observations on humans, the degree of toxicity shall be assessed using the available data from animal experiments in accordance with the table below:

	Packing group	Oral toxicity LD <sub>50</sub> (mg/kg)	Dermal toxicity LD <sub>50</sub> (mg/kg)	Inhalation toxicity by dusts and mists LC <sub>50</sub> (mg/l)
Highly toxic	I	≤ 5	≤ 50	≤ 0.2
Toxic	II	> 5 and ≤ 50	> 50 and ≤ 200	> 0.2 and ≤ 2
Slightly toxic	III <sup>(a)</sup>	> 50 and ≤ 300	> 200 and ≤ 1 000	> 2 and ≤ 4

<sup>(a)</sup> Tear gas substances shall be included in packing group II even if data concerning their toxicity correspond to packing group III criteria.

**2.2.61.1.7.1** Where a substance exhibits different degrees of toxicity for two or more kinds of exposure, it shall be classified under the highest such degree of toxicity.

**2.2.61.1.7.2** Substances meeting the criteria of Class 8 and with an inhalation toxicity of dusts and mists (LC<sub>50</sub>) leading to packing group I shall only be accepted for an allocation to Class 6.1 if the toxicity through oral ingestion or dermal contact is at least in the range of packing groups I or II. Otherwise an assignment to Class 8 shall be made if appropriate (see 2.2.8.1.5).

**2.2.61.1.7.3** The criteria for inhalation toxicity of dusts and mists are based on LC<sub>50</sub> data relating to 1-hour exposure, and where such information is available it shall be used. However, where only LC<sub>50</sub> data relating to 4-hour exposure are available, such figures can be multiplied by four and the product substituted in the above criteria, i.e. LC<sub>50</sub> value multiplied by four (4 hour) is considered the equivalent of LC<sub>50</sub> (1 hour).

*Inhalation toxicity of vapours*

**2.2.61.1.8** Liquids giving off toxic vapours shall be classified into the following groups where "V" is the saturated vapour concentration (in ml/m<sup>3</sup> of air) (volatility) at 20 °C and standard atmospheric pressure:

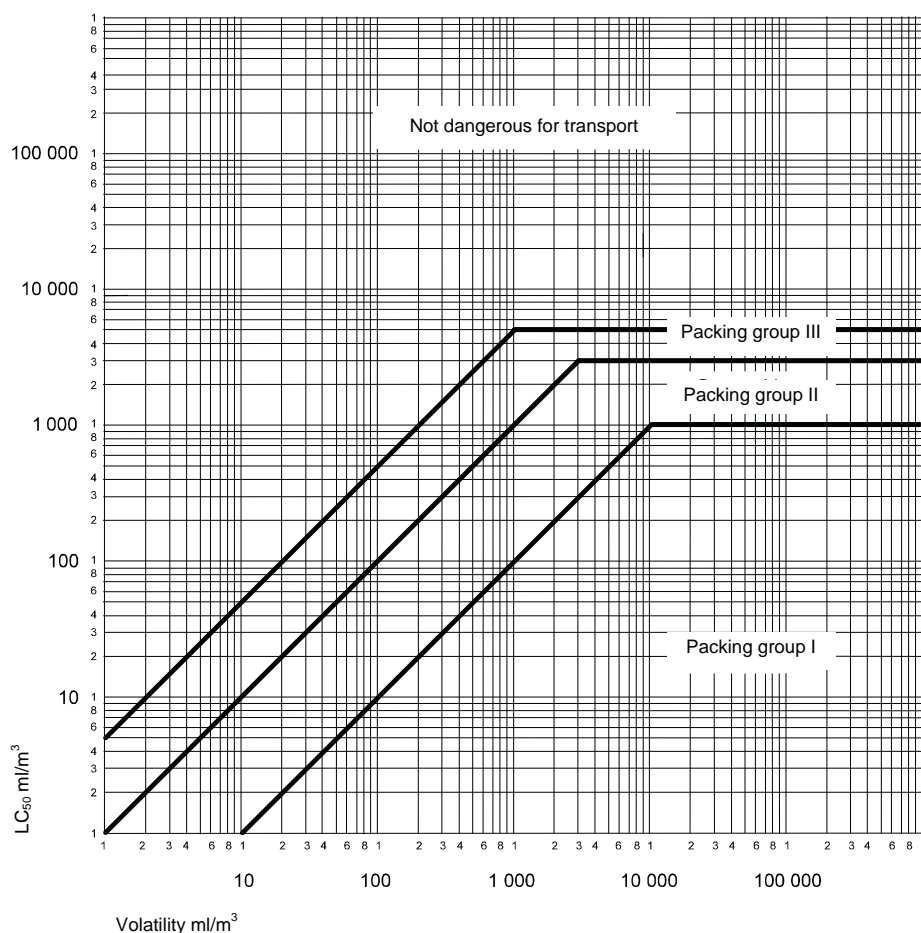
	Packing group	
Highly toxic	I	Where $V \geq 10 \text{ LC}_{50}$ and $\text{LC}_{50} \leq 1\,000 \text{ ml/m}^3$
Toxic	II	Where $V \geq \text{LC}_{50}$ and $\text{LC}_{50} \leq 3\,000 \text{ ml/m}^3$ and the criteria for packing group I are not met
Slightly toxic	III <sup>(a)</sup>	Where $V \geq 1/5 \text{ LC}_{50}$ and $\text{LC}_{50} \leq 5\,000 \text{ ml/m}^3$ and the criteria for packing groups I and II are not met

<sup>(a)</sup> Tear gas substances shall be included in packing group II even if data concerning their toxicity correspond to packing group III criteria.

These criteria for inhalation toxicity of vapours are based on LC<sub>50</sub> data relating to 1-hour exposure, and where such information is available, it shall be used.

However, where only  $LC_{50}$  data relating to 4-hour exposure to the vapours are available, such figures can be multiplied by two and the product substituted in the above criteria, i.e.  $LC_{50}$  (4 hour)  $\times$  2 is considered the equivalent of  $LC_{50}$  (1 hour).

**Group borderlines inhalation toxicity of vapours**



In this figure, the criteria are expressed in graphical form, as an aid to easy classification. However, due to approximations inherent in the use of graphs, substances falling on or near group borderlines shall be checked using numerical criteria.

#### *Mixtures of liquids*

**2.2.61.1.9** Mixtures of liquids which are toxic on inhalation shall be assigned to packing groups according to the following criteria:

**2.2.61.1.9.1** If  $LC_{50}$  is known for each of the toxic substances constituting the mixture, the packing group may be determined as follows:

(a) Calculation of the  $LC_{50}$  of the mixture:

$$LC_{50} (\text{mixture}) = \frac{1}{\sum_{i=1}^n \frac{f_i}{LC_{50i}}}$$

where

$f_i$  = molar fraction of constituent  $i$  of the mixture;

$LC_{50i}$  = average lethal concentration of constituent  $i$  in  $ml/m^3$ .

- (b) Calculation of volatility of each mixture constituent:

$$V_i = P_i \times \frac{10^6}{101.3} \text{ (ml/m}^3\text{)}$$

where

$P_i$  = partial pressure of constituent  $i$  in kPa at 20 °C and at standard atmospheric pressure.

- (c) Calculation of the ratio of volatility to  $LC_{50}$ :

$$R = \sum_{i=1}^n \frac{V_i}{LC_{50i}}$$

- (d) The values calculated for  $LC_{50}$  (mixture) and  $R$  are then used to determine the packing group of the mixture:

Packing group I:  $R \geq 10$  and  $LC_{50}$  (mixture)  $\leq 1\,000$  ml/m<sup>3</sup>;

Packing group II:  $R \geq 1$  and  $LC_{50}$  (mixture)  $\leq 3\,000$  ml/m<sup>3</sup>, if the mixture does not meet the criteria for packing group I;

Packing group III:  $R \geq 1/5$  and  $LC_{50}$  (mixture)  $\leq 5\,000$  ml/m<sup>3</sup>, if the mixture does not meet the criteria of packing groups I or II.

**2.2.61.1.9.2** In the absence of  $LC_{50}$  data on the toxic constituent substances, the mixture may be assigned to a group based on the following simplified threshold toxicity tests. When these threshold tests are used, the most restrictive group shall be determined and used for carrying the mixture.

**2.2.61.1.9.3** A mixture is assigned to packing group I only if it meets both of the following criteria:

- A sample of the liquid mixture is vaporized and diluted with air to create a test atmosphere of 1 000 ml/m<sup>3</sup> vaporized mixture in air. Ten albino rats (5 male and 5 female) are exposed to the test atmosphere for 1 hour and observed for 14 days. If five or more of the animals die within the 14-day observation period, the mixture is presumed to have an  $LC_{50}$  equal to or less than 1 000 ml/m<sup>3</sup>;
- A sample of vapour in equilibrium with the liquid mixture is diluted with 9 equal volumes of air to form a test atmosphere. Ten albino rats (5 male and 5 female) are exposed to the test atmosphere for 1 hour and observed for 14 days. If five or more of the animals die within the 14-day observation period, the mixture is presumed to have a volatility equal to or greater than 10 times the mixture  $LC_{50}$ .

**2.2.61.1.9.4** A mixture is assigned to packing group II only if it meets both of the following criteria, and does not meet the criteria for packing group I:

- A sample of the liquid mixture is vaporized and diluted with air to create a test atmosphere of 3 000 ml/m<sup>3</sup> vaporized mixture in air. Ten albino rats (5 male and 5 female) are exposed to the test atmosphere for 1 hour and observed for 14 days. If five or more of the animals die within the 14-day observation period, the mixture is presumed to have an  $LC_{50}$  equal to or less than 3 000 ml/m<sup>3</sup>;
- A sample of the vapour in equilibrium with the liquid mixture is used to form a test atmosphere. Ten albino rats (5 male and 5 female) are exposed to the test atmosphere for 1 hour and observed for 14 days. If five or more of the animals die within the 14-day observation period, the mixture is presumed to have a volatility equal to or greater than the mixture  $LC_{50}$ .

**2.2.61.1.9.5** A mixture is assigned to packing group III only if it meets both of the following criteria, and does not meet the criteria for packing groups I or II:

- A sample of the liquid mixture is vaporized and diluted with air to create a test atmosphere of 5 000 ml/m<sup>3</sup> vaporized mixture in air. Ten albino rats (5 male and 5 female) are exposed to the test atmosphere for 1 hour and observed for 14 days. If five or more of the animals die within the 14-day observation period, the mixture is presumed to have an  $LC_{50}$  equal to or less than 5 000 ml/m<sup>3</sup>;
- The vapour concentration (volatility) of the liquid mixture is measured and if the vapour concentration is equal to or greater than 1 000 ml/m<sup>3</sup>, the mixture is presumed to have a volatility equal to or greater than 1/5 the mixture  $LC_{50}$ .

*Methods for determining oral and dermal toxicity of mixtures*

**2.2.61.1.10** When classifying and assigning the appropriate packing group to mixtures in Class 6.1 in accordance with the oral and dermal toxicity criteria (see 2.2.61.1.3), it is necessary to determine the acute  $LD_{50}$  of the mixture.

**2.2.61.1.10.1** If a mixture contains only one active substance, and the  $LD_{50}$  of that constituent is known, in the absence of reliable acute oral and dermal toxicity data on the actual mixture to be carried, the oral or dermal  $LD_{50}$  may be obtained by the following method:

$$LD_{50} \text{ value of preparation} = \frac{LD_{50} \text{ value of active substance} \times 100}{\text{percentage of active substance by mass}}$$

**2.2.61.1.10.2** If a mixture contains more than one active constituent, there are three possible approaches that may be used to determine the oral or dermal LD<sub>50</sub> of the mixture. The preferred method is to obtain reliable acute oral and dermal toxicity data on the actual mixture to be carried. If reliable, accurate data are not available, then either of the following methods may be performed:

(a) Classify the formulation according to the most hazardous constituent of the mixture as if that constituent were present in the same concentration as the total concentration of all active constituents; or

(b) Apply the formula:

$$\frac{C_A}{T_A} + \frac{C_B}{T_B} + \dots + \frac{C_Z}{T_Z} = \frac{100}{T_M}$$

where:

C = the percentage concentration of constituent A, B, ..., Z in the mixture;

T = the oral LD<sub>50</sub> values of constituent A, B, ... Z;

T<sub>M</sub> = the oral LD<sub>50</sub> value of the mixture.

**NOTE:** This formula can also be used for dermal toxicities, provided that this information is available on the same species for all constituents. The use of this formula does not take into account any potentiation or protective phenomena.

#### *Classification of pesticides*

**2.2.61.1.11** All active pesticide substances and their preparations for which the LC<sub>50</sub> and/or LD<sub>50</sub> values are known and which are classified in Class 6.1 shall be classified under appropriate packing groups in accordance with the criteria given in 2.2.61.1.6 to 2.2.61.1.9. Substances and preparations which are characterized by subsidiary risks shall be classified according to the precedence of hazard Table in 2.1.3.10 with the assignment of appropriate packing groups.

**2.2.61.1.11.1** If the oral or dermal LD<sub>50</sub> value for a pesticide preparation is not known, but the LD<sub>50</sub> value of its active substance(s) is known, the LD<sub>50</sub> value for the preparation may be obtained by applying the procedures in 2.2.61.1.10.

**NOTE:** LD<sub>50</sub> toxicity data for a number of common pesticides may be obtained from the most current edition of the document "The WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification" available from the International Programme on Chemical Safety, World Health Organisation (WHO), 1211 Geneva 27, Switzerland. While that document may be used as a source of LD<sub>50</sub> data for pesticides, its classification system shall not be used for purposes of transport classification of, or assignment of packing groups to, pesticides, which shall be in accordance with the requirements of RID.

**2.2.61.1.11.2** The proper shipping name used in the carriage of the pesticide shall be selected on the basis of the active ingredient, of the physical state of the pesticide and any subsidiary risks it may exhibit (see 3.1.2).

**2.2.61.1.12** If substances of Class 6.1, as a result of admixtures, come into categories of risk different from those to which the substances mentioned by name in Table A of Chapter 3.2 belong, these mixtures or solutions shall be assigned to the entries to which they belong on the basis of their actual degree of danger.

**NOTE:** For the classification of solutions and mixtures (such as preparations and wastes), see also 2.1.3.

**2.2.61.1.13** On the basis of the criteria of 2.2.61.1.6 to 2.2.61.1.11, it may also be determined whether the nature of a solution or mixture mentioned by name or containing a substance mentioned by name is such that the solution or mixture is not subject to the requirements for this Class.

**2.2.61.1.14** Substances, solutions and mixtures, with the exception of substances and preparations used as pesticides, which do not meet the criteria of Directives 67/548/EEC<sup>3</sup> or 1999/45/EC<sup>4</sup> as amended and which are not therefore classified as highly toxic, toxic or harmful according to these directives, as amended, may be considered as substances not belonging to Class 6.1.

#### **2.2.61.2 Substances not accepted for carriage**

**2.2.61.2.1** Chemically unstable substances of Class 6.1 shall not be accepted for carriage unless the necessary steps have been taken to prevent their dangerous decomposition or polymerization during carriage. To this end, it

<sup>3</sup> Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances (Official Journal of the European Communities No. L 196 of 16 August 1967, page 1).

<sup>4</sup> Directive 1999/45/EC of the European Parliament and of the Council of 31 May 1999 on the approximation of laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations (Official Journal of the European Communities No. L 200 of 30 July 1999, pages 1 to 68).

shall in particular be ensured that receptacles and tanks do not contain any substance(s) likely to cause such a reaction.

**2.2.61.2.2** The following substances and mixtures shall not be accepted for carriage:

- Hydrogen cyanide, anhydrous or in solution, which do not meet the descriptions of UN Nos. 1051, 1613, 1614 and 3294;
- Metal carbonyls, having a flash-point below 23 °C, other than UN Nos. 1259 NICKEL CARBONYL and 1994 IRON PENTACARBONYL;
- 2,3,7,8-TETRACHLORODIBENZO-P-DIOXINE (TCDD) in concentrations considered highly toxic in accordance with the criteria in 2.2.61.1.7;
- UN No. 2249 DICHLORODIMETHYL ETHER, SYMMETRICAL;
- Preparations of phosphides without additives inhibiting the emission of toxic flammable gases.

The following substances shall not be accepted for carriage by rail:

- Barium azide, dry or with less than 50% water or alcohols;
- UN 0135 MERCURY FULMINATE.

**2.2.61.3** List of collective entries

Subsidiary risk	Classification code	UN No.	Name of the substance or article
<b>Toxic substances</b>			
	<b>liquid<sup>(a)</sup></b>	<b>T1</b>	1583 CHLOROPICRIN MIXTURE, N.O.S. 1602 DYE, LIQUID, TOXIC, N.O.S., or 1602 DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S. 1693 TEAR GAS SUBSTANCE, LIQUID, N.O.S. 1851 MEDICINE, LIQUID, TOXIC, N.O.S. 2206 ISOCYANATES, TOXIC, N.O.S. or 2206 ISOCYANATE SOLUTION, TOXIC, N.O.S. 3140 ALKALOIDS, LIQUID, N.O.S. or 3140 ALKALOID SALTS, LIQUID, N.O.S. 3142 DISINFECTANT, LIQUID, TOXIC, N.O.S. 3144 NICOTINE COMPOUND, LIQUID, N.O.S. or 3144 NICOTINE PREPARATION, LIQUID, N.O.S. 3172 TOXINS, EXTRACTED FROM LIVING SOURCES, LIQUID, N.O.S. 3276 NITRILES, TOXIC, LIQUID, N.O.S. 3278 ORGANOPHOSPHORUS COMPOUND, TOXIC, LIQUID, N.O.S. 3381 TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub> 3382 TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 1 000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub> 2810 TOXIC LIQUID, ORGANIC, N.O.S.
			1544 ALKALOIDS, SOLID, N.O.S. or 1544 ALKALOID SALTS, SOLID, N.O.S. 1601 DISINFECTANT, SOLID, TOXIC, N.O.S. 1655 NICOTINE COMPOUND, SOLID, N.O.S., or 1655 NICOTINE PREPARATION, SOLID, N.O.S. 3143 DYE, SOLID, TOXIC, N.O.S. or 3143 DYE INTERMEDIATE, SOLID, TOXIC, N.O.S. 3249 MEDICINE, SOLID, TOXIC, N.O.S. 3439 NITRILES, TOXIC, SOLID, N.O.S. 3448 TEAR GAS SUBSTANCE, SOLID, N.O.S. 3462 TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S. 3464 ORGANOPHOSPHORUS COMPOUND, TOXIC, SOLID, N.O.S. 2811 TOXIC SOLID, ORGANIC, N.O.S.
	<b>organic</b>		
	<b>solid<sup>(a),(b)</sup></b>	<b>T2</b>	
<b>Without subsidiary risk</b>			



Without subsidiary risk (cont'd)			2026 PHENYLMERCURIC COMPOUND, N.O.S. 2788 ORGANOTIN COMPOUND, LIQUID, N.O.S. 3146 ORGANOTIN COMPOUND, SOLID, N.O.S. 3280 ORGANOARSENIC COMPOUND, LIQUID, N.O.S. 3281 METAL CARBONYLS, LIQUID, N.O.S. 3465 ORGANOARSENIC COMPOUND, SOLID, N.O.S. 3466 METAL CARBONYLS, SOLID, N.O.S. 3282 ORGANOMETALLIC COMPOUND, TOXIC, LIQUID, N.O.S. 3467 ORGANOMETALLIC COMPOUND, TOXIC, SOLID, N.O.S.
	<b>organometallic<sup>(c),(d)</sup> T3</b>		
			1556 ARSENIC COMPOUND, LIQUID, N.O.S., inorganic including: Arsenates, n.o.s.; Arsenites, n.o.s.; and Arsenic sulphides, n.o.s. 1935 CYANIDE SOLUTION, N.O.S. 2024 MERCURY COMPOUND, LIQUID, N.O.S. 3141 ANTIMONY COMPOUND, INORGANIC, LIQUID, N.O.S. 3440 SELENIUM COMPOUND, LIQUID, N.O.S. 3381 TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub> 3382 TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 1 000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub> 3287 TOXIC LIQUID, INORGANIC, N.O.S.
	<b>liquid<sup>(e)</sup> T4</b>		
	<b>inorganic</b>		
	<b>solid<sup>(f),(g)</sup> T5</b>		1549 ANTIMONY COMPOUND, INORGANIC, SOLID, N.O.S. 1557 ARSENIC COMPOUND, SOLID, N.O.S., including: Arsenates, n.o.s.; Arsenites, n.o.s.; and Arsenic sulphides, n.o.s. 1564 BARIUM COMPOUND, N.O.S. 1566 BERYLLIUM COMPOUND, N.O.S. 1588 CYANIDES, INORGANIC, SOLID, N.O.S. 1707 THALLIUM COMPOUND, N.O.S. 2025 MERCURY COMPOUND, SOLID, N.O.S. 2291 LEAD COMPOUND, SOLUBLE, N.O.S. 2570 CADMIUM COMPOUND 2630 SELENATES or 2630 SELENITES 2856 FLUOROSILICATES, N.O.S. 3283 SELENIUM COMPOUND, SOLID, N.O.S. 3284 TELLURIUM COMPOUND, N.O.S. 3285 VANADIUM COMPOUND, N.O.S. 3288 TOXIC SOLID, INORGANIC, N.O.S.
			2992 CARBAMATE PESTICIDE, LIQUID, TOXIC 2994 ARSENICAL PESTICIDE, LIQUID, TOXIC 2996 ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC 2998 TRIAZINE PESTICIDE, LIQUID, TOXIC 3006 THIOCARBAMATE PESTICIDE, LIQUID, TOXIC 3010 COPPER BASED PESTICIDE, LIQUID, TOXIC 3012 MERCURY BASED PESTICIDE, LIQUID, TOXIC 3014 SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC 3016 BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC 3018 ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC 3020 ORGANOTIN PESTICIDE, LIQUID, TOXIC 3026 COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC 3348 PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC 3352 PYRETHROID PESTICIDE, LIQUID, TOXIC 2902 PESTICIDE, LIQUID, TOXIC, N.O.S.
	<b>liquid<sup>(h)</sup> T6</b>		
	<b>pesti- cides</b>		

Without subsidiary risk (cont'd)	pesti- cides (cont'd)			2757 CARBAMATE PESTICIDE, SOLID, TOXIC 2759 ARSENICAL PESTICIDE, SOLID, TOXIC 2761 ORGANOCHLORINE PESTICIDE, SOLID, TOXIC 2763 TRIAZINE PESTICIDE, SOLID, TOXIC 2771 THIOCARBAMATE PESTICIDE, SOLID, TOXIC 2775 COPPER BASED PESTICIDE, SOLID, TOXIC 2777 MERCURY BASED PESTICIDE, SOLID, TOXIC 2779 SUBSTITUTED NITROPHENOL PESTICIDE, SOLID, TOXIC
		<b>solid<sup>(h)</sup></b>	<b>T7</b>	2781 BIPYRIDILIUM PESTICIDE, SOLID, TOXIC 2783 ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC 2786 ORGANOTIN PESTICIDE, SOLID, TOXIC 3027 COUMARIN DERIVATIVE PESTICIDE, SOLID, TOXIC 3048 ALUMINIUM PHOSPHIDE PESTICIDE 3345 PHENOXYACETIC ACID DERIVATIVE PESTICIDE, SOLID, TOXIC 3349 PYRETHROID PESTICIDE, SOLID, TOXIC 2588 PESTICIDE, SOLID, TOXIC, N.O.S.
		<b>samples</b>	<b>T8</b>	3315 CHEMICAL SAMPLE, TOXIC
		<b>other toxic sub- stances<sup>(i)</sup></b>	<b>T9</b>	3243 SOLIDS CONTAINING TOXIC LIQUID, N.O.S.
		<b>liquid<sup>(j),(k)</sup></b>	<b>TF1</b>	3071 MERCAPTANS, LIQUID, TOXIC, FLAMMABLE, N.O.S. or 3071 MERCAPTAN MIXTURE, LIQUID, TOXIC, FLAMMA- BLE, N.O.S. 3080 ISOCYANATES, TOXIC, FLAMMABLE, N.O.S. or 3080 ISOCYANATE SOLUTION, TOXIC, FLAMMABLE, N.O.S. 3275 NITRILES, TOXIC, FLAMMABLE, N.O.S. 3279 ORGANOPHOSPHORUS COMPOUND, TOXIC, FLAMMABLE, N.O.S. 3383 TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub> 3384 TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an inhalation toxicity lower than or equal to 1 000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub> 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.
Flamma- ble TF				

Flammable TF (cont'd)			2991	CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE	
			2993	ARSENICAL PESTICIDE, LIQUID, TOXIC, FLAMMABLE	
			2995	ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE	
			2997	TRIAZINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE	
			3005	THIOCARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE	
			3009	COPPER BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE	
			3011	MERCURY BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE	
	pesticides (flash-point not less than 23 °C)	TF2	3013	SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC, FLAMMABLE	
			3015	BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC, FLAMMABLE	
			3017	ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE	
3019			ORGANOTIN PESTICIDE, LIQUID, TOXIC, FLAMMABLE		
3025			COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE		
3347			PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE		
3351			PYRETHROID PESTICIDE, LIQUID, TOXIC, FLAMMABLE		
2903			PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S.		
solid	TF3	1700	TEAR GAS CANDLES		
		2930	TOXIC SOLID, FLAMMABLE, ORGANIC, N.O.S.		
Solid, self-heating <sup>(c)</sup>			TS	3124	TOXIC SOLID, SELF-HEATING, N.O.S.
Water-reactive <sup>(d)</sup> TW	liquid	TW1	3385	TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	
			3386	TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an inhalation toxicity lower than or equal to 1 000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	
			3123	TOXIC LIQUID, WATER-REACTIVE, N.O.S.	
	solid <sup>(l)</sup>	TW2	3125	TOXIC SOLID, WATER-REACTIVE, N.O.S.	
Oxidizing <sup>(m)</sup> TO	liquid	TO1	3387	TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	
			3388	TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an inhalation toxicity lower than or equal to 1 000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	
			3122	TOXIC LIQUID, OXIDIZING, N.O.S.	
	solid	TO2	3086	TOXIC SOLID, OXIDIZING, N.O.S.	

Corrosive <sup>(n)</sup> TC	organic	liq-uid TC1	3277 CHLOROFORMATES, TOXIC, CORROSIVE, N.O.S. 3361 CHLOROSILANES, TOXIC, CORROSIVE, N.O.S. 3389 TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub> 3390 TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 1 000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub> 2927 TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.
		solid TC2	2928 TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.
	inorganic	liq-uid TC3	3389 TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub> 3390 TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 1 000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub> 3289 TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S.
		solid TC4	3290 TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.
Flammable, corrosive			2742 CHLOROFORMATES, TOXIC, CORROSIVE, FLAMMABLE, N.O.S. 3362 CHLOROSILANES, TOXIC, CORROSIVE, FLAMMABLE, N.O.S. (No other collective entry available; if need be, classification under a collective entry with a classification code to be determined according to the table of precedence of hazards in 2.1.3.10)
		TFC	

## Footnotes

- (a) Substances and preparations containing alkaloids or nicotine used as pesticides shall be classified under UN No. 2588 PESTICIDES, SOLID, TOXIC, N.O.S., UN No. 2902 PESTICIDES, LIQUID, TOXIC, N.O.S. or UN No. 2903 PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S.
- (b) Active substances and triturations or mixtures of substances intended for laboratories and experiments and for the manufacture of pharmaceutical products with other substances shall be classified according to their toxicity (see 2.2.61.1.7 to 2.2.61.1.11).
- (c) Self-heating substances, slightly toxic and spontaneously combustible organometallic compounds, are substances of Class 4.2.
- (d) Water-reactive substances, slightly toxic, and water-reactive organometallic compounds, are substances of Class 4.3.
- (e) Mercury fulminate, wetted with not less than 20% water, or mixture of alcohol and water by mass is a substance of Class 1, UN No. 0135 and shall not be accepted for carriage by rail (see 2.2.61.2.2).
- (f) Ferricyanides, ferrocyanides, alkaline thiocyanates and ammonium thiocyanates are not subject to the provisions of RID.
- (g) Lead salts and lead pigments which, when mixed in a ratio of 1:1000 with 0.07M hydrochloric acid and stirred for one hour at a temperature of 23 °C ± 2 °C, exhibit a solubility of 5% or less, are not subject to the provisions of RID.
- (h) Articles impregnated with this pesticide, such as fibreboard plates, paper strips, cotton-wool balls, sheets of plastics material, in hermetically closed wrappings, are not subject to the provisions of RID.
- (i) Mixtures of solids which are not subject to the provisions of RID and of toxic liquids may be carried under UN No. 3243 without first applying the classification criteria of Class 6.1, provided there is no free liquid visible at the time the substance is loaded or at the time the packaging, wagon or container is

closed. Each packaging shall correspond to a design type that has passed a leakproofness test at the packing group II level. This entry shall not be used for solids containing a packing group I liquid.

- (j) Highly toxic or toxic, flammable liquids having a flash-point below 23 °C excluding substances which are highly toxic on inhalation, i.e. UN Nos. 1051, 1092, 1098, 1143, 1163, 1182, 1185, 1238, 1239, 1244, 1251, 1259, 1613, 1614, 1695, 1994, 2334, 2382, 2407, 2438, 2480, 2482, 2484, 2485, 2606, 2929, 3279 and 3294 are substances of Class 3.
- (k) Flammable liquids, slightly toxic, with the exception of substances and preparations used as pesticides, having a flash-point between 23 °C and 60 °C inclusive, are substances of Class 3.
- (l) Metal phosphides assigned to UN Nos. 1360, 1397, 1432, 1714, 2011 and 2013 are substances of Class 4.3.
- (m) Oxidizing substances, slightly toxic, are substances of Class 5.1.
- (n) Substances slightly toxic and slightly corrosive, are substances of Class 8.

**2.2.62 Class 6.2: Infectious substances****2.2.62.1 Criteria**

**2.2.62.1.1** The heading of Class 6.2 covers infectious substances. For the purposes of RID, infectious substances are substances which are known or are reasonably expected to contain pathogens. Pathogens are defined as microorganisms (including bacteria, viruses, rickettsia, parasites, fungi) and other agents such as prions, which can cause disease in humans or animals.

**NOTE** 1: Genetically modified microorganisms and organisms, biological products, diagnostic specimens and infected live animals shall be assigned to this Class if they meet the conditions for this class.

2: Toxins from plant, animal or bacterial sources which do not contain any infectious substances or organisms or which are not contained in them are substances of Class 6.1, UN No. 3172 or 3462.

**2.2.62.1.2** Substances of Class 6.2 are subdivided as follows:

- I1 Infectious substances affecting humans;
- I2 Infectious substances affecting animals only;
- I3 Clinical waste;
- I4 Biological substances.

*Definitions*

**2.2.62.1.3** For the purposes of RID:

*"Biological products"* are those products derived from living organisms which are manufactured and distributed in accordance with the requirements of appropriate national authorities, which may have special licensing requirements, and are used either for prevention, treatment, or diagnosis of disease in humans or animals, or for development, experimental or investigational purposes related thereto. They include, but are not limited to, finished or unfinished products such as vaccines;

*"Cultures"* are the result of a process by which pathogens are intentionally propagated. This definition does not include human or animal patient specimens as defined in this paragraph;

*"Genetically modified microorganisms and organisms"* are microorganisms and organisms in which genetic material has been purposely altered through genetic engineering in a way that does not occur naturally;

*"Medical or clinical wastes"* are wastes derived from the medical treatment of animals or humans or from bio-research;

*"Patient specimens"* are human or animal materials, collected directly from humans or animals, including, but not limited to, excreta, secretions, blood and its components, tissue and tissue fluid swabs, and body parts being carried for purposes such as research, diagnosis, investigational activities, disease treatment and prevention.

*Classification*

**2.2.62.1.4** Infectious substances shall be classified in Class 6.2 and assigned to UN Nos. 2814, 2900, 3291 or 3373, as appropriate.

Infectious substances are divided into the following categories:

**2.2.62.1.4.1** Category A: An infectious substance which is carried in a form that, when exposure to it occurs, is capable of causing permanent disability, life-threatening or fatal disease in otherwise healthy humans or animals. Indicative examples of substances that meet these criteria are given in the table in this paragraph.

**NOTE:** An exposure occurs when an infectious substance is released outside of the protective packaging, resulting in physical contact with humans or animals.

(a) Infectious substances meeting these criteria which cause disease in humans or both in humans and animals shall be assigned to UN No. 2814. Infectious substances which cause disease only in animals shall be assigned to UN No. 2900;

(b) Assignment to UN No. 2814 or UN No. 2900 shall be based on the known medical history and symptoms of the source human or animal, endemic local conditions, or professional judgement concerning individual circumstances of the source human or animal.

**NOTE** 1: The proper shipping name for UN No. 2814 is "INFECTIOUS SUBSTANCE, AFFECTING HUMANS". The proper shipping name for UN No. 2900 is "INFECTIOUS SUBSTANCE, AFFECTING ANIMALS only".

2: The following table is not exhaustive. Infectious substances, including new or emerging pathogens, which do not appear in the table but which meet the same criteria shall be assigned to

Category A. In addition, if there is doubt as to whether or not a substance meets the criteria it shall be included in Category A.

3: In the following table, the microorganisms written in italics are bacteria, mycoplasmas, rickettsia or fungi.

Indicative examples of infectious substances included in Category A in any form unless otherwise indicated (see 2.2.62.1.4.1)	
UN Number and name	Microorganism
UN No. 2814 INFECTIOUS SUB- STANCES AFFECT- ING HUMANS	<i>Bacillus anthracis</i> (cultures only) <i>Brucella abortus</i> (cultures only) <i>Brucella melitensis</i> (cultures only) <i>Brucella suis</i> (cultures only) <i>Burkholderia mallei</i> – <i>Pseudomonas mallei</i> – Glanders (cultures only) <i>Burkholderia pseudomallei</i> – <i>Pseudomonas pseudomallei</i> (cultures only) <i>Chlamydia psittaci</i> – avian strains (cultures only) <i>Clostridium botulinum</i> (cultures only) <i>Coccidioides immitis</i> (cultures only) <i>Coxiella burnetii</i> (cultures only) Crimean-Congo haemorrhagic fever virus Dengue virus (cultures only) Eastern equine encephalitis virus (cultures only) <i>Escherichia coli</i> , verotoxigenic (cultures only) <sup>a</sup> Ebola virus Flexal virus <i>Francisella tularensis</i> (cultures only) Guanarito virus Hantaan virus Hantavirus causing haemorrhagic fever with renal syndrome Hendra virus Hepatitis B virus (cultures only) Herpes B virus (cultures only) Human immunodeficiency virus (cultures only) Highly pathogenic avian influenza virus (cultures only) Japanese Encephalitis virus (cultures only) Junin virus Kysanur Forest disease virus Lassa virus Machupo virus Marburg virus Monkeypox virus <i>Mycobacterium tuberculosis</i> (cultures only) <sup>a</sup> Nipah virus Omsk haemorrhagic fever virus Poliovirus (cultures only) Rabies virus (cultures only) <i>Rickettsia prowazekii</i> (cultures only) <i>Rickettsia rickettsii</i> (cultures only) Rift Valley fever virus (cultures only) Russian spring-summer encephalitis virus (cultures only) Sabia virus <i>Shigella dysenteriae type 1</i> (cultures only) <sup>a</sup> Tick-borne encephalitis virus (cultures only) Variola virus Venezuelan equine encephalitis virus (cultures only) West Nile virus (cultures only) Yellow fever virus (cultures only) <i>Yersinia pestis</i> (cultures only)

UN Number and name	Microorganism
UN No. 2900 INFECTIOUS SUBSTANCES AFFECTING ANIMALS only	African swine fever virus (cultures only) Avian paramyxovirus Type 1 – Velogenic Newcastle disease virus (cultures only) Classical swine fever virus (cultures only) Foot and mouth disease virus (cultures only) Lumpy skin disease virus (cultures only) <i>Mycoplasma mycoides</i> – Contagious bovine pleuropneumonia (cultures only) Peste des petits ruminants virus (cultures only) Rinderpest virus (cultures only) Sheep-pox virus (cultures only) Goatpox virus (cultures only) Swine vesicular disease virus (cultures only) Vesicular stomatitis virus (cultures only)

<sup>a</sup> Nevertheless, when the cultures are intended for diagnostic or clinical purposes, they may be classified as infectious substances of Category B.

**2.2.62.1.4.2 Category B:** An infectious substance which does not meet the criteria for inclusion in Category A. Infectious substances in Category B shall be assigned to UN No. 3373.

**NOTE:** The proper shipping name of UN No. 3373 is "BIOLOGICAL SUBSTANCE, CATEGORY B".

**2.2.62.1.5 Exemptions**

**2.2.62.1.5.1** Substances which do not contain infectious substances or substances which are unlikely to cause disease in humans or animals are not subject to the provisions of RID unless they meet the criteria for inclusion in another class.

**2.2.62.1.5.2** Substances containing microorganisms which are non-pathogenic to humans or animals are not subject to RID unless they meet the criteria for inclusion in another class.

**2.2.62.1.5.3** Substances in a form that any present pathogens have been neutralized or inactivated such that they no longer pose a health risk are not subject to RID unless they meet the criteria for inclusion in another class.

**2.2.62.1.5.4** Substances where the concentration of pathogens is at a level naturally encountered (including foodstuff and water samples) and which are not considered to pose a significant risk of infection are not subject to RID unless they meet the criteria for inclusion in another class.

**2.2.62.1.5.5** Dried blood spots, collected by applying a drop of blood onto absorbent material, or faecal occult blood screening tests and blood or blood components which have been collected for the purposes of transfusion or for the preparation of blood products to be used for transfusion or transplantation and any tissues or organs intended for use in transplantation are not subject to the provisions of RID.

**2.2.62.1.5.6** Human or animal specimens for which there is minimal likelihood that pathogens are present are not subject to RID if the specimen is carried in a packaging which will prevent any leakage and which is marked with the words "EXEMPT HUMAN SPECIMEN" or "EXEMPT ANIMAL SPECIMEN", as appropriate.

The packaging is deemed to comply with the above requirements if it meets the following conditions:

(a) The packaging consists of three components:

- (i) a leak-proof primary receptacle(s);
- (ii) a leak-proof secondary packaging; and
- (iii) an outer packaging of adequate strength for its capacity, mass and intended use, and with at least one surface having minimum dimensions of 100 mm x 100 mm;

(b) For liquids, absorbent material in sufficient quantity to absorb the entire contents is placed between the primary receptacle(s) and the secondary packaging so that, during carriage, any release or leak of a liquid substance will not reach the outer packaging and will not compromise the integrity of the cushioning material;

(c) When multiple fragile primary receptacles are placed in a single secondary packaging, they are either individually wrapped or separated to prevent contact between them.

**NOTE 1:** An element of professional judgment is required to determine if a substance is exempt under this paragraph. That judgment should be based on the known medical history, symptoms and individual circumstances of the source, human or animal, and endemic local conditions. Examples of specimens which may be carried under this paragraph include

- the blood or urine tests to monitor cholesterol levels, blood glucose levels, hormone levels, or prostate specific antibodies (PSA);



- those required to monitor organ function such as heart, liver or kidney function for humans or animals with non-infectious diseases, or for therapeutic drug monitoring;
- those conducted for insurance or employment purposes and are intended to determine the presence of drugs or alcohol;
- pregnancy test;
- biopsies to detect cancer; and
- antibody detection in humans or animals in the absence of any concern for infection (e.g. evaluation of vaccine induced immunity, diagnosis of autoimmune disease, etc.).

**2:** For air transport, packagings for specimens exempted under this paragraph shall meet the conditions in (a) to (c).

**2.2.62.1.6** (Reserved)

**2.2.62.1.7** (Reserved)

**2.2.62.1.8** (Reserved)

**2.2.62.1.9** *Biological products*

For the purposes of RID, biological products are divided into the following groups:

- (a) those which are manufactured and packaged in accordance with the requirements of appropriate national authorities and carried for the purposes of final packaging or distribution, and use for personal health care by medical professionals or individuals. Substances in this group are not subject to the provisions of RID;
- (b) those which do not fall under paragraph (a) and are known or reasonably believed to contain infectious substances and which meet the criteria for inclusion in Category A or Category B. Substances in this group shall be assigned to UN Nos. 2814, 2900 or 3373, as appropriate.

**NOTE:** Some licensed biological products may present a biohazard only in certain parts of the world. In that case, competent authorities may require these biological products to be in compliance with local requirements for infectious substances or may impose other restrictions.

**2.2.62.1.10** *Genetically modified microorganisms and organisms*

Genetically modified microorganisms not meeting the definition of infectious substance shall be classified according to section 2.2.9.

**2.2.62.1.11** *Medical or clinical wastes*

**2.2.62.1.11.1** Medical or clinical wastes containing Category A infectious substances shall be assigned to UN No. 2814 or UN No. 2900 as appropriate. Medical or clinical wastes containing infectious substances in Category B shall be assigned to UN No. 3291.

**NOTE:** Medical or clinical wastes assigned to number 18 01 03 (Wastes from human or animal health care and/or related research – wastes from natal care, diagnosis, treatment or prevention of disease in humans – wastes whose collection and disposal is subject to special requirements in order to prevent infection) or 18 02 02 (Wastes from human or animal health care and/or related research – wastes from research, diagnosis, treatment or prevention of disease involving animals – wastes whose collection and disposal is subject to special requirements in order to prevent infection) according to the list of wastes annexed to the Commission Decision 2000/532/EC<sup>5</sup> as amended, shall be classified according to the provisions set out in this paragraph, based on the medical or veterinary diagnosis concerning the patient or the animal.

**2.2.62.1.11.2** Medical or clinical wastes which are reasonably believed to have a low probability of containing infectious substances shall be assigned to UN No. 3291. For the assignment, international, regional or national waste catalogues may be taken into account.

**NOTE 1:** The proper shipping name for UN No. 3291 is "CLINICAL WASTE, UNSPECIFIED, N.O.S." or "(BIO) MEDICAL WASTE, N.O.S." or "REGULATED MEDICAL WASTE, N.O.S.".

**2:** Notwithstanding the classification criteria set out above, medical or clinical wastes assigned to number 18 01 04 (Wastes from human or animal health care and/or related research – wastes from natal care, diagnosis, treatment or prevention of disease in humans – wastes whose collection and disposal is not subject to special requirements in order to prevent infection) or 18 02 03

<sup>5</sup> Commission Decision 2000/532/EC of 3 May 2000 replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste (replaced by the Directive of the European Parliament and of the Council 2006/12/EC (Official Journal of the European Communities No. L 114 of 27 April 2006, page 9)) and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste (Official Journal of the European Communities No. L 226 of 6 September 2000, page 3).

(Wastes from human or animal health care and/or related research – wastes from research, diagnosis, treatment or prevention of disease involving animals – wastes whose collection and disposal is not subject to special requirements in order to prevent infection) according to the list of wastes annexed to the Commission Decision 2000/532/EC<sup>5</sup> as amended, are not subject to the provisions of RID.

**2.2.62.1.11.3** Decontaminated medical or clinical wastes which previously contained infectious substances are not subject to the provisions of RID unless they meet the criteria for inclusion in another class.

**2.2.62.1.11.4** Medical or clinical wastes assigned to UN No. 3291 are assigned to packing group II.

**2.2.62.1.12** *Infected animals*

**2.2.62.1.12.1** Unless an infectious substance cannot be consigned by any other means, live animals shall not be used to consign such a substance. A live animal which has been intentionally infected and is known or suspected to contain an infectious substance shall only be carried under terms and conditions approved by the competent authority<sup>6</sup>.

**2.2.62.1.12.2** Animal material affected by pathogens of Category A or by pathogens which would be assigned to Category A in cultures only, shall be assigned to UN 2814 or UN 2900 as appropriate. Animal material affected by pathogens of Category B, other than those which would be assigned to Category A if they were in cultures, shall be assigned to UN 3373.

**2.2.62.2** **Substances not accepted for carriage**

Live vertebrate or invertebrate animals shall not be used to carry an infectious agent unless the agent cannot be carried by other means or unless this carriage has been approved by the competent authority (see 2.2.62.1.12.1).

**2.2.62.3** **List of collective entries**

	Classification code	UN No.	Name of the substance or article
<b>Infectious substances</b>			
<b>Effects on humans</b>	<b>I1</b>	2814	INFECTIOUS SUBSTANCE, AFFECTING HUMANS
<b>Effects on animals only</b>	<b>I2</b>	2900	INFECTIOUS SUBSTANCE, AFFECTING ANIMALS only
<b>Clinical waste</b>	<b>I3</b>	3291	CLINICAL WASTE, UNSPECIFIED, N.O.S. or 3291 (BIO)MEDICAL WASTE, N.O.S. or 3291 REGULATED MEDICAL WASTE, N.O.S.
<b>Biological substances</b>	<b>I4</b>	3373	BIOLOGICAL SUBSTANCE, CATEGORY B

<sup>6</sup> Regulations governing the carriage of live animals are contained in, e.g. Directive 91/628/EEC of 19 November 1991 on the protection of animals during transport (Official Journal of the European Communities No. L 340 of 11 December 1991, p. 17) and in the Recommendations of the Council of Europe (Ministerial Committee) on the carriage of certain animal species.

**2.2.7 Class 7: Radioactive material****2.2.7.1 Definitions**

**2.2.7.1.1** *Radioactive material* means any material containing radionuclides where both the activity concentration and the total activity in the consignment exceed the values specified in 2.2.7.2.2.1 to 2.2.7.2.2.6.

**2.2.7.1.2 Contamination**

*Contamination* means the presence of a radioactive substance on a surface in quantities in excess of 0.4 Bq/cm<sup>2</sup> for beta and gamma emitters and low toxicity alpha emitters, or 0.04 Bq/cm<sup>2</sup> for all other alpha emitters.

*Non-fixed contamination* means contamination that can be removed from a surface during routine conditions of carriage.

*Fixed contamination* means contamination other than non-fixed contamination.

**2.2.7.1.3 Definitions of specific terms****A<sub>1</sub> and A<sub>2</sub>**

*A<sub>1</sub>* means the activity value of special form radioactive material which is listed in Table 2.2.7.2.2.1 or derived in 2.2.7.2.2.2 and is used to determine the activity limits for the requirements of RID.

*A<sub>2</sub>* means the activity value of radioactive material, other than special form radioactive material, which is listed in Table 2.2.7.2.2.1 or derived in 2.2.7.2.2.2 and is used to determine the activity limits for the requirements of RID.

*Fissile material* means uranium-233, uranium-235, plutonium-239, plutonium-241, or any combination of these radionuclides. Excepted from this definition is:

- (a) Natural uranium or depleted uranium which is unirradiated; and
- (b) Natural uranium or depleted uranium which has been irradiated in thermal reactors only.

*Low dispersible radioactive material* means either a solid radioactive material or a solid radioactive material in a sealed capsule, that has limited dispersibility and is not in powder form.

*Low specific activity (LSA) material* means radioactive material which by its nature has a limited specific activity, or radioactive material for which limits of estimated average specific activity apply. External shielding materials surrounding the LSA material shall not be considered in determining the estimated average specific activity.

*Low toxicity alpha emitters* are: natural uranium; depleted uranium; natural thorium; uranium-235 or uranium-238; thorium-232; thorium-228 and thorium-230 when contained in ores or physical and chemical concentrates; or alpha emitters with a half-life of less than 10 days.

*Special form radioactive material* means either:

- (a) An indispersible solid radioactive material; or
- (b) A sealed capsule containing radioactive material.

*Specific activity of a radionuclide* means the activity per unit mass of that nuclide. The specific activity of a material shall mean the activity per unit mass of the material in which the radionuclides are essentially uniformly distributed.

*Surface contaminated object (SCO)* means a solid object which is not itself radioactive but which has radioactive material distributed on its surfaces.

*Unirradiated thorium* means thorium containing not more than 10<sup>-7</sup> g of uranium-233 per gram of thorium-232.

*Unirradiated uranium* means uranium containing not more than 2 × 10<sup>3</sup> Bq of plutonium per gram of uranium-235, not more than 9 × 10<sup>6</sup> Bq of fission products per gram of uranium-235 and not more than 5 × 10<sup>3</sup> g of uranium-236 per gram of uranium-235.

*Uranium – natural, depleted, enriched* means the following:

*Natural uranium* means uranium (which may be chemically separated) containing the naturally occurring distribution of uranium isotopes (approximately 99.28% uranium-238, and 0.72% uranium-235 by mass).

*Depleted uranium* means uranium containing a lesser mass percentage of uranium-235 than in natural uranium.

**Enriched uranium** means uranium containing a greater mass percentage of uranium-235 than 0.72%.  
In all cases, a very small mass percentage of uranium-234 is present.

## 2.2.7.2 Classification

### 2.2.7.2.1 General provisions

**2.2.7.2.1.1** Radioactive material shall be assigned to one of the UN number specified in Table 2.2.7.2.1.1 depending on the activity level of the radionuclides contained in a package, the fissile or non-fissile properties of these radionuclides, the type of package to be presented for carriage, and the nature or form of the contents of the package, or special arrangements governing the carriage operation, in accordance with the provisions laid down in 2.2.7.2.2 to 2.2.7.2.5.

**Table 2.2.7.2.1.1: Assignment of UN numbers**

<b>Excepted packages (1.7.1.5)</b>	
UN 2908	RADIOACTIVE MATERIAL, EXCEPTED PACKAGE – EMPTY PACKAGING
UN 2909	RADIOACTIVE MATERIAL, EXCEPTED PACKAGE – ARTICLES MANUFACTURED FROM NATURAL URANIUM or DEPLETED URANIUM or NATURAL THORIUM
UN 2910	RADIOACTIVE MATERIAL, EXCEPTED PACKAGE – LIMITED QUANTITY OF MATERIAL
UN 2911	RADIOACTIVE MATERIAL, EXCEPTED PACKAGE – INSTRUMENTS or ARTICLES
<b>Low specific activity radioactive material (2.2.7.2.3.1)</b>	
UN 2912	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-I), non-fissile or fissile-excepted
UN 3321	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II), non fissile or fissile-excepted
UN 3322	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-III), non fissile or fissile-excepted
UN 3324	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II), FISSILE
UN 3325	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, (LSA-III), FISSILE
<b>Surface contaminated objects (2.2.7.2.3.2)</b>	
UN 2913	RADIOACTIVE MATERIAL, SURFACE CONTAMINATED OBJECTS (SCO-I or SCO-II), non-fissile or fissile-excepted
UN 3326	RADIOACTIVE MATERIAL, SURFACE CONTAMINATED OBJECTS (SCO-I or SCO-II), FISSILE
<b>Type A packages (2.2.7.2.4.4)</b>	
UN 2915	RADIOACTIVE MATERIAL, TYPE A PACKAGE, non-special form, non-fissile or fissile-excepted
UN 3327	RADIOACTIVE MATERIAL, TYPE A PACKAGE, FISSILE, non-special form
UN 3332	RADIOACTIVE MATERIAL, TYPE A PACKAGE, SPECIAL FORM, non fissile or fissile-excepted
UN 3333	RADIOACTIVE MATERIAL, TYPE A PACKAGE, SPECIAL FORM, FISSILE
<b>Type B(U) packages (2.2.7.2.4.6)</b>	
UN 2916	RADIOACTIVE MATERIAL, TYPE B(U) PACKAGE, non-fissile or fissile-excepted
UN 3328	RADIOACTIVE MATERIAL, TYPE B(U) PACKAGE, FISSILE
<b>Type B(M) packages (2.2.7.2.4.6)</b>	
UN 2917	RADIOACTIVE MATERIAL, TYPE B(M) PACKAGE, non-fissile or fissile-excepted
UN 3329	RADIOACTIVE MATERIAL, TYPE B(M) PACKAGE, FISSILE
<b>Type C packages (2.2.7.2.4.6)</b>	
UN 3323	RADIOACTIVE MATERIAL, TYPE C PACKAGE, non fissile or fissile-excepted
UN 3330	RADIOACTIVE MATERIAL, TYPE C PACKAGE, FISSILE
<b>Special arrangement (2.2.7.2.5)</b>	
UN 2919	RADIOACTIVE MATERIAL, TRANSPORTED UNDER SPECIAL ARRANGEMENT, non-fissile or fissile-excepted
UN 3331	RADIOACTIVE MATERIAL, TRANSPORTED UNDER SPECIAL ARRANGEMENT, FISSILE
<b>Uranium hexafluoride (2.2.7.2.4.5)</b>	
UN 2977	RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, FISSILE
UN 2978	RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, non-fissile or fissile-excepted

### 2.2.7.2.2 Determination of activity level

**2.2.7.2.2.1** The following basic values for individual radionuclides are given in Table 2.2.7.2.2.1:

- $A_1$  and  $A_2$  in TBq;
- Activity concentration for exempt material in Bq/g; and
- Activity limits for exempt consignments in Bq.

Table 2.2.7.2.2.1: Basic radionuclides values for individual radionuclides

Radionuclide (atomic number)	A <sub>1</sub>	A <sub>2</sub>	Activity concentration for exempt material (Bq/g)	Activity limit for an exempt consignment (Bq)
	(TBq)	(TBq)		
Actinium (89)				
Ac-225 <sup>(a)</sup>	$8 \times 10^{-1}$	$6 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
Ac-227 <sup>(a)</sup>	$9 \times 10^{-1}$	$9 \times 10^{-5}$	$1 \times 10^{-1}$	$1 \times 10^3$
Ac-228	$6 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Silver (47)				
Ag-105	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Ag-108m <sup>(a)</sup>	$7 \times 10^{-1}$	$7 \times 10^{-1}$	$1 \times 10^1$ <sup>(b)</sup>	$1 \times 10^6$ <sup>(b)</sup>
Ag-110m <sup>(a)</sup>	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Ag-111	$2 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Aluminium (13)				
Al-26	$1 \times 10^{-1}$	$1 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Americium (95)				
Am-241	$1 \times 10^1$	$1 \times 10^{-3}$	$1 \times 10^0$	$1 \times 10^4$
Am-242m <sup>(a)</sup>	$1 \times 10^1$	$1 \times 10^{-3}$	$1 \times 10^0$ <sup>(b)</sup>	$1 \times 10^4$ <sup>(b)</sup>
Am-243 <sup>(a)</sup>	$5 \times 10^0$	$1 \times 10^{-3}$	$1 \times 10^0$ <sup>(b)</sup>	$1 \times 10^3$ <sup>(b)</sup>
Argon (18)				
Ar-37	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^6$	$1 \times 10^8$
Ar-39	$4 \times 10^1$	$2 \times 10^1$	$1 \times 10^7$	$1 \times 10^4$
Ar-41	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^9$
Arsenic (33)				
As-72	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
As-73	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^3$	$1 \times 10^7$
As-74	$1 \times 10^0$	$9 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
As-76	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^5$
As-77	$2 \times 10^1$	$7 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Astatine (85)				
At-211 <sup>(a)</sup>	$2 \times 10^1$	$5 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^7$
Gold (79)				
Au-193	$7 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
Au-194	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Au-195	$1 \times 10^1$	$6 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
Au-198	$1 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Au-199	$1 \times 10^1$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Barium (56)				
Ba-131 <sup>(a)</sup>	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Ba-133	$3 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Ba-133m	$2 \times 10^1$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Ba-140 <sup>(a)</sup>	$5 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^1$ <sup>(b)</sup>	$1 \times 10^5$ <sup>(b)</sup>
Beryllium (4)				
Be-7	$2 \times 10^1$	$2 \times 10^1$	$1 \times 10^3$	$1 \times 10^7$
Be-10	$4 \times 10^1$	$6 \times 10^{-1}$	$1 \times 10^4$	$1 \times 10^6$
Bismuth (83)				
Bi-205	$7 \times 10^{-1}$	$7 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Bi-206	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Bi-207	$7 \times 10^{-1}$	$7 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Bi-210	$1 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Bi-210m <sup>(a)</sup>	$6 \times 10^{-1}$	$2 \times 10^{-2}$	$1 \times 10^1$	$1 \times 10^5$
Bi-212 <sup>(a)</sup>	$7 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^1$ <sup>(b)</sup>	$1 \times 10^5$ <sup>(b)</sup>
Berkelium (97)				
Bk-247	$8 \times 10^0$	$8 \times 10^{-4}$	$1 \times 10^0$	$1 \times 10^4$
Bk-249 <sup>(a)</sup>	$4 \times 10^1$	$3 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Bromine (35)				
Br-76	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Br-77	$3 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Br-82	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Carbon (6)				
C-11	$1 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
C-14	$4 \times 10^1$	$3 \times 10^0$	$1 \times 10^4$	$1 \times 10^7$
Calcium (20)				
Ca-41	Unlimited	Unlimited	$1 \times 10^5$	$1 \times 10^7$
Ca-45	$4 \times 10^1$	$1 \times 10^0$	$1 \times 10^4$	$1 \times 10^7$
Ca-47 <sup>(a)</sup>	$3 \times 10^0$	$3 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Cadmium (48)				

Radionuclide (atomic number)	A <sub>1</sub>	A <sub>2</sub>	Activity concentration for exempt material	Activity limit for an exempt consignment
	(TBq)	(TBq)	(Bq/g)	(Bq)
Cd-109	$3 \times 10^1$	$2 \times 10^0$	$1 \times 10^4$	$1 \times 10^6$
Cd-113m	$4 \times 10^1$	$5 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Cd-115 <sup>(a)</sup>	$3 \times 10^0$	$4 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Cd-115m	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Cerium (58)				
Ce-139	$7 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Ce-141	$2 \times 10^1$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^7$
Ce-143	$9 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Ce-144 <sup>(a)</sup>	$2 \times 10^{-1}$	$2 \times 10^{-1}$	$1 \times 10^2$ <sup>(b)</sup>	$1 \times 10^5$ <sup>(b)</sup>
Californium (98)				
Cf-248	$4 \times 10^1$	$6 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
Cf-249	$3 \times 10^0$	$8 \times 10^{-4}$	$1 \times 10^0$	$1 \times 10^3$
Cf-250	$2 \times 10^1$	$2 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
Cf-251	$7 \times 10^0$	$7 \times 10^{-4}$	$1 \times 10^0$	$1 \times 10^3$
Cf-252	$1 \times 10^{-1}$	$3 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
Cf-253 <sup>(a)</sup>	$4 \times 10^1$	$4 \times 10^{-2}$	$1 \times 10^2$	$1 \times 10^5$
Cf-254	$1 \times 10^{-3}$	$1 \times 10^{-3}$	$1 \times 10^0$	$1 \times 10^3$
Chlorine (17)				
Cl-36	$1 \times 10^1$	$6 \times 10^{-1}$	$1 \times 10^4$	$1 \times 10^6$
Cl-38	$2 \times 10^{-1}$	$2 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Curium (96)				
Cm-240	$4 \times 10^1$	$2 \times 10^{-2}$	$1 \times 10^2$	$1 \times 10^5$
Cm-241	$2 \times 10^0$	$1 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Cm-242	$4 \times 10^1$	$1 \times 10^{-2}$	$1 \times 10^2$	$1 \times 10^5$
Cm-243	$9 \times 10^0$	$1 \times 10^{-3}$	$1 \times 10^0$	$1 \times 10^4$
Cm-244	$2 \times 10^1$	$2 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
Cm-245	$9 \times 10^0$	$9 \times 10^{-4}$	$1 \times 10^0$	$1 \times 10^3$
Cm-246	$9 \times 10^0$	$9 \times 10^{-4}$	$1 \times 10^0$	$1 \times 10^3$
Cm-247 <sup>(a)</sup>	$3 \times 10^0$	$1 \times 10^{-3}$	$1 \times 10^0$	$1 \times 10^4$
Cm-248	$2 \times 10^{-2}$	$3 \times 10^{-4}$	$1 \times 10^0$	$1 \times 10^3$
Cobalt (27)				
Co-55	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Co-56	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Co-57	$1 \times 10^1$	$1 \times 10^1$	$1 \times 10^2$	$1 \times 10^6$
Co-58	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Co-58m	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^4$	$1 \times 10^7$
Co-60	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Chromium (24)				
Cr-51	$3 \times 10^1$	$3 \times 10^1$	$1 \times 10^3$	$1 \times 10^7$
Caesium (55)				
Cs-129	$4 \times 10^0$	$4 \times 10^0$	$1 \times 10^2$	$1 \times 10^5$
Cs-131	$3 \times 10^1$	$3 \times 10^1$	$1 \times 10^3$	$1 \times 10^6$
Cs-132	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^5$
Cs-134	$7 \times 10^{-1}$	$7 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^4$
Cs-134m	$4 \times 10^1$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^5$
Cs-135	$4 \times 10^1$	$1 \times 10^0$	$1 \times 10^4$	$1 \times 10^7$
Cs-136	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Cs-137 <sup>(a)</sup>	$2 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^1$ <sup>(b)</sup>	$1 \times 10^4$ <sup>(b)</sup>
Copper (29)				
Cu-64	$6 \times 10^0$	$1 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Cu-67	$1 \times 10^1$	$7 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Dysprosium (66)				
Dy-159	$2 \times 10^1$	$2 \times 10^1$	$1 \times 10^3$	$1 \times 10^7$
Dy-165	$9 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Dy-166 <sup>(a)</sup>	$9 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Erbium (68)				
Er-169	$4 \times 10^1$	$1 \times 10^0$	$1 \times 10^4$	$1 \times 10^7$
Er-171	$8 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Europium (63)				
Eu-147	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Eu-148	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Eu-149	$2 \times 10^1$	$2 \times 10^1$	$1 \times 10^2$	$1 \times 10^7$
Eu-150 (short lived)	$2 \times 10^0$	$7 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Eu-150 (long lived)	$7 \times 10^{-1}$	$7 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Eu-152	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Eu-152m	$8 \times 10^{-1}$	$8 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$

Radionuclide (atomic number)	A <sub>1</sub>	A <sub>2</sub>	Activity concentration for exempt material	Activity limit for an exempt consignment
	(TBq)	(TBq)	(Bq/g)	(Bq)
Eu-154	$9 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Eu-155	$2 \times 10^1$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
Eu-156	$7 \times 10^{-1}$	$7 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Fluorine (9)				
F-18	$1 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Iron (26)				
Fe-52 <sup>(a)</sup>	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Fe-55	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^4$	$1 \times 10^6$
Fe-59	$9 \times 10^{-1}$	$9 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Fe-60 <sup>(a)</sup>	$4 \times 10^1$	$2 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^5$
Gallium (31)				
Ga-67	$7 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Ga-68	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Ga-72	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Gadolinium (64)				
Gd-146 <sup>(a)</sup>	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Gd-148	$2 \times 10^1$	$2 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
Gd-153	$1 \times 10^1$	$9 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
Gd-159	$3 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Germanium (32)				
Ge-68 <sup>(a)</sup>	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Ge-71	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^4$	$1 \times 10^8$
Ge-77	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Hafnium (72)				
Hf-172 <sup>(a)</sup>	$6 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Hf-175	$3 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Hf-181	$2 \times 10^0$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Hf-182	Unlimited	Unlimited	$1 \times 10^2$	$1 \times 10^6$
Mercury (80)				
Hg-194 <sup>(a)</sup>	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Hg-195m <sup>(a)</sup>	$3 \times 10^0$	$7 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Hg-197	$2 \times 10^1$	$1 \times 10^1$	$1 \times 10^2$	$1 \times 10^7$
Hg-197m	$1 \times 10^1$	$4 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Hg-203	$5 \times 10^0$	$1 \times 10^0$	$1 \times 10^2$	$1 \times 10^5$
Holmium (67)				
Ho-166	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^5$
Ho-166m	$6 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Iodine (53)				
I-123	$6 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
I-124	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
I-125	$2 \times 10^1$	$3 \times 10^0$	$1 \times 10^3$	$1 \times 10^6$
I-126	$2 \times 10^0$	$1 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
I-129	Unlimited	Unlimited	$1 \times 10^2$	$1 \times 10^5$
I-131	$3 \times 10^0$	$7 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
I-132	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
I-133	$7 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
I-134	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
I-135 <sup>(a)</sup>	$6 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Indium (49)				
In-111	$3 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
In-113m	$4 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
In-114m <sup>(a)</sup>	$1 \times 10^1$	$5 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
In-115m	$7 \times 10^0$	$1 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Iridium (77)				
Ir-189 <sup>(a)</sup>	$1 \times 10^1$	$1 \times 10^1$	$1 \times 10^2$	$1 \times 10^7$
Ir-190	$7 \times 10^{-1}$	$7 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Ir-192	$1 \times 10^0$ <sup>(c)</sup>	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^4$
Ir-194	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^5$
Potassium (19)				
K-40	$9 \times 10^{-1}$	$9 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
K-42	$2 \times 10^{-1}$	$2 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
K-43	$7 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Krypton (36)				
Kr-79	$4 \times 10^0$	$1 \times 10^0$	$1 \times 10^3$	$1 \times 10^5$
Kr-81	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^4$	$1 \times 10^7$
Kr-85	$1 \times 10^1$	$1 \times 10^1$	$1 \times 10^5$	$1 \times 10^4$

Radionuclide (atomic number)	A <sub>1</sub>	A <sub>2</sub>	Activity concentration for exempt material (Bq/g)	Activity limit for an exempt consignment (Bq)
Kr-85m	8 × 10 <sup>0</sup>	3 × 10 <sup>0</sup>	1 × 10 <sup>3</sup>	1 × 10 <sup>10</sup>
Kr-87	2 × 10 <sup>-1</sup>	2 × 10 <sup>-1</sup>	1 × 10 <sup>2</sup>	1 × 10 <sup>9</sup>
Lanthanum (57)				
La-137	3 × 10 <sup>1</sup>	6 × 10 <sup>0</sup>	1 × 10 <sup>3</sup>	1 × 10 <sup>7</sup>
La-140	4 × 10 <sup>-1</sup>	4 × 10 <sup>-1</sup>	1 × 10 <sup>1</sup>	1 × 10 <sup>5</sup>
Lutetium (71)				
Lu-172	6 × 10 <sup>-1</sup>	6 × 10 <sup>-1</sup>	1 × 10 <sup>1</sup>	1 × 10 <sup>6</sup>
Lu-173	8 × 10 <sup>0</sup>	8 × 10 <sup>0</sup>	1 × 10 <sup>2</sup>	1 × 10 <sup>7</sup>
Lu-174	9 × 10 <sup>0</sup>	9 × 10 <sup>0</sup>	1 × 10 <sup>2</sup>	1 × 10 <sup>7</sup>
Lu-174m	2 × 10 <sup>1</sup>	1 × 10 <sup>1</sup>	1 × 10 <sup>2</sup>	1 × 10 <sup>7</sup>
Lu-177	3 × 10 <sup>1</sup>	7 × 10 <sup>-1</sup>	1 × 10 <sup>3</sup>	1 × 10 <sup>7</sup>
Magnesium (12)				
Mg-28 <sup>(a)</sup>	3 × 10 <sup>-1</sup>	3 × 10 <sup>-1</sup>	1 × 10 <sup>1</sup>	1 × 10 <sup>5</sup>
Manganese (25)				
Mn-52	3 × 10 <sup>-1</sup>	3 × 10 <sup>-1</sup>	1 × 10 <sup>1</sup>	1 × 10 <sup>5</sup>
Mn-53	Unlimited	Unlimited	1 × 10 <sup>4</sup>	1 × 10 <sup>9</sup>
Mn-54	1 × 10 <sup>0</sup>	1 × 10 <sup>0</sup>	1 × 10 <sup>1</sup>	1 × 10 <sup>6</sup>
Mn-56	3 × 10 <sup>-1</sup>	3 × 10 <sup>-1</sup>	1 × 10 <sup>1</sup>	1 × 10 <sup>5</sup>
Molybdenum (42)				
Mo-93	4 × 10 <sup>1</sup>	2 × 10 <sup>1</sup>	1 × 10 <sup>3</sup>	1 × 10 <sup>8</sup>
Mo-99 <sup>(a)</sup>	1 × 10 <sup>0</sup>	6 × 10 <sup>-1</sup>	1 × 10 <sup>2</sup>	1 × 10 <sup>6</sup>
Nitrogen (7)				
N-13	9 × 10 <sup>-1</sup>	6 × 10 <sup>-1</sup>	1 × 10 <sup>2</sup>	1 × 10 <sup>9</sup>
Sodium (11)				
Na-22	5 × 10 <sup>-1</sup>	5 × 10 <sup>-1</sup>	1 × 10 <sup>1</sup>	1 × 10 <sup>6</sup>
Na-24	2 × 10 <sup>-1</sup>	2 × 10 <sup>-1</sup>	1 × 10 <sup>1</sup>	1 × 10 <sup>5</sup>
Niobium (41)				
Nb-93m	4 × 10 <sup>1</sup>	3 × 10 <sup>1</sup>	1 × 10 <sup>4</sup>	1 × 10 <sup>7</sup>
Nb-94	7 × 10 <sup>-1</sup>	7 × 10 <sup>-1</sup>	1 × 10 <sup>1</sup>	1 × 10 <sup>6</sup>
Nb-95	1 × 10 <sup>0</sup>	1 × 10 <sup>0</sup>	1 × 10 <sup>1</sup>	1 × 10 <sup>6</sup>
Nb-97	9 × 10 <sup>-1</sup>	6 × 10 <sup>-1</sup>	1 × 10 <sup>1</sup>	1 × 10 <sup>6</sup>
Neodymium (60)				
Nd-147	6 × 10 <sup>0</sup>	6 × 10 <sup>-1</sup>	1 × 10 <sup>2</sup>	1 × 10 <sup>6</sup>
Nd-149	6 × 10 <sup>-1</sup>	5 × 10 <sup>-1</sup>	1 × 10 <sup>2</sup>	1 × 10 <sup>6</sup>
Nickel (28)				
Ni-59	Unlimited	Unlimited	1 × 10 <sup>4</sup>	1 × 10 <sup>8</sup>
Ni-63	4 × 10 <sup>1</sup>	3 × 10 <sup>1</sup>	1 × 10 <sup>5</sup>	1 × 10 <sup>8</sup>
Ni-65	4 × 10 <sup>-1</sup>	4 × 10 <sup>-1</sup>	1 × 10 <sup>1</sup>	1 × 10 <sup>6</sup>
Neptunium (93)				
Np-235	4 × 10 <sup>1</sup>	4 × 10 <sup>1</sup>	1 × 10 <sup>3</sup>	1 × 10 <sup>7</sup>
Np-236 (short lived)	2 × 10 <sup>1</sup>	2 × 10 <sup>0</sup>	1 × 10 <sup>3</sup>	1 × 10 <sup>7</sup>
Np-236 (long lived)	9 × 10 <sup>0</sup>	2 × 10 <sup>-2</sup>	1 × 10 <sup>2</sup>	1 × 10 <sup>5</sup>
Np-237	2 × 10 <sup>1</sup>	2 × 10 <sup>-3</sup>	1 × 10 <sup>3 (b)</sup>	1 × 10 <sup>3 (b)</sup>
Np-239	7 × 10 <sup>0</sup>	4 × 10 <sup>-1</sup>	1 × 10 <sup>2</sup>	1 × 10 <sup>7</sup>
Osmium (76)				
Os-185	1 × 10 <sup>0</sup>	1 × 10 <sup>0</sup>	1 × 10 <sup>1</sup>	1 × 10 <sup>6</sup>
Os-191	1 × 10 <sup>1</sup>	2 × 10 <sup>0</sup>	1 × 10 <sup>2</sup>	1 × 10 <sup>7</sup>
Os-191m	4 × 10 <sup>1</sup>	3 × 10 <sup>1</sup>	1 × 10 <sup>3</sup>	1 × 10 <sup>7</sup>
Os-193	2 × 10 <sup>0</sup>	6 × 10 <sup>-1</sup>	1 × 10 <sup>2</sup>	1 × 10 <sup>6</sup>
Os-194 <sup>(a)</sup>	3 × 10 <sup>-1</sup>	3 × 10 <sup>-1</sup>	1 × 10 <sup>2</sup>	1 × 10 <sup>5</sup>
Phosphorus (15)				
P-32	5 × 10 <sup>-1</sup>	5 × 10 <sup>-1</sup>	1 × 10 <sup>3</sup>	1 × 10 <sup>5</sup>
P-33	4 × 10 <sup>1</sup>	1 × 10 <sup>0</sup>	1 × 10 <sup>5</sup>	1 × 10 <sup>8</sup>
Protactinium (91)				
Pa-230 <sup>(a)</sup>	2 × 10 <sup>0</sup>	7 × 10 <sup>-2</sup>	1 × 10 <sup>1</sup>	1 × 10 <sup>6</sup>
Pa-231	4 × 10 <sup>0</sup>	4 × 10 <sup>-4</sup>	1 × 10 <sup>0</sup>	1 × 10 <sup>3</sup>
Pa-233	5 × 10 <sup>0</sup>	7 × 10 <sup>-1</sup>	1 × 10 <sup>2</sup>	1 × 10 <sup>7</sup>
Lead (82)				
Pb-201	1 × 10 <sup>0</sup>	1 × 10 <sup>0</sup>	1 × 10 <sup>1</sup>	1 × 10 <sup>6</sup>
Pb-202	4 × 10 <sup>1</sup>	2 × 10 <sup>1</sup>	1 × 10 <sup>3</sup>	1 × 10 <sup>6</sup>
Pb-203	4 × 10 <sup>0</sup>	3 × 10 <sup>0</sup>	1 × 10 <sup>2</sup>	1 × 10 <sup>6</sup>
Pb-205	Unlimited	Unlimited	1 × 10 <sup>4</sup>	1 × 10 <sup>7</sup>
Pb-210 <sup>(a)</sup>	1 × 10 <sup>0</sup>	5 × 10 <sup>-2</sup>	1 × 10 <sup>1 (b)</sup>	1 × 10 <sup>4 (b)</sup>
Pb-212 <sup>(a)</sup>	7 × 10 <sup>-1</sup>	2 × 10 <sup>-1</sup>	1 × 10 <sup>1 (b)</sup>	1 × 10 <sup>5 (b)</sup>
Palladium (46)				
Pd-103 <sup>(a)</sup>	4 × 10 <sup>1</sup>	4 × 10 <sup>1</sup>	1 × 10 <sup>3</sup>	1 × 10 <sup>8</sup>



Radionuclide (atomic number)	A <sub>1</sub>	A <sub>2</sub>	Activity concentration for exempt material (Bq/g)	Activity limit for an exempt consignment (Bq)
Pd-107	Unlimited	Unlimited	$1 \times 10^5$	$1 \times 10^8$
Pd-109	$2 \times 10^0$	$5 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Promethium (61)				
Pm-143	$3 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Pm-144	$7 \times 10^{-1}$	$7 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Pm-145	$3 \times 10^1$	$1 \times 10^1$	$1 \times 10^3$	$1 \times 10^7$
Pm-147	$4 \times 10^1$	$2 \times 10^0$	$1 \times 10^4$	$1 \times 10^7$
Pm-148m <sup>(a)</sup>	$8 \times 10^{-1}$	$7 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Pm-149	$2 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Pm-151	$2 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Polonium (84)				
Po-210	$4 \times 10^1$	$2 \times 10^{-2}$	$1 \times 10^1$	$1 \times 10^4$
Praseodymium (59)				
Pr-142	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^5$
Pr-143	$3 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^4$	$1 \times 10^6$
Platinum (78)				
Pt-188 <sup>(a)</sup>	$1 \times 10^0$	$8 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Pt-191	$4 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Pt-193	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^4$	$1 \times 10^7$
Pt-193m	$4 \times 10^1$	$5 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^7$
Pt-195m	$1 \times 10^1$	$5 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Pt-197	$2 \times 10^1$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Pt-197m	$1 \times 10^1$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Plutonium (94)				
Pu-236	$3 \times 10^1$	$3 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
Pu-237	$2 \times 10^1$	$2 \times 10^1$	$1 \times 10^3$	$1 \times 10^7$
Pu-238	$1 \times 10^1$	$1 \times 10^{-3}$	$1 \times 10^0$	$1 \times 10^4$
Pu-239	$1 \times 10^1$	$1 \times 10^{-3}$	$1 \times 10^0$	$1 \times 10^4$
Pu-240	$1 \times 10^1$	$1 \times 10^{-3}$	$1 \times 10^0$	$1 \times 10^3$
Pu-241 <sup>(a)</sup>	$4 \times 10^1$	$6 \times 10^{-2}$	$1 \times 10^2$	$1 \times 10^5$
Pu-242	$1 \times 10^1$	$1 \times 10^{-3}$	$1 \times 10^0$	$1 \times 10^4$
Pu-244 <sup>(a)</sup>	$4 \times 10^{-1}$	$1 \times 10^{-3}$	$1 \times 10^0$	$1 \times 10^4$
Radium (88)				
Ra-223 <sup>(a)</sup>	$4 \times 10^{-1}$	$7 \times 10^{-3}$	$1 \times 10^2$ (b)	$1 \times 10^5$ (b)
Ra-224 <sup>(a)</sup>	$4 \times 10^{-1}$	$2 \times 10^{-2}$	$1 \times 10^1$ (b)	$1 \times 10^5$ (b)
Ra-225 <sup>(a)</sup>	$2 \times 10^{-1}$	$4 \times 10^{-3}$	$1 \times 10^2$	$1 \times 10^5$
Ra-226 <sup>(a)</sup>	$2 \times 10^{-1}$	$3 \times 10^{-3}$	$1 \times 10^1$ (b)	$1 \times 10^4$ (b)
Ra-228 <sup>(a)</sup>	$6 \times 10^{-1}$	$2 \times 10^{-2}$	$1 \times 10^1$ (b)	$1 \times 10^5$ (b)
Rubidium (37)				
Rb-81	$2 \times 10^0$	$8 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Rb-83 <sup>(a)</sup>	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Rb-84	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Rb-86	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^5$
Rb-87	Unlimited	Unlimited	$1 \times 10^4$	$1 \times 10^7$
Rb (nat)	Unlimited	Unlimited	$1 \times 10^4$	$1 \times 10^7$
Rhenium (75)				
Re-184	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Re-184m	$3 \times 10^0$	$1 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Re-186	$2 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Re-187	Unlimited	Unlimited	$1 \times 10^6$	$1 \times 10^9$
Re-188	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^5$
Re-189 <sup>(a)</sup>	$3 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Re (nat)	Unlimited	Unlimited	$1 \times 10^6$	$1 \times 10^9$
Rhodium (45)				
Rh-99	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Rh-101	$4 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
Rh-102	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Rh-102m	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Rh-103m	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^4$	$1 \times 10^8$
Rh-105	$1 \times 10^1$	$8 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^7$
Radon (86)				
Rn-222 <sup>(a)</sup>	$3 \times 10^{-1}$	$4 \times 10^{-3}$	$1 \times 10^1$ (b)	$1 \times 10^8$ (b)
Ruthenium (44)				
Ru-97	$5 \times 10^0$	$5 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
Ru-103 <sup>(a)</sup>	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Ru-105	$1 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$

Radionuclide (atomic number)	A <sub>1</sub>	A <sub>2</sub>	Activity concentration for exempt material (Bq/g)	Activity limit for an exempt consignment (Bq)
	(TBq)	(TBq)	(Bq/g) <sup>(b)</sup>	(Bq) <sup>(b)</sup>
Ru-106 <sup>(a)</sup>	$2 \times 10^{-1}$	$2 \times 10^{-1}$	$1 \times 10^5$	$1 \times 10^5$
Sulphur (16)				
S-35	$4 \times 10^1$	$3 \times 10^0$	$1 \times 10^5$	$1 \times 10^8$
Antimony (51)				
Sb-122	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^4$
Sb-124	$6 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Sb-125	$2 \times 10^0$	$1 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Sb-126	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Scandium (21)				
Sc-44	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Sc-46	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Sc-47	$1 \times 10^1$	$7 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Sc-48	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Selenium (34)				
Se-75	$3 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Se-79	$4 \times 10^1$	$2 \times 10^0$	$1 \times 10^4$	$1 \times 10^7$
Silicon (14)				
Si-31	$6 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Si-32	$4 \times 10^1$	$5 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Samarium (62)				
Sm-145	$1 \times 10^1$	$1 \times 10^1$	$1 \times 10^2$	$1 \times 10^7$
Sm-147	Unlimited	Unlimited	$1 \times 10^1$	$1 \times 10^4$
Sm-151	$4 \times 10^1$	$1 \times 10^1$	$1 \times 10^4$	$1 \times 10^8$
Sm-153	$9 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Tin (50)				
Sn-113 <sup>(a)</sup>	$4 \times 10^0$	$2 \times 10^0$	$1 \times 10^3$	$1 \times 10^7$
Sn-117m	$7 \times 10^0$	$4 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Sn-119m	$4 \times 10^1$	$3 \times 10^1$	$1 \times 10^3$	$1 \times 10^7$
Sn-121m <sup>(a)</sup>	$4 \times 10^1$	$9 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^7$
Sn-123	$8 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Sn-125	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^5$
Sn-126 <sup>(a)</sup>	$6 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Strontium (38)				
Sr-82 <sup>(a)</sup>	$2 \times 10^{-1}$	$2 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Sr-85	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Sr-85m	$5 \times 10^0$	$5 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
Sr-87m	$3 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Sr-89	$6 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Sr-90 <sup>(a)</sup>	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^2$ <sup>(b)</sup>	$1 \times 10^4$ <sup>(b)</sup>
Sr-91 <sup>(a)</sup>	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Sr-92 <sup>(a)</sup>	$1 \times 10^0$	$3 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Tritium (1)				
T (H-3)	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^6$	$1 \times 10^9$
Tantalum (73)				
Ta-178 (long lived)	$1 \times 10^0$	$8 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Ta-179	$3 \times 10^1$	$3 \times 10^1$	$1 \times 10^3$	$1 \times 10^7$
Ta-182	$9 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^4$
Terbium (65)				
Tb-157	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^4$	$1 \times 10^7$
Tb-158	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Tb-160	$1 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Technetium (43)				
Tc-95m <sup>(a)</sup>	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Tc-96	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Tc-96m <sup>(a)</sup>	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^7$
Tc-97	Unlimited	Unlimited	$1 \times 10^3$	$1 \times 10^8$
Tc-97m	$4 \times 10^1$	$1 \times 10^0$	$1 \times 10^3$	$1 \times 10^7$
Tc-98	$8 \times 10^{-1}$	$7 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Tc-99	$4 \times 10^1$	$9 \times 10^{-1}$	$1 \times 10^4$	$1 \times 10^7$
Tc-99m	$1 \times 10^1$	$4 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
Tellurium (52)				
Te-121	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Te-121m	$5 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Te-123m	$8 \times 10^0$	$1 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
Te-125m	$2 \times 10^1$	$9 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^7$
Te-127	$2 \times 10^1$	$7 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$

Radionuclide (atomic number)	A <sub>1</sub>	A <sub>2</sub>	Activity concentration for exempt material	Activity limit for an exempt consignment
	(TBq)	(TBq)	(Bq/g)	(Bq)
Te-127m <sup>(a)</sup>	$2 \times 10^1$	$5 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^7$
Te-129	$7 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Te-129m <sup>(a)</sup>	$8 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Te-131m <sup>(a)</sup>	$7 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Te-132 <sup>(a)</sup>	$5 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^7$
Thorium (90)				
Th-227	$1 \times 10^1$	$5 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
Th-228 <sup>(a)</sup>	$5 \times 10^{-1}$	$1 \times 10^{-3}$	$1 \times 10^0$ <sup>(b)</sup>	$1 \times 10^4$ <sup>(b)</sup>
Th-229	$5 \times 10^0$	$5 \times 10^{-4}$	$1 \times 10^0$ <sup>(b)</sup>	$1 \times 10^3$ <sup>(b)</sup>
Th-230	$1 \times 10^1$	$1 \times 10^{-3}$	$1 \times 10^0$	$1 \times 10^4$
Th-231	$4 \times 10^1$	$2 \times 10^{-2}$	$1 \times 10^3$	$1 \times 10^7$
Th-232	Unlimited	Unlimited	$1 \times 10^1$	$1 \times 10^4$
Th-234 <sup>(a)</sup>	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^3$ <sup>(b)</sup>	$1 \times 10^5$ <sup>(b)</sup>
Th (nat)	Unlimited	Unlimited	$1 \times 10^0$ <sup>(b)</sup>	$1 \times 10^3$ <sup>(b)</sup>
Titanium (22)				
Ti-44 <sup>(a)</sup>	$5 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Thallium (81)				
Tl-200	$9 \times 10^{-1}$	$9 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Tl-201	$1 \times 10^1$	$4 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Tl-202	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Tl-204	$1 \times 10^1$	$7 \times 10^{-1}$	$1 \times 10^4$	$1 \times 10^4$
Thulium (69)				
Tm-167	$7 \times 10^0$	$8 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Tm-170	$3 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Tm-171	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^4$	$1 \times 10^8$
Uranium (92)				
U-230 (fast lung absorption) <sup>(a)(d)</sup>	$4 \times 10^1$	$1 \times 10^{-1}$	$1 \times 10^1$ <sup>(b)</sup>	$1 \times 10^5$ <sup>(b)</sup>
U-230 (medium lung absorption) <sup>(a)(e)</sup>	$4 \times 10^1$	$4 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
U-230 (slow lung absorption) <sup>(a)(f)</sup>	$3 \times 10^1$	$3 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
U-232 (fast lung absorption) <sup>(d)</sup>	$4 \times 10^1$	$1 \times 10^{-2}$	$1 \times 10^0$ <sup>(b)</sup>	$1 \times 10^3$ <sup>(b)</sup>
U-232 (medium lung absorption) <sup>(e)</sup>	$4 \times 10^1$	$7 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
U-232 (slow lung absorption) <sup>(f)</sup>	$1 \times 10^1$	$1 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
U-233 (fast lung absorption) <sup>(d)</sup>	$4 \times 10^1$	$9 \times 10^{-2}$	$1 \times 10^1$	$1 \times 10^4$
U-233 (medium lung absorption) <sup>(e)</sup>	$4 \times 10^1$	$2 \times 10^{-2}$	$1 \times 10^2$	$1 \times 10^5$
U-233 (slow lung absorption) <sup>(f)</sup>	$4 \times 10^1$	$6 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^5$
U-234 (fast lung absorption) <sup>(d)</sup>	$4 \times 10^1$	$9 \times 10^{-2}$	$1 \times 10^1$	$1 \times 10^4$
U-234 (medium lung absorption) <sup>(e)</sup>	$4 \times 10^1$	$2 \times 10^{-2}$	$1 \times 10^2$	$1 \times 10^5$
U-234 (slow lung absorption) <sup>(f)</sup>	$4 \times 10^1$	$6 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^5$
U-235 (all lung absorption types) <sup>(a)(d)(e)(f)</sup>	Unlimited	Unlimited	$1 \times 10^1$ <sup>(b)</sup>	$1 \times 10^4$ <sup>(b)</sup>
U-236 (fast lung absorption) <sup>(d)</sup>	Unlimited	Unlimited	$1 \times 10^1$	$1 \times 10^4$
U-236 (medium lung absorption) <sup>(e)</sup>	$4 \times 10^1$	$2 \times 10^{-2}$	$1 \times 10^2$	$1 \times 10^5$
U-236 (slow lung absorption) <sup>(f)</sup>	$4 \times 10^1$	$6 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
U-238 (all lung absorption types) <sup>(d)(e)(f)</sup>	Unlimited	Unlimited	$1 \times 10^1$ <sup>(b)</sup>	$1 \times 10^4$ <sup>(b)</sup>
U (nat)	Unlimited	Unlimited	$1 \times 10^0$ <sup>(b)</sup>	$1 \times 10^3$ <sup>(b)</sup>
U (enriched to 20% or less) <sup>(g)</sup>	Unlimited	Unlimited	$1 \times 10^0$	$1 \times 10^3$
U (dep)	Unlimited	Unlimited	$1 \times 10^0$	$1 \times 10^3$
Vanadium (23)				
V-48	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
V-49	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^4$	$1 \times 10^7$
Tungsten (74)				
W-178 <sup>(a)</sup>	$9 \times 10^0$	$5 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
W-181	$3 \times 10^1$	$3 \times 10^1$	$1 \times 10^3$	$1 \times 10^7$
W-185	$4 \times 10^1$	$8 \times 10^{-1}$	$1 \times 10^4$	$1 \times 10^7$
W-187	$2 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
W-188 <sup>(a)</sup>	$4 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^5$
Xenon (54)				
Xe-122 <sup>(a)</sup>	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^9$
Xe-123	$2 \times 10^0$	$7 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^9$

Radionuclide (atomic number)	A <sub>1</sub>	A <sub>2</sub>	Activity concentration for exempt material (Bq/g)	Activity limit for an exempt consignment (Bq)
	(TBq)	(TBq)		
Xe-127	$4 \times 10^0$	$2 \times 10^0$	$1 \times 10^3$	$1 \times 10^5$
Xe-131m	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^4$	$1 \times 10^4$
Xe-133	$2 \times 10^1$	$1 \times 10^1$	$1 \times 10^3$	$1 \times 10^4$
Xe-135	$3 \times 10^0$	$2 \times 10^0$	$1 \times 10^3$	$1 \times 10^{10}$
Yttrium (39)				
Y-87 <sup>(a)</sup>	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Y-88	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Y-90	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^5$
Y-91	$6 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Y-91m	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Y-92	$2 \times 10^{-1}$	$2 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^5$
Y-93	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^5$
Ytterbium (70)				
Yb-169	$4 \times 10^0$	$1 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
Yb-175	$3 \times 10^1$	$9 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^7$
Zinc (30)				
Zn-65	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Zn-69	$3 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^4$	$1 \times 10^6$
Zn-69m <sup>(a)</sup>	$3 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Zirconium (40)				
Zr-88	$3 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Zr-93	Unlimited	Unlimited	$1 \times 10^3$ <sup>(b)</sup>	$1 \times 10^7$ <sup>(b)</sup>
Zr-95 <sup>(a)</sup>	$2 \times 10^0$	$8 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Zr-97 <sup>(a)</sup>	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$ <sup>(b)</sup>	$1 \times 10^5$ <sup>(b)</sup>

<sup>(a)</sup> A<sub>1</sub> and/or A<sub>2</sub> values for these parent radionuclides include contributions from daughter radionuclides with half-lives less than 10 days, as listed in the following:

Mg-28	Al-28
Ar-42	K-42
Ca-47	Sc-47
Ti-44	Sc-44
Fe-52	Mn-52m
Fe-60	Co-60m
Zn-69m	Zn-69
Ge-68	Ga-68
Rb-83	Kr-83m
Sr-82	Rb-82
Sr-90	Y-90
Sr-91	Y-91m
Sr-92	Y-92
Y-87	Sr-87m
Zr-95	Nb-95m
Zr-97	Nb-97m, Nb-97
Mo-99	Tc-99m
Tc-95m	Tc-95
Tc-96m	Tc-96
Ru-103	Rh-103m
Ru-106	Rh-106
Pd-103	Rh-103m
Ag-108m	Ag-108
Ag-110m	Ag-110
Cd-115	In-115m
In-114m	In-114
Sn-113	In-113m
Sn-121m	Sn-121
Sn-126	Sb-126m
Te-118	Sb-118
Te-127m	Te-127
Te-129m	Te-129
Te-131m	Te-131
Te-132	I-132
I-135	Xe-135m
Xe-122	I-122
Cs-137	Ba-137m
Ba-131	Cs-131

Ba-140	La-140
Ce-144	Pr-144m, Pr-144
Pm-148m	Pm-148
Gd-146	Eu-146
Dy-166	Ho-166
Hf-172	Lu-172
W-178	Ta-178
W-188	Re-188
Re-189	Os-189m
Os-194	Ir-194
Ir-189	Os-189m
Pt-188	Ir-188
Hg-194	Au-194
Hg-195m	Hg-195
Pb-210	Bi-210
Pb-212	Bi-212, Tl-208, Po-212
Bi-210m	Tl-206
Bi-212	Tl-208, Po-212
At-211	Po-211
Rn-222	Po-218, Pb-214, At-218, Bi-214, Po-214
Ra-223	Rn-219, Po-215, Pb-211, Bi-211, Po-211, Tl-207
Ra-224	Rn-220, Po-216, Pb-212, Bi-212, Tl-208, Po-212
Ra-225	Ac-225, Fr-221, At-217, Bi-213, Tl-209, Po-213, Pb-209
Ra-226	Rn-222, Po-218, Pb-214, At-218, Bi-214, Po-214
Ra-228	Ac-228
Ac-225	Fr-221, At-217, Bi-213, Tl-209, Po-213, Pb-209
Ac-227	Fr-223
Th-228	Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208, Po-212
Th-234	Pa-234m, Pa-234
Pa-230	Ac-226, Th-226, Fr-222, Ra-222, Rn-218, Po-214
U-230	Th-226, Ra-222, Rn-218, Po-214
U-235	Th-231
Pu-241	U-237
Pu-244	U-240, Np-240m
Am-242m	Am-242, Np-238
Am-243	Np-239
Cm-247	Pu-243
Bk-249	Am-245
Cf-253	Cm-249

(b) Parent nuclides and their progeny included in secular equilibrium are listed in the following:

Sr-90	Y-90
Zr-93	Nb-93m
Zr-97	Nb-97
Ru-106	Rh-106
Ag-108m	Ag-108
Cs-137	Ba-137m
Ce-144	Pr-144
Ba-140	La-140
Bi-212	Tl-208 (0.36), Po-212 (0.64)
Pb-210	Bi-210, Po-210
Pb-212	Bi-212, Tl-208 (0.36), Po-212 (0.64)
Rn-222	Po-218, Pb-214, Bi-214, Po-214
Ra-223	Rn-219, Po-215, Pb-211, Bi-211, Tl-207
Ra-224	Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0.36), Po-212 (0.64)
Ra-226	Rn-222, Po-218, Pb-214, Bi-214, Po-214, Pb-210, Bi-210, Po-210
Ra-228	Ac-228
Th-228	Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0.36), Po-212 (0.64)
Th-229	Ra-225, Ac-225, Fr-221, At-217, Bi-213, Po-213, Pb-209
Th-nat	Ra-228, Ac-228, Th-228, Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0.36), Po-212 (0.64)
Th-234	Pa-234m
U-230	Th-226, Ra-222, Rn-218, Po-214
U-232	Th-228, Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0.36), Po-212 (0.64)
U-235	Th-231
U-238	Th-234, Pa-234m
U-nat	Th-234, Pa-234m, U-234, Th-230, Ra-226, Rn-222, Po-218, Pb-214, Bi-214, Po-214, Pb-210, Bi-210, Po-210

Np-237 Pa-233  
Am-242m Am-242  
Am-243 Np-239

- (c) The quantity may be determined from a measurement of the rate of decay or a measurement of the radiation level at a prescribed distance from the source.
- (d) These values apply only to compounds of uranium that take the chemical form of  $\text{UF}_6$ ,  $\text{UO}_2\text{F}_2$  and  $\text{UO}_2(\text{NO}_3)_2$  in both normal and accident conditions of carriage.
- (e) These values apply only to compounds of uranium that take the chemical form of  $\text{UO}_3$ ,  $\text{UF}_4$ ,  $\text{UCl}_4$  and hexavalent compounds in both normal and accident conditions of carriage.
- (f) These values apply to all compounds of uranium other than those specified in (d) and (e) above.
- (g) These values apply to unirradiated uranium only.

**2.2.7.2.2.2** For individual radionuclides which are not listed in Table 2.2.7.2.1 the determination of the basic radionuclide values referred to in 2.2.7.2.1 shall require multilateral approval. It is permissible to use an  $A_2$  value calculated using a dose coefficient for the appropriate lung absorption type as recommended by the International Commission on Radiological Protection, if the chemical forms of each radionuclide under both normal and accident conditions of carriage are taken into consideration. Alternatively, the radionuclide values in Table 2.2.7.2.2 may be used without obtaining competent authority approval.

**Table 2.2.7.2.2: Basic radionuclide values for unknown radionuclides or mixtures**

Radioactive contents	$A_1$	$A_2$	Activity concentration for exempt material	Activity limit for an exempt consignment
	(TBq)	(TBq)	(Bq/g)	(Bq)
Only beta or gamma emitting nuclides are known to be present	0.1	0.02	$1 \times 10^1$	$1 \times 10^4$
Alpha emitting nuclides but no neutron emitters are known to be present	0.2	$9 \times 10^{-5}$	$1 \times 10^{-1}$	$1 \times 10^3$
Neutron emitting nuclides are known to be present or no relevant data are available	0.001	$9 \times 10^{-5}$	$1 \times 10^{-1}$	$1 \times 10^3$

**2.2.7.2.2.3** In the calculations of  $A_1$  and  $A_2$  for a radionuclide not in Table 2.2.7.2.1, a single radioactive decay chain in which the radionuclides are present in their naturally occurring proportions, and in which no daughter nuclide has a half-life either longer than 10 days or longer than that of the parent nuclide, shall be considered as a single radionuclide; and the activity to be taken into account and the  $A_1$  or  $A_2$  value to be applied shall be those corresponding to the parent nuclide of that chain. In the case of radioactive decay chains in which any daughter nuclide has a half-life either longer than 10 days or greater than that of the parent nuclide, the parent and such daughter nuclides shall be considered as mixtures of different nuclides.

**2.2.7.2.2.4** For mixtures of radionuclides, the determination of the basic radionuclide values referred to in 2.2.7.2.1 may be determined as follows:

$$X_m = \frac{1}{\sum_i \frac{f(i)}{X(i)}}$$

where

$f(i)$  is the fraction of activity or activity concentration of radionuclide  $i$  in the mixture;

$X(i)$  is the appropriate value of  $A_1$  or  $A_2$ , or the activity concentration for exempt material or the activity limit for an exempt consignment as appropriate for the radionuclide  $i$ ; and

$X_m$  is the derived value of  $A_1$  or  $A_2$ , or the activity concentration for exempt material or the activity limit for an exempt consignment in the case of a mixture.

**2.2.7.2.2.5** When the identity of each radionuclide is known but the individual activities of some of the radionuclides are not known, the radionuclides may be grouped and the lowest radionuclide value, as appropriate, for the radionuclides in each group may be used in applying the formulas in 2.2.7.2.4 and 2.2.7.2.4.4. Groups may

be based on the total alpha activity and the total beta/gamma activity when these are known, using the lowest radionuclide values for the alpha emitters or beta/gamma emitters, respectively.

**2.2.7.2.2.6** For individual radionuclides or for mixtures of radionuclides for which relevant data are not available, the values shown in Table 2.2.7.2.2.2 shall be used.

#### **2.2.7.2.3 Determination of other material characteristics**

##### **2.2.7.2.3.1 Low specific activity (LSA) material**

###### **2.2.7.2.3.1.1 (Reserved)**

**2.2.7.2.3.1.2** LSA material shall be in one of three groups:

- (a) LSA-I
  - (i) uranium and thorium ores and concentrates of such ores, and other ores containing naturally occurring radionuclides which are intended to be processed for the use of these radionuclides;
  - (ii) natural uranium, depleted uranium, natural thorium or their compounds or mixtures, providing they are unirradiated and in solid or liquid form;
  - (iii) radioactive material for which the  $A_2$  value is unlimited, excluding material classified as fissile according to 2.2.7.2.3.5; or
  - (iv) other radioactive material in which the activity is distributed throughout and the estimated average specific activity does not exceed 30 times the values for activity concentration specified in 2.2.7.2.2.1 to 2.2.7.2.2.6, excluding material classified as fissile according to 2.2.7.2.3.5;
- (b) LSA-II
  - (i) water with tritium concentration up to 0.8 TBq/l; or
  - (ii) other material in which the activity is distributed throughout and the estimated average specific activity does not exceed  $10^{-4}$  A<sub>2</sub>/g for solids and gases, and  $10^{-5}$  A<sub>2</sub>/g for liquids;
- (c) LSA-III
 

Solids (e.g. consolidated wastes, activated materials), excluding powders, in which:

  - (i) the radioactive material is distributed throughout a solid or a collection of solid objects, or is essentially uniformly distributed in a solid compact binding agent (such as concrete, bitumen, ceramic, etc.);
  - (ii) the radioactive material is relatively insoluble, or it is intrinsically contained in a relatively insoluble matrix, so that, even under loss of packaging, the loss of radioactive material per package by leaching when placed in water for seven days would not exceed 0.1 A<sub>2</sub>; and
  - (iii) the estimated average specific activity of the solid, excluding any shielding material, does not exceed  $2 \times 10^{-3}$  A<sub>2</sub>/g.

**2.2.7.2.3.1.3** LSA-III material shall be a solid of such a nature that if the entire contents of a package were subjected to the test specified in 2.2.7.2.3.1.4 the activity in the water would not exceed 0.1 A<sub>2</sub>.

**2.2.7.2.3.1.4** LSA-III material shall be tested as follows:

A solid material sample representing the entire contents of the package shall be immersed for 7 days in water at ambient temperature. The volume of water to be used in the test shall be sufficient to ensure that at the end of the 7 day test period the free volume of the unabsorbed and unreacted water remaining shall be at least 10% of the volume of the solid test sample itself. The water shall have an initial pH of 6-8 and a maximum conductivity of 1 mS/m at 20 °C. The total activity of the free volume of water shall be measured following the 7 day immersion of the test sample.

**2.2.7.2.3.1.5** Demonstration of compliance with the performance standards in 2.2.7.2.3.1.4 shall be in accordance with 6.4.12.1 and 6.4.12.2.

##### **2.2.7.2.3.2 Surface contaminated object (SCO)**

SCO is classified in one of two groups:

- (a) SCO-I: A solid object on which:
  - (i) the non-fixed contamination on the accessible surface averaged over 300 cm<sup>2</sup> (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed 4 Bq/cm<sup>2</sup> for beta and gamma emitters and low toxicity alpha emitters, or 0.4 Bq/cm<sup>2</sup> for all other alpha emitters; and
  - (ii) the fixed contamination on the accessible surface averaged over 300 cm<sup>2</sup> (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed  $4 \times 10^4$  Bq/cm<sup>2</sup> for beta and gamma emitters and low toxicity alpha emitters, or  $4 \times 10^3$  Bq/cm<sup>2</sup> for all other alpha emitters; and
  - (iii) the non-fixed contamination plus the fixed contamination on the inaccessible surface averaged over 300 cm<sup>2</sup> (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed  $4 \times 10^4$  Bq/cm<sup>2</sup> for beta and gamma emitters and low toxicity alpha emitters, or  $4 \times 10^3$  Bq/cm<sup>2</sup> for all other alpha emitters;

- (b) SCO-II: A solid object on which either the fixed or non-fixed contamination on the surface exceeds the applicable limits specified for SCO-I in (a) above and on which:
  - (i) the non-fixed contamination on the accessible surface averaged over 300 cm<sup>2</sup> (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed 400 Bq/cm<sup>2</sup> for beta and gamma emitters and low toxicity alpha emitters, or 40 Bq/cm<sup>2</sup> for all other alpha emitters; and
  - (ii) the fixed contamination on the accessible surface, averaged over 300 cm<sup>2</sup> (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed  $8 \times 10^5$  Bq/cm<sup>2</sup> for beta and gamma emitters and low toxicity alpha emitters, or  $8 \times 10^4$  Bq/cm<sup>2</sup> for all other alpha emitters; and
  - (iii) the non-fixed contamination plus the fixed contamination on the inaccessible surface averaged over 300 cm<sup>2</sup> (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed  $8 \times 10^5$  Bq/cm<sup>2</sup> for beta and gamma emitters and low toxicity alpha emitters, or  $8 \times 10^4$  Bq/cm<sup>2</sup> for all other alpha emitters.

#### 2.2.7.2.3.3 Special form radioactive material

**2.2.7.2.3.3.1** Special form radioactive material shall have at least one dimension not less than 5 mm. When a sealed capsule constitutes part of the special form radioactive material, the capsule shall be so manufactured that it can be opened only by destroying it. The design for special form radioactive material requires unilateral approval.

**2.2.7.2.3.3.2** Special form radioactive material shall be of such a nature or shall be so designed that if it is subjected to the tests specified in 2.2.7.2.3.3.4 to 2.2.7.2.3.3.8, it shall meet the following requirements:

- (a) It would not break or shatter under the impact, percussion and bending tests 2.2.7.2.3.3.5 (a), (b), (c) and 2.2.7.2.3.3.6 (a) as applicable;
- (b) It would not melt or disperse in the applicable heat test 2.2.7.2.3.3.5 (d) or 2.2.7.2.3.3.6 (b) as applicable; and
- (c) The activity in the water from the leaching tests specified in 2.2.7.2.3.3.7 and 2.2.7.2.3.3.8 would not exceed 2 kBq; or alternatively for sealed sources, the leakage rate for the volumetric leakage assessment test specified in ISO 9978:1992 "Radiation Protection – Sealed Radioactive Sources – Leakage Test Methods", would not exceed the applicable acceptance threshold acceptable to the competent authority.

**2.2.7.2.3.3.3** Demonstration of compliance with the performance standards in 2.2.7.2.3.3.2 shall be in accordance with 6.4.12.1 and 6.4.12.2.

**2.2.7.2.3.3.4** Specimens that comprise or simulate special form radioactive material shall be subjected to the impact test, the percussion test, the bending test, and the heat test specified in 2.2.7.2.3.3.5 or alternative tests as authorized in 2.2.7.2.3.3.6. A different specimen may be used for each of the tests. Following each test, a leaching assessment or volumetric leakage test shall be performed on the specimen by a method no less sensitive than the methods given in 2.2.7.2.3.3.7 for indispersible solid material or 2.2.7.2.3.3.8 for encapsulated material.

**2.2.7.2.3.3.5** The relevant test methods are:

- (a) Impact test: The specimen shall drop onto the target from a height of 9 m. The target shall be as defined in 6.4.14;
- (b) Percussion test: The specimen shall be placed on a sheet of lead which is supported by a smooth solid surface and struck by the flat face of a mild steel bar so as to cause an impact equivalent to that resulting from a free drop of 1.4 kg through 1 m. The lower part of the bar shall be 25 mm in diameter with the edges rounded off to a radius of  $(3.0 \pm 0.3)$  mm. The lead, of hardness number 3.5 to 4.5 on the Vickers scale and not more than 25 mm thick, shall cover an area greater than that covered by the specimen. A fresh surface of lead shall be used for each impact. The bar shall strike the specimen so as to cause maximum damage;
- (c) Bending test: The test shall apply only to long, slender sources with both a minimum length of 10 cm and a length to minimum width ratio of not less than 10. The specimen shall be rigidly clamped in a horizontal position so that one half of its length protrudes from the face of the clamp. The orientation of the specimen shall be such that the specimen will suffer maximum damage when its free end is struck by the flat face of a steel bar. The bar shall strike the specimen so as to cause an impact equivalent to that resulting from a free vertical drop of 1.4 kg through 1 m. The lower part of the bar shall be 25 mm in diameter with the edges rounded off to a radius of  $(3.0 \pm 0.3)$  mm;
- (d) Heat test: The specimen shall be heated in air to a temperature of 800 °C and held at that temperature for a period of 10 minutes and shall then be allowed to cool.

**2.2.7.2.3.3.6** Specimens that comprise or simulate radioactive material enclosed in a sealed capsule may be excepted from:

- (a) The tests prescribed in 2.2.7.2.3.3.5 (a) and (b) provided the mass of the special form radioactive material:
  - (i) is less than 200 g and they are alternatively subjected to the Class 4 impact test prescribed in ISO 2919:1999 "Radiation protection – Sealed radioactive sources – General requirements and classification"; or



- (ii) is less than 500 g and they are alternatively subjected to the Class 5 impact test prescribed in ISO 2919:1999 "Radiation protection – Sealed radioactive sources – General requirements and classification"; and
- (b) The test prescribed in 2.2.7.2.3.3.5 (d) provided they are alternatively subjected to the Class 6 temperature test specified in ISO 2919:1999 "Radiation protection – Sealed radioactive sources – General requirements and classification".

**2.2.7.2.3.3.7** For specimens which comprise or simulate indispersible solid material, a leaching assessment shall be performed as follows:

- (a) The specimen shall be immersed for 7 days in water at ambient temperature. The volume of water to be used in the test shall be sufficient to ensure that at the end of the 7 day test period the free volume of the unabsorbed and unreacted water remaining shall be at least 10% of the volume of the solid test sample itself. The water shall have an initial pH of 6–8 and a maximum conductivity of 1 mS/m at 20 °C;
- (b) The water with specimen shall then be heated to a temperature of  $(50 \pm 5)$  °C and maintained at this temperature for 4 hours;
- (c) The activity of the water shall then be determined;
- (d) The specimen shall then be kept for at least 7 days in still air at not less than 30 °C and relative humidity not less than 90%;
- (e) The specimen shall then be immersed in water of the same specification as in (a) above and the water with the specimen heated to  $(50 \pm 5)$  °C and maintained at this temperature for 4 hours;
- (f) The activity of the water shall then be determined.

**2.2.7.2.3.3.8** For specimens which comprise or simulate radioactive material enclosed in a sealed capsule, either a leaching assessment or a volumetric leakage assessment shall be performed as follows:

- (a) The leaching assessment shall consist of the following steps:
  - (i) the specimen shall be immersed in water at ambient temperature. The water shall have an initial pH of 6–8 with a maximum conductivity of 1 mS/m at 20 °C;
  - (ii) the water and specimen shall be heated to a temperature of  $(50 \pm 5)$  °C and maintained at this temperature for 4 hours;
  - (iii) the activity of the water shall then be determined;
  - (iv) the specimen shall then be kept for at least 7 days in still air at not less than 30 °C and relative humidity of not less than 90%;
  - (v) the process in (i), (ii) and (iii) shall be repeated;
- (b) The alternative volumetric leakage assessment shall comprise any of the tests prescribed in ISO 9978:1992 "Radiation Protection – Sealed radioactive sources – Leakage test methods", which are acceptable to the competent authority.

#### **2.2.7.2.3.4 Low dispersible radioactive material**

**2.2.7.2.3.4.1** The design for low dispersible radioactive material shall require multilateral approval. Low dispersible radioactive material shall be such that the total amount of this radioactive material in a package shall meet the following requirements:

- (a) The radiation level at 3 m from the unshielded radioactive material does not exceed 10 mSv/h;
- (b) If subjected to the tests specified in 6.4.20.3 and 6.4.20.4, the airborne release in gaseous and particulate forms of up to 100 µm aerodynamic equivalent diameter would not exceed 100 A<sub>2</sub>. A separate specimen may be used for each test; and
- (c) If subjected to the test specified in 2.2.7.2.3.1.4 the activity in the water would not exceed 100 A<sub>2</sub>. In the application of this test, the damaging effects of the tests specified in (b) above shall be taken into account.

**2.2.7.2.3.4.2** Low dispersible radioactive material shall be tested as follows:

A specimen that comprises or simulates low dispersible radioactive material shall be subjected to the enhanced thermal test specified in 6.4.20.3 and the impact test specified in 6.4.20.4. A different specimen may be used for each of the tests. Following each test, the specimen shall be subjected to the leach test specified in 2.2.7.2.3.1.4. After each test it shall be determined if the applicable requirements of 2.2.7.2.3.4.1 have been met.

**2.2.7.2.3.4.3** Demonstration of compliance with the performance standards in 2.2.7.2.3.4.1 and 2.2.7.2.3.4.2 shall be in accordance with 6.4.12.1 and 6.4.12.2.

#### **2.2.7.2.3.5 Fissile material**

Packages containing fissile radionuclides shall be classified under the relevant entry of Table 2.2.7.2.1.1 for fissile material unless one of the conditions (a) to (d) of this paragraph is met. Only one type of exception is allowed per consignment.

(a) A mass limit per consignment such that:

$$\frac{\text{mass of uranium - 235 (g)}}{X} + \frac{\text{mass of other fissile material (g)}}{Y} < 1$$

where X and Y are the mass limits defined in Table 2.2.7.2.3.5, provided that the smallest external dimension of each package is not less than 10 cm and that either:

- (i) each individual package contains not more than 15 g of fissile material; for unpackaged material, this quantity limitation shall apply to the consignment being carried in or on the wagon; or
- (ii) the fissile material is a homogeneous hydrogenous solution or mixture where the ratio of fissile nuclides to hydrogen is less than 5% by mass; or
- (iii) there are not more than 5 g of fissile material in any 10 litre volume of material.

Neither beryllium nor deuterium shall be present in quantities exceeding 1% of the applicable consignment mass limits provided in Table 2.2.7.2.3.5, except for deuterium in natural concentration in hydrogen.

(b) Uranium enriched in uranium-235 to a maximum of 1% by mass, and with a total plutonium and uranium-233 content not exceeding 1% of the mass of uranium-235, provided that the fissile material is distributed essentially homogeneously throughout the material. In addition, if uranium-235 is present in metallic, oxide or carbide forms, it shall not form a lattice arrangement;

(c) Liquid solutions of uranyl nitrate enriched in uranium-235 to a maximum of 2% by mass, with a total plutonium and uranium-233 content not exceeding 0.002% of the mass of uranium, and with a minimum nitrogen to uranium atomic ratio (N/U) of 2;

(d) Packages containing, individually, a total plutonium mass not more than 1 kg, of which not more than 20% by mass may consist of plutonium-239, plutonium-241 or any combination of those radionuclides.

**Table 2.2.7.2.3.5: Consignment mass limits for exceptions from the requirements for packages containing fissile material**

Fissile material	Fissile material mass (g) mixed with substances having an average hydrogen density less than or equal to water	Fissile material mass (g) mixed with substances having an average hydrogen density greater than water
Uranium-235 (X)	400	290
Other fissile material (Y)	250	180

#### 2.2.7.2.4 Classification of packages or unpacked material

The quantity of radioactive material in a package shall not exceed the relevant limits for the package type as specified below.

##### 2.2.7.2.4.1 Classification as excepted package

2.2.7.2.4.1.1 Packages may be classified as excepted packages if:

- (a) They are empty packagings having contained radioactive material;
- (b) They contain instruments or articles in limited quantities;
- (c) They contain articles manufactured of natural uranium, depleted uranium or natural thorium; or
- (d) They contain radioactive material in limited quantities.

2.2.7.2.4.1.2 A package containing radioactive material may be classified as an excepted package, provided that the radiation level at any point on its external surface does not exceed 5 µSv/h.

**Table 2.2.7.2.4.1.2: Activity limits for excepted packages**

Physical state of contents	Instruments or articles		Materials
	Item limits <sup>(a)</sup>	Package limits <sup>(a)</sup>	Package limits <sup>(a)</sup>
(1)	(2)	(3)	(4)
<b>Solids</b>			
special form	$10^{-2} A_1$	$A_1$	$10^{-3} A_1$
other form	$10^{-2} A_2$	$A_2$	$10^{-3} A_2$
<b>Liquids</b>	$10^{-3} A_2$	$10^{-1} A_2$	$10^{-4} A_2$
<b>Gases</b>			
tritium	$2 \times 10^{-2} A_2$	$2 \times 10^{-1} A_2$	$2 \times 10^{-2} A_2$
special form	$10^{-3} A_1$	$10^{-2} A_1$	$10^{-3} A_1$
other form	$10^{-3} A_2$	$10^{-2} A_2$	$10^{-3} A_2$

<sup>(a)</sup> For mixtures of radionuclides, see 2.2.7.2.2.4 to 2.2.7.2.2.6.

**2.2.7.2.4.1.3** Radioactive material which is enclosed in or is included as a component part of an instrument or other manufactured article may be classified under UN No. 2911 RADIOACTIVE MATERIAL, EXCEPTED PACKAGE – INSTRUMENTS or ARTICLES, provided that:

- (a) The radiation level at 10 cm from any point on the external surface of any unpackaged instrument or article is not greater than 0.1 mSv/h; and
- (b) Each instrument or manufactured article bears the marking "RADIOACTIVE" except:
  - (i) radioluminescent time-pieces or devices;
  - (ii) consumer products that either have received regulatory approval according to 1.7.1.4 (d) or do not individually exceed the activity limit for an exempt consignment in Table 2.2.7.2.2.1 (column 5), provided such products are carried in a package that bears the marking "RADIOACTIVE" on an internal surface in such a manner that warning of the presence of radioactive material is visible on opening the package; and
- (c) The active material is completely enclosed by non-active components (a device performing the sole function of containing radioactive material shall not be considered to be an instrument or manufactured article); and
- (d) The limits specified in columns 2 and 3 of Table 2.2.7.2.4.1.2 are met for each individual item and each package, respectively.

**2.2.7.2.4.1.4** Radioactive material with an activity not exceeding the limit specified in column 4 of Table 2.2.7.2.4.1.2, may be classified under UN No. 2910 RADIOACTIVE MATERIAL, EXCEPTED PACKAGE – LIMITED QUANTITY OF MATERIAL, provided that:

- (a) The package retains its radioactive contents under routine conditions of carriage; and
- (b) The package bears the marking "RADIOACTIVE" on an internal surface in such a manner that a warning of the presence of radioactive material is visible on opening the package.

**2.2.7.2.4.1.5** An empty packaging which had previously contained radioactive material with an activity not exceeding the limit specified in column 4 of Table 2.2.7.2.4.1.2 may be classified under UN No. 2908 RADIOACTIVE MATERIAL, EXCEPTED PACKAGE – EMPTY PACKAGING, provided that:

- (a) It is in a well-maintained condition and securely closed;
- (b) The outer surface of any uranium or thorium in its structure is covered with an inactive sheath made of metal or some other substantial material;
- (c) The level of internal non-fixed contamination, when averaged over any 300 cm<sup>2</sup>, does not exceed:
  - (i) 400 Bq/cm<sup>2</sup> for beta and gamma emitters and low toxicity alpha emitters; and
  - (ii) 40 Bq/cm<sup>2</sup> for all other alpha emitters; and
- (d) Any labels which may have been displayed on it in conformity with 5.2.2.1.11.1 are no longer visible.

**2.2.7.2.4.1.6** Articles manufactured of natural uranium, depleted uranium or natural thorium and articles in which the sole radioactive material is unirradiated natural uranium, unirradiated depleted uranium or unirradiated natural thorium may be classified under UN No. 2909 RADIOACTIVE MATERIAL, EXCEPTED PACKAGE – ARTICLES MANUFACTURED FROM NATURAL URANIUM or DEPLETED URANIUM or NATURAL THORIUM, provided that the outer surface of the uranium or thorium is enclosed in an inactive sheath made of metal or some other substantial material.

#### **2.2.7.2.4.2 Classification as Low specific activity (LSA) material**

Radioactive material may only be classified as LSA material if the conditions of 2.2.7.2.3.1 and 4.1.9.2 are met.

#### **2.2.7.2.4.3 Classification as Surface contaminated object (SCO)**

Radioactive material may be classified as SCO if the conditions of 2.2.7.2.3.2 and 4.1.9.2 are met.

#### **2.2.7.2.4.4 Classification as Type A package**

Packages containing radioactive material may be classified as Type A packages, provided that the following conditions are met:

Type A packages shall not contain activities greater than the following:

- (a) For special form radioactive material: A<sub>1</sub>; or
- (b) For all other radioactive material: A<sub>2</sub>.

For mixtures of radionuclides whose identities and respective activities are known, the following condition shall apply to the radioactive contents of a Type A package:

$$\sum_i \frac{B(i)}{A_1(i)} + \sum_j \frac{C(j)}{A_2(j)} \leq 1$$

where

$B(i)$  is the activity of radionuclide  $i$  as special form radioactive material;

$A_1(i)$  is the  $A_1$  value for radionuclide  $i$ ;

$C(j)$  is the activity of radionuclide  $j$  as other than special form radioactive material; and

$A_2(j)$  is the  $A_2$  value for radionuclide  $j$ .

#### 2.2.7.2.4.5 Classification of Uranium hexafluoride

Uranium hexafluoride shall only be assigned to UN Nos. 2977 RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, FISSILE, or 2978 RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, non-fissile or fissile-excepted.

##### 2.2.7.2.4.5.1 Packages containing uranium hexafluoride shall not contain:

- (a) A mass of uranium hexafluoride different from that authorized for the package design;
- (b) A mass of uranium hexafluoride greater than a value that would lead to an ullage smaller than 5% at the maximum temperature of the package as specified for the plant systems where the package shall be used; or
- (c) Uranium hexafluoride other than in solid form or at an internal pressure above atmospheric pressure when presented for carriage.

#### 2.2.7.2.4.6 Classification as Type B(U), Type B(M) or Type C packages

##### 2.2.7.2.4.6.1 Packages not otherwise classified in 2.2.7.2.4 (2.2.7.2.4.1 to 2.2.7.2.4.5) shall be classified in accordance with the competent authority approval certificate for the package issued by the country of origin of design.

##### 2.2.7.2.4.6.2 A package may only be classified as a Type B(U) if it does not contain:

- (a) Activities greater than those authorized for the package design;
  - (b) Radionuclides different from those authorized for the package design; or
  - (c) Contents in a form, or a physical or chemical state different from those authorized for the package design;
- as specified in the certificate of approval.

##### 2.2.7.2.4.6.3 A package may only be classified as a Type B(M) if it does not contain:

- (a) Activities greater than those authorized for the package design;
  - (b) Radionuclides different from those authorized for the package design; or
  - (c) Contents in a form, or a physical or chemical state different from those authorized for the package design;
- as specified in the certificate of approval.

##### 2.2.7.2.4.6.4 A package may only be classified as a Type C if it does not contain:

- (a) Activities greater than those authorized for the package design;
  - (b) Radionuclides different from those authorized for the package design; or
  - (c) Contents in a form, or physical or chemical state different from those authorized for the package design;
- as specified in the certificate of approval.

#### 2.2.7.2.5 Special arrangements

Radioactive material shall be classified as transported under special arrangement when it is intended to be carried in accordance with 1.7.4.

**2.2.8 Class 8: Corrosive substances****2.2.8.1 Criteria**

**2.2.8.1.1** The heading of Class 8 covers substances and articles containing substances of this class which by chemical action attack epithelial tissue – of skin or mucous membranes – with which they are in contact, or which in the event of leakage are capable of damaging or destroying other goods, or means of transport. The heading of this class also covers other substances which form a corrosive liquid only in the presence of water, or which produce corrosive vapour or mist in the presence of natural moisture of the air.

**2.2.8.1.2** Substances and articles of Class 8 are subdivided as follows:

- C1 - C10 Corrosive substances without subsidiary risk:
- C1 - C4 Acid substances:
- C1 Inorganic, liquid;
- C2 Inorganic, solid;
- C3 Organic, liquid;
- C4 Organic, solid;
- C5 - C8 Basic substances:
- C5 Inorganic, liquid;
- C6 Inorganic, solid;
- C7 Organic, liquid;
- C8 Organic, solid;
- C9 - C10 Other corrosive substances:
- C9 Liquid;
- C10 Solid;
- C11 Articles;
- CF Corrosive substances, flammable:
- CF1 Liquid;
- CF2 Solid;
- CS Corrosive substances, self-heating:
- CS1 Liquid;
- CS2 Solid;
- CW Corrosive substances which, in contact with water, emit flammable gases:
- CW1 Liquid;
- CW2 Solid;
- CO Corrosive substances, oxidizing:
- CO1 Liquid;
- CO2 Solid;
- CT Corrosive substances, toxic:
- CT1 Liquid;
- CT2 Solid;
- CFT Corrosive substances, flammable, liquid, toxic;
- COT Corrosive substances, oxidizing, toxic.

*Classification and assignment of packing groups*

**2.2.8.1.3** Substances of Class 8 shall be classified in three packing groups according to the degree of danger they present for carriage, as follows:

- Packing group I: highly corrosive substances
- Packing group II: corrosive substances
- Packing group III: slightly corrosive substances.

**2.2.8.1.4** Substances and articles classified in Class 8 are listed in Table A of Chapter 3.2. Allocation of substances to packing groups I, II and III has been made on the basis of experience taking into account such additional factors as inhalation risk (see 2.2.8.1.5) and reactivity with water (including the formation of dangerous decomposition products).

**2.2.8.1.5** A substance or preparation meeting the criteria of Class 8 having an inhalation toxicity of dusts and mists (LC<sub>50</sub>) in the range of packing group I, but toxicity through oral ingestion or dermal contact only in the range of packing group III or less, shall be allocated to Class 8.

- 2.2.8.1.6** Substances, including mixtures, not mentioned by name in Table A of Chapter 3.2 can be assigned to the relevant entry of 2.2.8.3, and to the relevant packing group on the basis of the length of time of contact necessary to produce full thickness destruction of human skin in accordance with the criteria of (a) to (c) below.

Liquids, and solids which may become liquid during carriage, which are judged not to cause full thickness destruction of human skin shall still be considered for their potential to cause corrosion to certain metal surfaces. In assigning the packing group, account shall be taken of human experience in instances of accidental exposure. In the absence of human experience, the grouping shall be based on data obtained from experiments in accordance with OECD Guideline 404<sup>7</sup>.

- (a) Packing group I is assigned to substances that cause full thickness destruction of intact skin tissue within an observation period up to 60 minutes starting after the exposure time of 3 minutes or less.
- (b) Packing group II is assigned to substances that cause full thickness destruction of intact skin tissue within an observation period up to 14 days starting after the exposure time of more than 3 minutes but not more than 60 minutes.
- (c) Packing group III is assigned to substances that:
- cause full thickness destruction of intact skin tissue within an observation period up to 14 days starting after the exposure time of more than 60 minutes but not more than 4 hours; or
  - are judged not to cause full thickness destruction of intact skin tissue, but which exhibit a corrosion rate on **either** steel or aluminium surfaces exceeding 6.25 mm a year at a test temperature of 55 °C **when tested on both materials**. For the purposes of testing steel, type S235JR+CR (1.0037 resp. St 37-2), S275J2G3+CR (1.0144 resp. St 44-3), ISO 3574, Unified Numbering System (UNS) G10200 or SAE 1020, and for testing aluminium, non-clad, types 7075-T6 or AZ5GU-T6 shall be used. An acceptable test is prescribed in the Manual of Tests and Criteria, Part III, Section 37.

**NOTE:** Where an initial test on either steel or aluminium indicates the substance being tested is corrosive the follow up test on the other metal is not required.

- 2.2.8.1.7** If substances of Class 8, as a result of admixtures, come into categories of risk different from those to which the substances mentioned by name in Table A of Chapter 3.2 belong, these mixtures or solutions shall be assigned to the entries to which they belong, on the basis of their actual degree of danger.

**NOTE:** For the classification of solutions and mixtures (such as preparations and wastes), see also 2.1.3.

- 2.2.8.1.8** On the basis of the criteria set out in paragraph 2.2.8.1.6, it may also be determined whether the nature of a solution or mixture mentioned by name or containing a substance mentioned by name is such that the solution or mixture is not subject to the provisions for this class.

- 2.2.8.1.9** Substances, solutions and mixtures, which

- do not meet the criteria of Directives 67/548/EEC<sup>8</sup> or 1999/45/EC<sup>9</sup> as amended and therefore are not classified as corrosive according to these directives, as amended; and
- do not exhibit a corrosive effect on steel or aluminium,

may be considered as substances not belonging to Class 8.

**NOTE:** UN No. 1910 calcium oxide and UN No. 2812 sodium aluminate, listed in the UN Model Regulations, are not subject to the provisions of RID.

## **2.2.8.2 Substances not accepted for carriage**

- 2.2.8.2.1** The chemically unstable substances of Class 8 shall not be accepted for carriage unless the necessary steps have been taken to prevent their dangerous decomposition or polymerization during carriage. To this end it shall in particular be ensured that receptacles and tanks do not contain any substance liable to promote these reactions.

- 2.2.8.2.2** The following substances shall not be accepted for carriage:

- UN No. 1798 NITROHYDROCHLORIC ACID;
- Chemically unstable mixtures of spent sulphuric acid;

<sup>7</sup> OECD guidelines for Testing of Chemicals, No. 404 "Acute Dermal Irritation/Corrosion" (1992).

<sup>8</sup> Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances (Official Journal of the European Communities No. L 196 of 16 August 1967, page 1).

<sup>9</sup> Directive 1999/45/EC of the European Parliament and of the Council of 31 May 1999 on the approximation of laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations (Official Journal of the European Communities No. L 200 of 30 July 1999, pages 1 to 68).

- Chemically unstable mixtures of nitrating acid or mixtures of residual sulphuric and nitric acids, not denitrated;
- Perchloric acid aqueous solution with more than 72% pure acid, by mass, or mixtures of perchloric acid with any liquid other than water.

The following substance shall not be accepted for carriage by rail:

- Sulphur trioxide, at least 99.95% pure, without inhibitor (non-stabilized).

### 2.2.8.3 List of collective entries

		Classification code	UN No.	Name of the substance or article
Corrosive substances <u>without</u> subsidiary risk				
Acid	inorganic	liquid C1	2584	ALKYLSULPHONIC ACIDS, LIQUID with more than 5% free sulphuric acid or
			2584	ARYLSULPHONIC ACIDS, LIQUID with more than 5% free sulphuric acid
			2693	BISULPHITES, AQUEOUS SOLUTION, N.O.S.
			2837	BISULPHATES, AQUEOUS SOLUTION
			3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
		solid C2	1740	HYDROGENDIFLUORIDES, SOLID, N.O.S.
			2583	ALKYLSULPHONIC ACIDS, SOLID with more than 5% free sulphuric acid or
			2583	ARYLSULPHONIC ACIDS, SOLID with more than 5% free sulphuric acid
			3260	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
			organic	liquid C3
2586	ARYLSULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid			
2987	CHLOROSILANES, CORROSIVE, N.O.S.			
3145	ALKYLPHENOLS, LIQUID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues)			
3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.			
solid C4	2430	ALKYLPHENOLS, SOLID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues)		
	2585	ALKYLSULPHONIC ACIDS, SOLID with not more than 5% free sulphuric acid or		
	2585	ARYLSULPHONIC ACIDS, SOLID with not more than 5% free sulphuric acid		
	3261	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.		
	Basic	inorganic		liquid C5
2797			BATTERY FLUID, ALKALI	
3266			CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.	
solid C6			3262	CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.
			organic	liquid C7
2735		POLYAMINES, LIQUID, CORROSIVE, N.O.S.		
3267		CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.		
solid C8		3259		AMINES, SOLID, CORROSIVE, N.O.S., or
		3259		POLYAMINES, SOLID, CORROSIVE, N.O.S.
3263		CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.		

Corrosive substances without subsidiary risk (cont'd)

Other corrosive Substances	liquid C9	1903 DISINFECTANT, LIQUID, CORROSIVE, N.O.S. 2801 DYE, LIQUID, CORROSIVE, N.O.S. or 2801 DYE INTERMEDIATE, LIQUID, CORROSIVE, N.O.S. 3066 PAINT (including paint, enamel, stain, shellac, varnish, polish, liquid filler and lacquer base) or 3066 PAINT RELATED MATERIAL (including paint thinning or reducing compound) 1760 CORROSIVE LIQUID, N.O.S.
	solid <sup>(a)</sup> C10	3147 DYE, SOLID, CORROSIVE, N.O.S. or 3147 DYE INTERMEDIATE, SOLID, CORROSIVE, N.O.S. 3244 SOLIDS CONTAINING CORROSIVE LIQUID, N.O.S. 1759 CORROSIVE SOLID, N.O.S.
Articles	C11	2794 BATTERIES, WET, FILLED WITH ACID, electric stor- age 2795 BATTERIES, WET, FILLED WITH ALKALI, electric storage 2800 BATTERIES, WET, NON-SPILLABLE, electric storage 3028 BATTERIES, DRY, CONTAINING POTASSIUM HY- DROXIDE SOLID, electric storage



Subsidiary risk	Classification code	UN No.	Name of the substance or article
Corrosive substances <u>with</u> subsidiary risk			
	liquid <sup>(b)</sup>	CF1	3470 PAINT, CORROSIVE, FLAMMABLE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or
			3470 PAINT RELATED MATERIAL, CORROSIVE, FLAMMABLE (including paint thinning and reducing compound)
			2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. or
			2734 POLYAMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.
			2986 CHLOROSILANES, CORROSIVE, FLAMMABLE, N.O.S.
Flammable CF	solid	CF2	2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.
			2921 CORROSIVE SOLID, FLAMMABLE, N.O.S.
Self-heating CS	liquid	CS1	3301 CORROSIVE LIQUID, SELF-HEATING, N.O.S.
	solid	CS2	3095 CORROSIVE SOLID, SELF-HEATING, N.O.S.
Water-reactive CW	liquid <sup>(b)</sup>	CW1	3094 CORROSIVE LIQUID, WATER-REACTIVE, N.O.S.
	solid	CW2	3096 CORROSIVE SOLID, WATER-REACTIVE, N.O.S.
Oxidizing CO	liquid	CO1	3093 CORROSIVE LIQUID, OXIDIZING, N.O.S.
	solid	CO2	3084 CORROSIVE SOLID, OXIDIZING, N.O.S.
Toxic <sup>(d)</sup> CT	liquid <sup>(c)</sup>	CT1	3471 HYDROGENDIFLUORIDES SOLUTION, N.O.S. 2922 CORROSIVE LIQUID, TOXIC, N.O.S.
	solid <sup>(e)</sup>	CT2	2923 CORROSIVE SOLID, TOXIC, N.O.S.
Flammable, liquid, toxic <sup>(d)</sup>	CFT		(No collective entry with this classification code available; if need be, classification under a collective entry with a classification code to be determined according to table of precedence of hazard in 2.1.3.10.)
Oxidizing, toxic <sup>(d),(e)</sup>	COT		(No collective entry with this classification code available; if need be, classification under a collective entry with a classification code to be determined according to table of precedence of hazard in 2.1.3.10.)

## Footnotes

- (a) Mixtures of solids which are not subject to the provisions of RID and of corrosive liquids may be carried under UN No. 3244 without being subject to the classification criteria of Class 8, provided there is no free liquid visible at the time the substance is loaded or at the time the packaging, wagon or container is closed. Each packaging shall correspond to a design type which has passed the leakproofness test for Packing group II level.
- (b) Chlorosilanes which, in contact with water or moist air, emit flammable gases, are substances of Class 4.3.
- (c) Chloroformates having predominantly toxic properties are substances of Class 6.1.
- (d) Corrosive substances which are highly toxic by inhalation, as defined in 2.2.61.1.4 to 2.2.61.1.9 are substances of Class 6.1.
- (e) UN No. 1690 SODIUM FLUORIDE, SOLID, UN No. 1812 POTASSIUM FLUORIDE, SOLID, UN No. 2505 AMMONIUM FLUORIDE, UN No. 2674 SODIUM FLUOROSILICATE, UN No. 2856 FLUOROSILICATES, N.O.S., UN No. 3415 SODIUM FLUORIDE SOLUTION and UN No. 3422 POTASSIUM FLUORIDE SOLUTION are substances of Class 6.1.

**2.2.9 Class 9: Miscellaneous dangerous substances and articles****2.2.9.1 Criteria**

**2.2.9.1.1** The heading of Class 9 covers substances and articles which, during carriage, present a danger not covered by the heading of other classes.

**2.2.9.1.2** The substances and articles of Class 9 are subdivided as follows:

- M1 Substances which, on inhalation as fine dust, may endanger health;
- M2 Substances and apparatus which, in the event of fire, may form dioxins;
- M3 Substances evolving flammable vapour;
- M4 Lithium batteries;
- M5 Life-saving appliances;
- M6-M8 Environmentally hazardous substances:
  - M6 Pollutant to the aquatic environment, liquid;
  - M7 Pollutant to the aquatic environment, solid;
  - M8 Genetically modified microorganisms and organisms;
- M9-M10 Elevated temperature substances:
  - M9 Liquid;
  - M10 Solid;
- M11 Other substances presenting a danger during carriage, but not meeting the definitions of another class.

*Definitions and classification*

**2.2.9.1.3** Substances and articles classified in Class 9 are listed in Table A of Chapter 3.2. The assignment of substances and articles not mentioned by name in Table A of Chapter 3.2 to the relevant entry of that Table or of 2.2.9.3 shall be done in accordance with 2.2.9.1.4 to 2.2.9.1.14 below.

*Substances which, on inhalation as fine dust, may endanger health*

**2.2.9.1.4** Substances which, on inhalation as fine dust, may endanger health include asbestos and mixtures containing asbestos.

*Substances and apparatus which, in the event of fire, may form dioxins*

**2.2.9.1.5** Substances and apparatus which, in the event of fire, may form dioxins include polychlorinated biphenyls (PCBs) and terphenyls (PCTs) and polyhalogenated biphenyls and terphenyls and mixtures containing these substances, as well as apparatus such as transformers, condensers and apparatus containing those substances or mixtures.

**NOTE:** Mixtures with a PCB or PCT content of not more than 50 mg/kg are not subject to the provisions of RID.

*Substances evolving flammable vapour*

**2.2.9.1.6** Substances evolving flammable vapour include polymers containing flammable liquids with a flash-point not exceeding 55 °C.

*Lithium batteries*

**2.2.9.1.7** The term "lithium battery" covers all cells and batteries containing lithium in any form. They may be assigned to Class 9 if they meet the requirements of special provision 230 of Chapter 3.3. They are not subject to the provisions of RID if they meet the requirements of special provision 188 of Chapter 3.3. They shall be classified in accordance with the procedures of Section 38.3 of the Manual of Tests and Criteria.

*Life-saving appliances*

**2.2.9.1.8** Life-saving appliances include life-saving appliances and motor vehicle components which meet the descriptions of special provisions 235 or 296 of Chapter 3.3.

**2.2.9.1.9** (Deleted)

**2.2.9.1.10 Environmentally hazardous substances (aquatic environment)****2.2.9.1.10.1 General definitions**

**2.2.9.1.10.1.1** Environmentally hazardous substances include, inter alia, liquid or solid substances pollutant to the aquatic environment and solutions and mixtures of such substances (such as preparations and wastes).

For the purposes of 2.2.9.1.10,

"substance" means chemical elements and their compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the product and any impurities deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.

**2.2.9.1.10.1.2** The aquatic environment may be considered in terms of the aquatic organisms that live in the water, and the aquatic ecosystem of which they are part<sup>10</sup>. The basis, therefore, of the identification of hazard is the aquatic toxicity of the substance or mixture, although this may be modified by further information on the degradation and bioaccumulation behaviour.

**2.2.9.1.10.1.3** While the following classification procedure is intended to apply to all substances and mixtures, it is recognised that in some cases, e.g. metals or poorly soluble inorganic compounds, special guidance will be necessary<sup>11</sup>.

**2.2.9.1.10.1.4** The following definitions apply for acronyms or terms used in this section:

- BCF: Bioconcentration Factor;
- BOD: Biochemical Oxygen Demand;
- COD: Chemical Oxygen Demand;
- GLP: Good Laboratory Practices;
- EC<sub>50</sub>: the effective concentration of substance that causes 50% of the maximum response;
- ErC<sub>50</sub>: EC<sub>50</sub> in terms of reduction of growth;
- K<sub>ow</sub>: octanol/water partition coefficient;
- LC<sub>50</sub> (50% lethal concentration):  
the concentration of a substance in water which causes the death of 50% (one half) in a group of test animals;
- L(E)C<sub>50</sub>: LC<sub>50</sub> or EC<sub>50</sub>;
- NOEC: No Observed Effect Concentration;
- OECD Test Guidelines:  
Test guidelines published by the Organization for Economic Cooperation and Development (OECD).

**2.2.9.1.10.2 Definitions and data requirements**

**2.2.9.1.10.2.1** The basic elements for classification of environmentally hazardous substances (aquatic environment) are:

- Acute aquatic toxicity;
- Potential for or actual bioaccumulation;
- Degradation (biotic or abiotic) for organic chemicals; and
- Chronic aquatic toxicity.

**2.2.9.1.10.2.2** While data from internationally harmonised test methods are preferred, in practice, data from national methods may also be used where they are considered as equivalent. In general, it has been agreed that freshwater and marine species toxicity data can be considered as equivalent data and are preferably to be derived using OECD Test Guidelines or equivalent according to the principles of Good Laboratory Practices (GLP). Where such data are not available, classification shall be based on the best available data.

**2.2.9.1.10.2.3** **Acute aquatic toxicity** shall normally be determined using a fish 96 hour LC<sub>50</sub> (OECD Test Guideline 203 or equivalent), a crustacea species 48 hour EC<sub>50</sub> (OECD Test Guideline 202 or equivalent) and/or an algal species 72 or 96 hour EC<sub>50</sub> (OECD Test Guideline 201 or equivalent). These species

<sup>10</sup> This does not address aquatic pollutants for which there may be a need to consider effects beyond the aquatic environment such as the impacts on human health etc.

<sup>11</sup> This can be found in Annex 10 of the GHS.

are considered as surrogate for all aquatic organisms and data on other species such as *Lemna* may also be considered if the test methodology is suitable.

**2.2.9.1.10.2.4 Bioaccumulation** means net result of uptake, transformation and elimination of a substance in an organism due to all routes of exposure (i.e. air, water, sediment/soil and food).

The potential for bioaccumulation shall normally be determined by using the octanol/water partition coefficient, usually reported as a log  $K_{ow}$  determined according to OECD Test Guideline 107 or 117. While this represents a potential to bioaccumulate, an experimentally determined Bioconcentration Factor (BCF) provides a better measure and shall be used in preference when available. A BCF shall be determined according to OECD Test Guideline 305.

**2.2.9.1.10.2.5 Environmental degradation** may be biotic or abiotic (e.g. hydrolysis) and the criteria used reflect this fact. Ready biodegradation is most easily defined using the OECD biodegradability tests (OECD Test Guideline 301 (A – F)). A pass level in these tests may be considered as indicative of rapid degradation in most environments. These are freshwater tests and thus the use of the results from OECD Test Guideline 306, which is more suitable for marine environments, has also been included. Where such data are not available, a BOD<sub>5</sub> (5 days)/COD ratio  $\geq 0.5$  is considered as indicative of rapid degradation.

Abiotic degradation such as hydrolysis, primary degradation, both abiotic and biotic, degradation in non-aquatic media and proven rapid degradation in the environment may all be considered in defining rapid degradability<sup>12</sup>.

Substances are considered rapidly degradable in the environment if the following criteria are met:

(a) In 28-day ready biodegradation studies, the following levels of degradation are achieved:

(i) Tests based on dissolved organic carbon: 70%;

(ii) Tests based on oxygen depletion or carbon dioxide generation: 60% of theoretical maxima;

These levels of biodegradation shall be achieved within 10 days of the start of degradation which point is taken as the time when 10% of the substance has been degraded; or

(b) In those cases where only BOD and COD data are available, when the ratio of BOD<sub>5</sub>/COD is  $\geq 0.5$ ; or

(c) If other convincing scientific evidence is available to demonstrate that the substance or mixture can be degraded (biotically and/or abiotically) in the aquatic environment to a level above 70% within a 28 day period.

**2.2.9.1.10.2.6 Chronic toxicity** data are less available than acute data and the range of testing procedures less standardised. Data generated according to the OECD Test Guidelines 210 (Fish Early Life Stage) or 211 (Daphnia Reproduction) and 201 (Algal Growth Inhibition) may be accepted. Other validated and internationally accepted tests may also be used. The "No Observed Effect Concentrations" (NOECs) or other equivalent L(E)Cx shall be used.

### 2.2.9.1.10.3 Substance classification categories and criteria

Substances shall be classified as "environmentally hazardous substances (aquatic environment)", if they satisfy the criteria for Acute 1, Chronic 1 or Chronic 2, according to the following Tables:

#### Acute toxicity

##### Category: Acute 1

Acute toxicity:

96 hr LC <sub>50</sub> (for fish)	$\leq 1$ mg/l and/or
48 hr EC <sub>50</sub> (for crustacea)	$\leq 1$ mg/l and/or
72 or 96hr ErC <sub>50</sub> (for algae or other aquatic plants)	$\leq 1$ mg/l

#### Chronic toxicity

##### Category: Chronic 1

Acute toxicity:

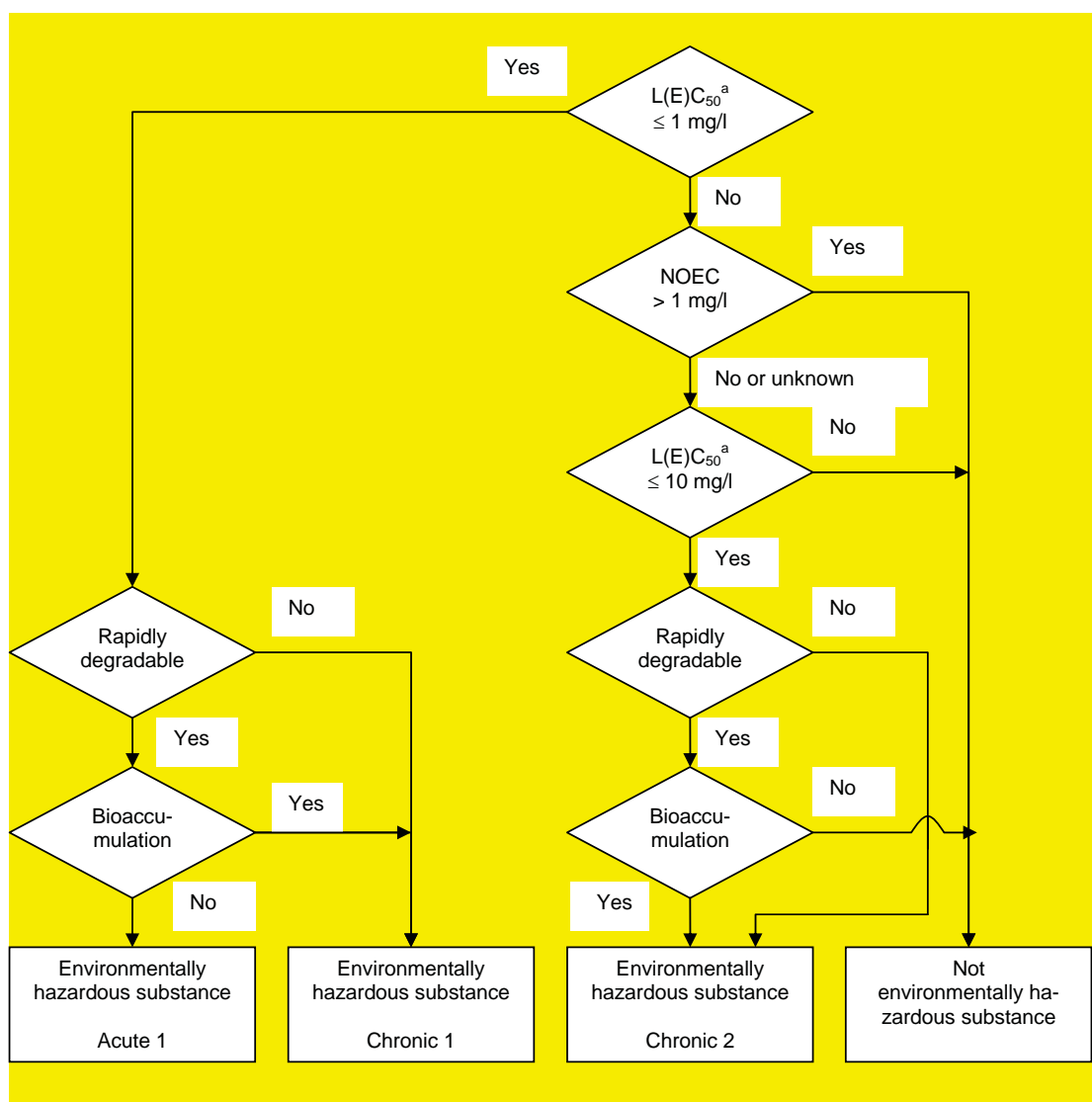
96 hr LC <sub>50</sub> (for fish)	$\leq 1$ mg/l and/or
48 hr EC <sub>50</sub> (for crustacea)	$\leq 1$ mg/l and/or
72 or 96hr ErC <sub>50</sub> (for algae or other aquatic plants)	$\leq 1$ mg/l
and the substance is not rapidly degradable and/or the log $K_{ow} \geq 4$ (unless the experimentally determined BCF $< 500$ )	

<sup>12</sup> Special guidance on data interpretation is provided in Chapter 4.1 and Annex 9 of the GHS.

**Category: Chronic 2****Acute toxicity:**

96 hr LC <sub>50</sub> (for fish)	> 1 to ≤ 10 mg/l and/or
48 hr EC <sub>50</sub> (for crustacea)	> 1 to ≤ 10 mg/l and/or
72 or 96hr ErC <sub>50</sub> (for algae or other aquatic plants)	> 1 to ≤ 10 mg/l
and the substance is not rapidly degradable and/or the log K <sub>ow</sub> ≥ 4 (unless the experimentally determined BCF < 500), unless the chronic toxicity NOECs are > 1 mg/l	

The classification flowchart below outlines the process to be followed:



<sup>a</sup> Lowest value of 96-hour LC<sub>50</sub>, 48-hour EC<sub>50</sub> or 72-hour or 96-hour ErC<sub>50</sub>, as appropriate.

#### 2.2.9.1.10.4 Mixtures classification categories and criteria

**2.2.9.1.10.4.1** The classification system for mixtures covers the classification categories which are used for substances meaning acute category 1 and chronic categories 1 and 2. In order to make use of all available data for purposes of classifying the aquatic environmental hazards of the mixture, the following assumption is made and is applied where appropriate:

The "relevant ingredients" of a mixture are those which are present in a concentration of 1% (by mass) or greater, unless there is a presumption (e.g. in the case of highly toxic ingredients) that an

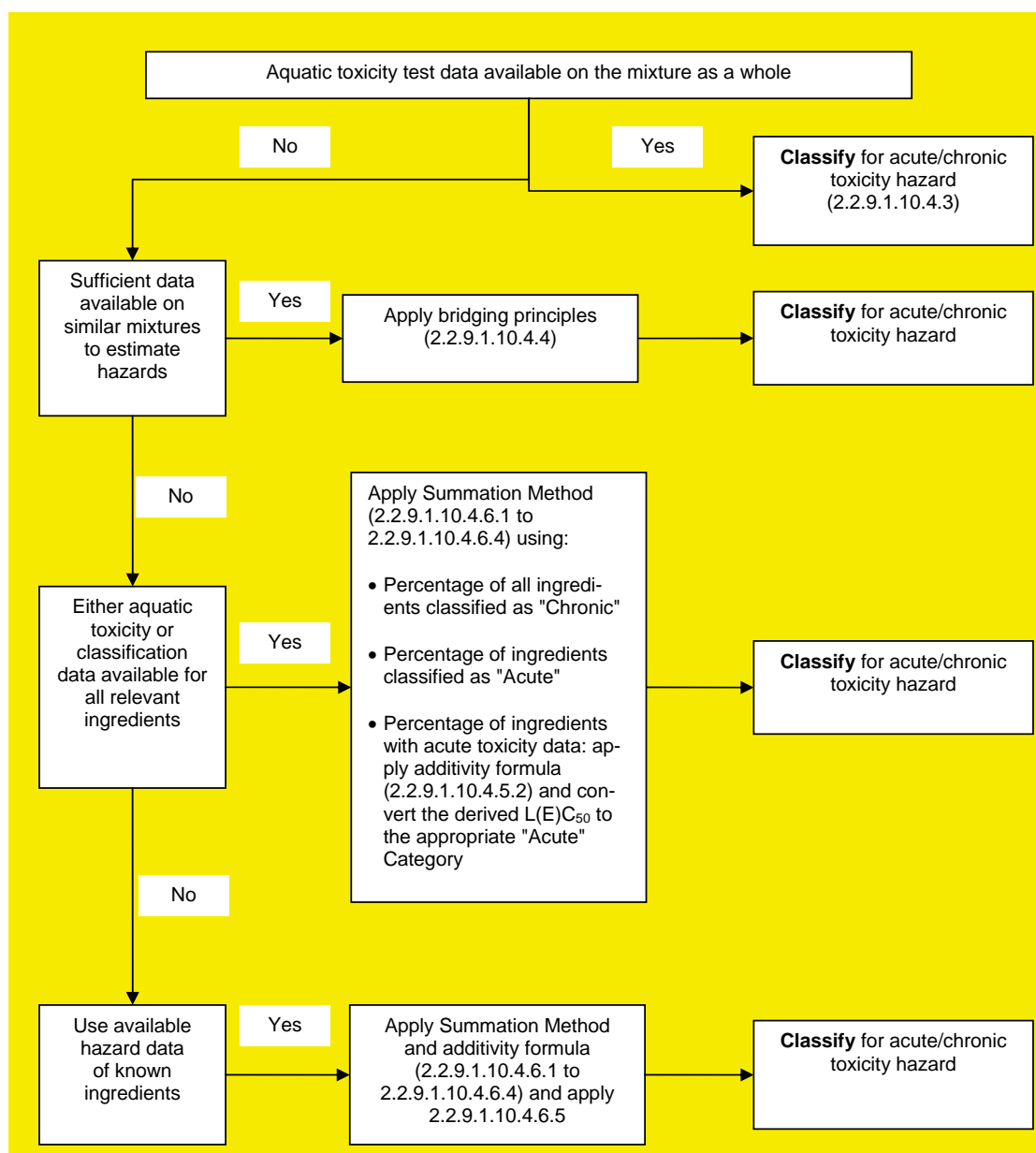
ingredient present at less than 1% can still be relevant for classifying the mixture for aquatic environmental hazards.

**2.2.9.1.10.4.2** The approach for classification of aquatic environmental hazards is tiered, and is dependent upon the type of information available for the mixture itself and for its ingredients. Elements of the tiered approach include:

- (a) Classification based on tested mixtures;
- (b) Classification based on bridging principles;
- (c) The use of "summation of classified ingredients" and/or an "additivity formula".

Figure 2.2.9.1.10.4.2 below outlines the process to be followed.

**Figure 2.2.9.1.10.4.2: Tiered approach to classification of mixtures for acute and chronic aquatic environmental hazards**



**2.2.9.1.10.4.3** Classification of mixtures when data are available for the complete mixture

**2.2.9.1.10.4.3.1** When the mixture as a whole has been tested to determine its aquatic toxicity, it shall be classified according to the criteria that have been agreed for substances, but only for acute toxicity. The classification is based on the data for fish, crustacea and algae/plants. Classification of mixtures by using  $LC_{50}$  or  $EC_{50}$  data for the mixture as a whole is not possible for chronic categories since both toxicity data and environmental fate data are needed, and there are no degradability and bioaccumulation data for mixtures as a whole. It is not possible to apply the criteria for chronic classification because the data from degradability and bioaccumulation tests of mixtures cannot be interpreted; they are meaningful only for single substances.

**2.2.9.1.10.4.3.2** When there are acute toxicity test data ( $LC_{50}$  or  $EC_{50}$ ) available for the mixture as a whole, these data as well as information with respect to the classification of ingredients for chronic toxicity shall be used to complete the classification for tested mixtures as follows. When chronic (long term) toxicity data (NOEC) are also available, they shall be used as well.

- (a)  $L(E)C_{50}$  ( $LC_{50}$  or  $EC_{50}$ ) of the tested mixture  $\leq 1$  mg/l and NOEC of the tested mixture  $\leq 1.0$  mg/l or unknown:
- classify mixture as category acute 1;
  - apply summation of classified ingredients approach (see 2.2.9.1.10.4.6.3 and 2.2.9.1.10.4.6.4) for chronic classification (chronic 1, 2, or no need of chronic classification);
- (b)  $L(E)C_{50}$  of the tested mixture  $\leq 1$  mg/l and NOEC of the tested mixture  $> 1.0$  mg/l:
- classify mixture as category acute 1;
  - apply summation of classified ingredients approach (see 2.2.9.1.10.4.6.3 and 2.2.9.1.10.4.6.4) for classification as category chronic 1. If the mixture is not classified as category chronic 1, then there is no need for chronic classification;
- (c)  $L(E)C_{50}$  of the tested mixture  $> 1$  mg/l, or above the water solubility, and NOEC of the tested mixture  $\leq 1.0$  mg/l or unknown:
- no need to classify for acute toxicity;
  - apply summation of classified ingredients approach (see 2.2.9.1.10.4.6.3 and 2.2.9.1.10.4.6.4) for chronic classification or no need for chronic classification;
- (d)  $L(E)C_{50}$  of the tested mixture  $> 1$  mg/l, or above the water solubility, and NOEC of the tested mixture  $> 1.0$  mg/l:
- No need to classify for acute or chronic toxicity.

**2.2.9.1.10.4.4** Bridging principles

**2.2.9.1.10.4.4.1** Where the mixture itself has not been tested to determine its aquatic environmental hazard, but there are sufficient data on the individual ingredients and similar tested mixtures to adequately characterise the hazards of the mixture, these data shall be used in accordance with the following agreed bridging rules. This ensures that the classification process uses the available data to the greatest extent possible in characterising the hazards of the mixture without the necessity for additional testing in animals.

**2.2.9.1.10.4.4.2** Dilution

**2.2.9.1.10.4.4.2.1** If a mixture is formed by diluting another classified mixture or a substance with a diluent which has an equivalent or lower aquatic hazard classification than the least toxic original ingredient and which is not expected to affect the aquatic hazards of other ingredients, then the mixture shall be classified as equivalent to the original mixture or substance.

**2.2.9.1.10.4.4.2.2** If a mixture is formed by diluting another classified mixture or a substance with water or other totally non-toxic material, the toxicity of the mixture shall be calculated from the original mixture or substance.

**2.2.9.1.10.4.4.3** Batching

The aquatic hazard classification of one production batch of a complex mixture shall be assumed to be substantially equivalent to that of another production batch of the same commercial product and produced by or under the control of the same manufacturer, unless there is reason to believe there is significant variation such that the aquatic hazard classification of the batch has changed. If the latter occurs, new classification is necessary.

**2.2.9.1.10.4.4.4** Concentration of mixtures which are classified with the most severe classification categories (chronic 1 and acute 1)

If a mixture is classified as chronic 1 and/or acute 1, and ingredients of the mixture which are classified as chronic 1 and/or acute 1 are further concentrated, the more concentrated mixture shall be classified with the same classification category as the original mixture without additional testing.

**2.2.9.1.10.4.4.5 Interpolation within one toxicity category**

If mixtures A and B are in the same classification category and mixture C is made in which the toxicologically active ingredients have concentrations intermediate to those in mixtures A and B, then mixture C shall be in the same category as A and B. Note that the identity of the ingredients is the same in all three mixtures.

**2.2.9.1.10.4.4.6 Substantially similar mixtures**

Given the following:

(a) two mixtures:

(i) A + B;

(ii) C + B;

(b) the concentration of ingredient B is the same in both mixtures;

(c) the concentration of ingredient A in mixture (i) equals that of ingredient C in mixture (ii);

(d) classification for A and C are available and are the same, i.e. they are in the same hazard category and are not expected to affect the aquatic toxicity of B,

then there shall be no need to test mixture (ii) if mixture (i) is already characterised by testing and both mixtures are classified in the same category.

**2.2.9.1.10.4.5 Classification of mixtures when data are available for all ingredients or only for some ingredients of the mixture**

**2.2.9.1.10.4.5.1** The classification of a mixture shall be based on summation of the concentrations of its classified ingredients. The percentage of ingredients classified as "Acute" or "Chronic" will feed straight into the summation method. Details of the summation method are described in 2.2.9.1.10.4.6.1 to 2.2.9.1.10.4.6.4.

**2.2.9.1.10.4.5.2** Mixtures may be made of a combination of both ingredients that are classified (as Acute 1 and/or Chronic 1, 2) and those for which adequate test data are available. When adequate toxicity data are available for more than one ingredient in the mixture, the combined toxicity of those ingredients shall be calculated using the following additivity formula, and the calculated toxicity shall be used to assign that portion of the mixture an acute toxicity hazard which is then subsequently used in applying the summation method.

$$\frac{\sum C_i}{L(E)C_{50m}} = \sum_n \frac{C_i}{L(E)C_{50i}}$$

where:

$C_i$  = concentration of ingredient i (mass percentage);

$L(E)C_{50i}$  = (mg/l)  $LC_{50}$  or  $EC_{50}$  for ingredient i;

$n$  = number of ingredients, and i is running from 1 to n;

$L(E)C_{50m}$  =  $L(E)C_{50}$  of the part of the mixture with test data.

**2.2.9.1.10.4.5.3** When applying the additivity formula for part of the mixture, it is preferable to calculate the toxicity of this part of the mixture using for each substance toxicity values that relate to the same species (i.e. fish, daphnia or algae) and then to use the highest toxicity (lowest value) obtained (i.e. use the most sensitive of the three species). However, when toxicity data for each ingredient are not available in the same species, the toxicity value of each ingredient shall be selected in the same manner that toxicity values are selected for the classification of substances, i.e. the higher toxicity (from the most sensitive test organism) is used. The calculated acute toxicity shall then be used to classify this part of the mixture as Acute 1 using the same criteria described for substances.

**2.2.9.1.10.4.5.4** If a mixture is classified in more than one way, the method yielding the more conservative result shall be used.

**2.2.9.1.10.4.6 Summation method****2.2.9.1.10.4.6.1 Classification procedure**

In general a more severe classification for mixtures overrides a less severe classification, e.g. a classification with chronic 1 overrides a classification with chronic 2. As a consequence the classification procedure is already completed if the result of the classification is chronic 1. A more severe classification than chronic 1 is not possible; therefore, it is not necessary to pursue the classification procedure further.



**2.2.9.1.10.4.6.2** Classification for the acute category 1

**2.2.9.1.10.4.6.2.1** All ingredients classified as acute 1 shall be considered. If the sum of these ingredients is greater than or equal to 25% the whole mixture shall be classified as category acute 1. If the result of the calculation is a classification of the mixture as category acute 1, the classification process is completed.

**2.2.9.1.10.4.6.2.2** The classification of mixtures for acute hazards based on this summation of classified ingredients, is summarised in Table 2.2.9.1.10.4.6.2.2 below.

**Table 2.2.9.1.10.4.6.2.2: Classification of a mixture for acute hazards, based on summation of classified ingredients**

Sum of ingredients classified as:	Mixture is classified as:
Acute 1 x M <sup>(a)</sup> ≥ 25%	Acute 1

<sup>(a)</sup> For explanation of the M factor, see 2.2.9.1.10.4.6.4.

**2.2.9.1.10.4.6.3** Classification for the chronic categories 1, 2

**2.2.9.1.10.4.6.3.1** First, all ingredients classified as chronic 1 are considered. If the sum of these ingredients is greater than or equal to 25% the mixture shall be classified as category chronic 1. If the result of the calculation is a classification of the mixture as category chronic 1 the classification procedure is completed.

**2.2.9.1.10.4.6.3.2** In cases where the mixture is not classified as chronic 1, classification of the mixture as chronic 2 is considered. A mixture shall be classified as chronic 2 if 10 times the sum of all ingredients classified as chronic 1 plus the sum of all ingredients classified as chronic 2 is greater than or equal to 25%. If the result of the calculation is classification of the mixture as chronic 2, the classification process is completed.

**2.2.9.1.10.4.6.3.3** The classification of mixtures for chronic hazards, based on this summation of classified ingredients, is summarised in Table 2.2.9.1.10.4.6.3.3 below.

**Table 2.2.9.1.10.4.6.3.3: Classification of a mixture for chronic hazards, based on summation of classified ingredients**

Sum of ingredients classified as:	Mixture is classified as:
Chronic 1 x M <sup>(a)</sup> ≥ 25 %	Chronic 1
(M x 10 x Chronic 1) + Chronic 2 ≥ 25 %	Chronic 2

<sup>(a)</sup> For explanation of the M factor, see 2.2.9.1.10.4.6.4.

**2.2.9.1.10.4.6.4** Mixtures with highly toxic ingredients

Category acute 1 ingredients with toxicities well below 1 mg/l may influence the toxicity of the mixture and are given increased weight in applying the summation method. When a mixture contains ingredients classified as acute 1 or chronic 1, the tiered approach described in 2.2.9.1.10.4.6.2 and 2.2.9.1.10.4.6.3 shall be applied using a weighted sum by multiplying the concentrations of acute 1 ingredients by a factor, instead of merely adding up the percentages. This means that the concentration of "Acute 1" in the left column of Table 2.2.9.1.10.4.6.2.2 and the concentration of "Chronic 1" in the left column of Table 2.2.9.1.10.4.6.3.3 are multiplied by the appropriate multiplying factor. The multiplying factors to be applied to these ingredients are defined using the toxicity value, as summarised in Table 2.2.9.1.10.4.6.4 below. Therefore, in order to classify a mixture containing acute 1 and/or chronic 1 ingredients, the classifier needs to be informed of the value of the M factor in order to apply the summation method. Alternatively, the additivity formula (see 2.2.9.1.10.4.5.2) may be used when toxicity data are available for all highly toxic ingredients in the mixture and there is convincing evidence that all other ingredients, including those for which specific acute toxicity data are not available, are of low or no toxicity and do not significantly contribute to the environmental hazard of the mixture.

**Table 2.2.9.1.10.4.6.4: Multiplying factors for highly toxic ingredients of mixtures**

L(E)C <sub>50</sub> value	Multiplying factor (M)
0.1 < L(E)C <sub>50</sub> ≤ 1	1
0.01 < L(E)C <sub>50</sub> ≤ 0.1	10
0.001 < L(E)C <sub>50</sub> ≤ 0.01	100
0.0001 < L(E)C <sub>50</sub> ≤ 0.001	1000
0.00001 < L(E)C <sub>50</sub> ≤ 0.0001	10000
(continue in factor 10 intervals)	

**2.2.9.1.10.4.6.5** Classification of mixtures with ingredients without any useable information

In the event that no useable information on acute and/or chronic aquatic hazard is available for one or more relevant ingredients, it is concluded that the mixture cannot be attributed (a) definitive hazard category(ies). In this situation the mixture shall be classified based on the known ingredients only with the additional statement that: "x percent of the mixture consists of ingredient(s) of unknown hazard to the aquatic environment".

**2.2.9.1.10.5** Substances or mixtures dangerous to the aquatic environment not otherwise classified under RID**2.2.9.1.10.5.1** Substances or mixtures dangerous to the aquatic environment not otherwise classified under RID shall be designated:

UN No. 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. or

UN No. 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

They shall be assigned to packing group III.

**2.2.9.1.10.5.2** Notwithstanding the provisions of 2.2.9.1.10,

(a) Substances which cannot be assigned to entries other than UN Nos. 3077 and 3082 in Class 9 or to other entries in classes 1 to 8, but which are identified in Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances<sup>14</sup><sup>13</sup>, as amended, as substances to which letter N "Environmentally hazardous" (R50; R50/53; R51/53) has been allocated; and

(b) Solutions and mixtures (such as preparations and wastes) of substances to which letter N "Environmentally hazardous" (R50; R50/53; R51/53) has been allocated in Directive 67/548/EEC, as amended, and which, according to Directive 1999/45/EC of the European Parliament and of the Council of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations<sup>15</sup><sup>14</sup>, as amended, are also allocated letter N "Environmentally hazardous" (R50; R50/53; R51/53), and which cannot be assigned to entries other than UN Nos. 3077 and 3082 in Class 9 or to other entries in classes 1 to 8;

shall be assigned to UN Nos. 3077 or 3082 of Class 9 as appropriate.

*Genetically modified microorganisms or organisms*

**2.2.9.1.11** Genetically modified microorganisms (GMMOs) and genetically modified organisms (GMOs) are microorganisms and organisms in which genetic material has been purposely altered through genetic engineering in a way that does not occur naturally. They are assigned to Class 9 (UN No. 3245) if they do not meet the definition of infectious substances, but are capable of altering animals, plants or microbiological substances in a way not normally the result of natural reproduction.

**NOTE** 1: GMMOs and GMOs which are infectious are substances of Class 6.2, UN Nos. 2814, 2900 or 3373.

2: GMMOs or GMOs are not subject to the provisions of RID when authorized for use by the competent authorities of the countries of origin, transit and destination<sup>15</sup>.

3: Live animals shall not be used to carry genetically modified microorganisms classified in Class 9 unless the substance can be carried no other way.

**2.2.9.1.12** (Reserved)*Elevated temperature substances*

**2.2.9.1.13** Elevated temperature substances include substances which are carried or handed over for carriage in the liquid state at or above 100 °C and, in the case of those with a flash-point, below their flash-point. They also include solids which are carried or handed over for carriage at or above 240 °C.

**NOTE:** Elevated temperature substances may be assigned to Class 9 only if they do not meet the criteria of any other class.

<sup>13</sup> Official Journal of the European Communities No.196, of 16 August 1967, pp. 1 – 5.

<sup>14</sup> Official Journal of the European Communities No. L 200, of 30 July 1999, pp. 1 – 68.

<sup>15</sup> See in particular Part C of Directive 2001/18/EC of the European Parliament and of the Council on the deliberate release into the environment of genetically modified organisms and repealing Council Directive 90/220/EEC (Official Journal of the European Communities, No. L 106, of 17 April 2001, pp. 8-14), which sets out the authorization procedures for the European Community.

*Other substances presenting a danger during carriage but not meeting the definitions of another class.*

**2.2.9.1.14** The following other miscellaneous substances not meeting the definitions of another class are assigned to Class 9:

Solid ammonia compounds having a flash-point below 60 °C

Low hazard dithionites

Highly volatile liquids

Substances emitting noxious fumes

Substances containing allergens

Chemical kits and first aid kits

**NOTE:** UN No. 1845 CARBON DIOXIDE, SOLID (DRY ICE),  
UN No. 2071 AMMONIUM NITRATE FERTILIZERS,  
UN No. 2216 FISH MEAL (FISH SCRAP), STABILIZED,  
UN No. 2807 MAGNETIZED MATERIAL,  
UN No. 3166 ENGINE, INTERNAL COMBUSTION or VEHICLE, FLAMMABLE GAS POWERED or  
VEHICLE, FLAMMABLE LIQUID POWERED,  
UN No. 3171 BATTERY-POWERED VEHICLE or 3171 BATTERY-POWERED EQUIPMENT (WET  
BATTERY),  
UN No. 3334 AVIATION REGULATED LIQUID, N.O.S.,  
UN No. 3335 AVIATION REGULATED SOLID, N.O.S.,  
UN No. 3363 DANGEROUS GOODS IN MACHINERY or UN No. 3363 DANGEROUS GOODS IN  
APPARATUS,  
listed in the UN Model Regulations, are not subject to the provisions of RID.

*Assignment of the packing groups*

**2.2.9.1.15** When indicated in column (4) of Table A of Chapter 3.2, substances and articles of Class 9 are assigned to one of the following packing groups according to their degree of danger:

Packing group II: substances presenting medium danger;

Packing group III: substances presenting low danger;

**2.2.9.2 Substances and articles not accepted for carriage**

The following substances and articles shall not be accepted for carriage:

- Lithium batteries which do not meet the relevant conditions of special provisions 188, 230 or 636 of Chapter 3.3.
- Uncleaned empty containment vessels for apparatus such as transformers, condensers and hydraulic apparatus containing substances assigned to UN Nos. 2315, 3151, 3152 or 3432.

**2.2.9.3 List of entries**

	Classifica- tion code	UN No.	Name of the substance or article
<b>Miscellaneous dangerous substances and articles</b>			
<b>Substances which, on inhalation as fine dust, may endanger health</b>	<b>M1</b>	2212	BLUE ASBESTOS (crocidolite) or
		2212	BROWN ASBESTOS (amosite, myosorite)
		2590	WHITE ASBESTOS (chrysotile, actinolite, anthophyllite, tremolite)
<b>Substances and apparatus which, in the event of fire, may form dioxins</b>	<b>M2</b>	2315	POLYCHLORINATED BIPHENYLS, LIQUID
		3432	POLYCHLORINATED BIPHENYLS, SOLID
		3151	POLYHALOGENATED BIPHENYLS, LIQUID or
		3151	POLYHALOGENATED TERPHENYLS, LIQUID
		3152	POLYHALOGENATED BIPHENYLS, SOLID or
		3152	POLYHALOGENATED TERPHENYLS, SOLID
<b>Substances evolving flammable vapour</b>	<b>M3</b>	2211	POLYMERIC BEADS, EXPANDABLE, evolving flammable vapour
		3314	PLASTICS MOULDING COMPOUND in dough, sheet or extruded rope form evolving flammable vapour

Lithium batteries	M4	3090	LITHIUM METAL BATTERIES (including lithium alloy batteries)
		3091	LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT (including lithium alloy batteries) or
		3091	LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT (including lithium alloy batteries)
		3480	LITHIUM ION BATTERIES (including lithium ion polymer batteries)
		3481	LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT (including lithium ion polymer batteries) or
		3481	LITHIUM ION BATTERIES PACKED WITH EQUIPMENT (including lithium ion polymer batteries)
Live-saving appliances	M5	2990	LIFE-SAVING APPLIANCES, SELF-INFLATING such as aircraft evacuation chutes, aircraft survival kits and maritime life-saving appliances
		3072	LIFE-SAVING APPLIANCES NOT SELF-INFLATING containing dangerous goods as equipment
		3268	AIR BAG INFLATORS or
		3268	AIR BAG MODULES or
		3268	SEAT-BELT PRETENSIONERS
Environmentally hazardous substances	pollutant to the aquatic environment	liquid M6	3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
		solid M7	3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
	genetically modified microorganisms and organisms M8	3245	GENETICALLY MODIFIED MICROORGANISMS or GENETICALLY MODIFIED ORGANISMS
Elevated temperature substances	liquid M9	3257	ELEVATED TEMPERATURE LIQUID, N.O.S., at or above 100 °C and below its flash-point (including molten metal, molten salts, etc.)
	solid M10	3258	ELEVATED TEMPERATURE SOLID, N.O.S., at or above 240 °C
Other substances or articles presenting a danger during carriage, but not meeting the definitions of another class	M11	No collective entry available. Only substances listed in Table A of Chapter 3.2 are subject to the provisions for Class 9 under this classification code, as follows:	
		1841	ACETALDEHYDE AMMONIA
		1931	ZINC DITHIONITE (ZINC HYDROSULPHITE)
		1941	DIBROMODIFLUOROMETHANE
		1990	BENZALDEHYDE
		2969	CASTOR BEANS or
		2969	CASTOR MEAL or
		2969	CASTOR POMACE or
		2969	CASTOR FLAKE
		3316	CHEMICAL KIT or
		3316	FIRST AID KIT
		3359	FUMIGATED UNIT

## Chapter 2.3

### Test methods

#### 2.3.0 General

Unless otherwise provided for in Chapter 2.2 or in this Chapter, the test methods to be used for the classification of dangerous goods are those described in the Manual of Tests and Criteria.

#### 2.3.1 Exudation test for blasting explosives of Type A

**2.3.1.1** Blasting explosives of type A (UN No. 0081) shall, if they contain more than 40% liquid nitric ester, in addition to the testing specified in the Manual of Tests and Criteria, satisfy the following exudation test.

**2.3.1.2** The apparatus for testing blasting explosive for exudation (figs. 1 to 3) consists of a hollow bronze cylinder. This cylinder, which is closed at one end by a plate of the same metal, has an internal diameter of 15.7 mm and a depth of 40 mm. It is pierced by 20 holes 0.5 mm in diameter (four sets of five holes) on the circumference. A bronze piston, cylindrically fashioned over a length of 48 mm and having a total length of 52 mm, slides into the vertically placed cylinder. The piston, whose diameter is 15.6 mm, is loaded with a mass of 2 220 g so that a pressure of 120 kPa (1.20 bar) is exerted on the base of the cylinder.

**2.3.1.3** A small plug of blasting explosive weighing 5 to 8 g, 30 mm long and 15 mm in diameter, is wrapped in very fine gauze and placed in the cylinder; the piston and its loading mass are then placed on it so that the blasting explosive is subjected to a pressure of 120 kPa (1.20 bar).

The time taken for the appearance of the first signs of oily droplets (nitroglycerine) at the outer orifices of the cylinder holes is noted.

**2.3.1.4** The blasting explosive is considered satisfactory if the time elapsing before the appearance of the liquid exudations is more than five minutes, the test having been carried out at a temperature of 15 °C to 25 °C.

### Test of blasting explosive for exudation

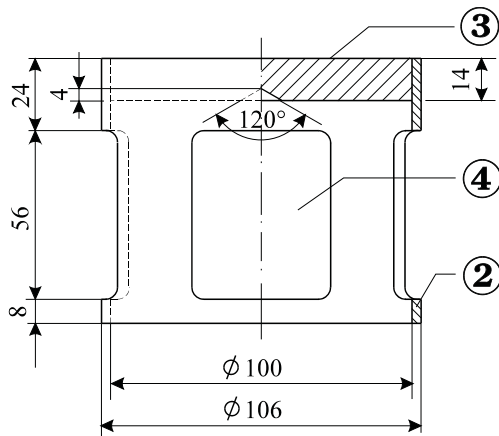


Fig. 1: Bell-form charge; mass 2220 g; capable of being suspended from a bronze piston

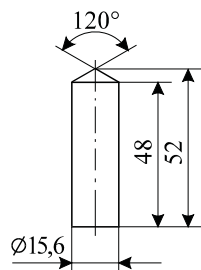


Fig. 2: Cylindrical bronze piston; dimensions in mm

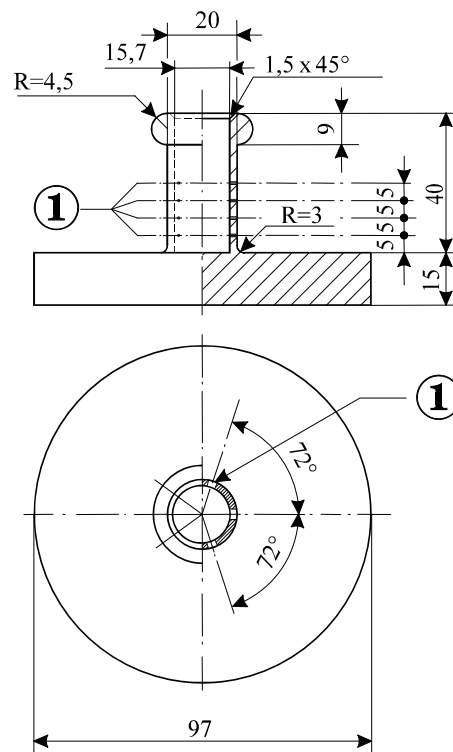


Fig. 3: Hollow bronze cylinder, closed at one end  
Plan and cut; dimensions in mm

Fig. 1 to 3:

- (1) 4 series of 5 holes at 0.5  $\varnothing$
- (2) copper
- (3) iron plate with centre cone at the inferior face
- (4) 4 openings, approximately 46 x 56, set at even intervals on the periphery

### 2.3.2 Tests relating to nitrated cellulose mixtures of Class 4.1

- 2.3.2.1** Nitrocellulose heated for half an hour at 132 °C shall not give off visible yellowish-brown nitrous fumes (nitrous gases). The ignition temperature shall be above 180 °C. See 2.3.2.3 to 2.3.2.8, 2.3.2.9 (a) and 2.3.2.10 below.
- 2.3.2.2** 3 g of plasticized nitrocellulose, heated for one hour at 132 °C, shall not give off visible yellowish-brown nitrous fumes (nitrous gases). The ignition temperature shall be above 170 °C. See 2.3.2.3 to 2.3.2.8, 2.3.2.9 (b) and 2.3.2.10 below.
- 2.3.2.3** The test procedures set out below are to be applied when differences of opinion arise as to the acceptability of substances for carriage by rail.
- 2.3.2.4** If other methods or test procedures are used to verify the conditions of stability prescribed above in this section, those methods shall lead to the same findings as could be reached by the methods specified below.
- 2.3.2.5** In carrying out the stability tests by heating described below, the temperature of the oven containing the sample under test shall not deviate by more than 2 °C from the prescribed temperature; the prescribed duration of a 30-minute or 60-minute test shall be observed to within two minutes. The oven shall be such that the required temperature is restored not more than five minutes after insertion of the sample.

- 2.3.2.6** Before undergoing the tests in 2.3.2.9 and 2.3.2.10, the samples shall be dried for not less than 15 hours at the ambient temperature in a vacuum desiccator containing fused and granulated calcium chloride, the sample substance being spread in a thin layer; for this purpose, substances which are neither in powder form nor fibrous shall be ground, or grated, or cut into small pieces. The pressure in the desiccator shall be brought below 6.5 kPa (0.065 bar).
- 2.3.2.7** Before being dried as prescribed in 2.3.2.6 above, substances conforming to 2.3.2.2 shall undergo preliminary drying in a well-ventilated oven, with its temperature set at 70 °C, until the loss of mass per quarter-hour is less than 0.3% of the original mass.
- 2.3.2.8** Weakly nitrated nitrocellulose conforming to 2.3.2.1 shall first undergo preliminary drying as prescribed in 2.3.2.7 above; drying shall then be completed by keeping the nitrocellulose for at least 15 hours over concentrated sulphuric acid in a desiccator.
- 2.3.2.9 Test of chemical stability under heat**
- (a) Test of the substance listed in paragraph 2.3.2.1 above.
- (i) In each of two glass test tubes having the following dimensions:
- |                   |         |
|-------------------|---------|
| length            | 350 mm, |
| internal diameter | 16 mm,  |
| thickness of wall | 1.5 mm  |
- is placed 1 g of substance dried over calcium chloride (if necessary the drying shall be carried out after reducing the substance to pieces weighing not more than 0.05 g each). Both test tubes, completely covered with loose-fitting closures, are then so placed in an oven that at least four-fifths of their length is visible, and are kept at a constant temperature of 132 °C for 30 minutes. It is observed whether nitrous gases in the form of yellowish-brown fumes clearly visible against a white background are given off during this time.
- (ii) In the absence of such fumes the substance is deemed to be stable.
- (b) Test of plasticized nitrocellulose (see 2.3.2.2)
- (i) 3 g of plasticized nitrocellulose are placed in glass test tubes, similar to those referred to in (a), which are then placed in an oven kept at a constant temperature of 132 °C.
- (ii) The test tubes containing the plasticized nitrocellulose are kept in the oven for one hour. During this time no yellowish-brown nitrous fumes (nitrous gases) shall be visible. Observation and appraisal as in (a).
- 2.3.2.10 Ignition temperature** (see 2.3.2.1 and 2.3.2.2)
- (a) The ignition temperature is determined by heating 0.2 g of substance enclosed in a glass test tube immersed in a Wood's alloy bath. The test tube is placed in the bath when the latter has reached 100 °C. The temperature of the bath is then progressively increased by 5 °C per minute;
- (b) The test tubes must have the following dimensions:
- |                   |         |
|-------------------|---------|
| length            | 125 mm, |
| internal diameter | 15 mm,  |
| thickness of wall | 0.5 mm  |
- and shall be immersed to a depth of 20 mm;
- (c) The test shall be repeated three times, the temperature at which ignition of the substance occurs, i.e., slow or rapid combustion, deflagration or detonation, being noted each time;
- (d) The lowest temperature recorded in the three tests is the ignition temperature.
- 2.3.3 Tests relating to flammable liquids of Classes 3, 6.1 and 8**
- 2.3.3.1 Test for determining flash-point**
- 2.3.3.1.1** The flash-point shall be determined by means of one of the following types of apparatus:
- (a) Abel;
- (b) Abel-Pensky;
- (c) Tag;
- (d) Pensky-Martens;
- (e) Apparatus in accordance with ISO 3679:1983 or ISO 3680:1983.
- 2.3.3.1.2** To determine the flash-point of paints, gums and similar viscous products containing solvents, only apparatus and test methods suitable for determining the flash-point for viscous liquids shall be used, in accordance with the following standards:
- (a) International Standard ISO 3679:1983;
- (b) International Standard ISO 3680:1983;

- (c) International Standard ISO 1523:1983;
- (d) German Standard DIN 53213:1978, Part 1.

**2.3.3.1.3** The test procedure shall be either according to an equilibrium method or according to a non-equilibrium method.

**2.3.3.1.4** For the procedure according to an equilibrium method, see:

- (a) International Standard ISO 1516:1981;
- (b) International Standard ISO 3680:1983;
- (c) International Standard ISO 1523:1983;
- (d) International Standard ISO 3679:1983.

**2.3.3.1.5** The procedure according to a non-equilibrium method shall be:

- (a) for the Abel apparatus, see:
  - (i) British Standard BS 2000:1995, Part 170;
  - (ii) French Standard NF MO7-011:1988;
  - (iii) French Standard NF T66-009:1969;
- (b) for the Abel-Pensky apparatus, see:
  - (i) German Standard DIN 51755:1974, Part 1 (for temperatures from 5 °C to 65 °C);
  - (ii) German Standard DIN 51755:1978, Part 2 (for temperatures below 5 °C);
  - (iii) French Standard NF MO7-036:1984;
- (c) for the Tag apparatus, see:  
American Standard ASTM D 56:1993;
- (d) for the Pensky-Martens apparatus, see:
  - (i) International Standard ISO 2719:1988;
  - (ii) European Standard EN 22719:1994 in each of its national versions (e.g. BS 2000, part 404 / EN 22719);
  - (iii) American Standard ASTM D 93:1994;
  - (iv) Institute of Petroleum Standard IP 34:1988.

**2.3.3.1.6** The test methods listed in 2.3.3.1.4 and 2.3.3.1.5 shall only be used for flash-point ranges which are specified in the individual methods. The possibility of chemical reactions between the substance and the sample holder shall be considered when selecting the method to be used. The apparatus shall, as far as is consistent with safety, be placed in a draught-free position. For safety, a method utilizing a small sample size, around 2 ml, shall be used for organic peroxides and self-reactive substances (also known as "energetic" substances), or for toxic substances.

**2.3.3.1.7** When the flash-point, determined by a non-equilibrium method in accordance with 2.3.3.1.5 is found to be  $23\text{ °C} \pm 2\text{ °C}$  or  $60\text{ °C} \pm 2\text{ °C}$ , it shall be confirmed for each temperature range by an equilibrium method in accordance with 2.3.3.1.4.

**2.3.3.1.8** In the event of a dispute as to the classification of a flammable liquid, the classification proposed by the consignor shall be accepted if a check-test of the flash-point, yields a result not differing by more than 2 °C from the limits (23 °C and 60 °C respectively) stated in 2.2.3.1. If the difference is more than 2 °C, a second check-test shall be carried out, and the lowest figure of the flash-points obtained in either check-test shall be adopted.

### **2.3.3.2 Test for determining peroxide content**

To determine the peroxide content of a liquid, the procedure is as follows:

A quantity  $p$  (about 5 g, weighed to the nearest 0.01 g) of the liquid to be titrated is placed in an Erlenmeyer flask; 20 cm<sup>3</sup> of acetic anhydride and about 1 g of powdered solid potassium iodide are added; the flask is shaken and, after 10 minutes, heated for 3 minutes to about 60 °C. When it has been left to cool for 5 minutes, 25 cm<sup>3</sup> of water are added. After this, it is left standing for half an hour, then the liberated iodine is titrated with a decinormal solution of sodium thiosulphate, no indicator being added; complete discoloration indicates the end of the reaction. If  $n$  is the number of cm<sup>3</sup> of thiosulphate solution required, the percentage of peroxide (calculated as H<sub>2</sub>O<sub>2</sub>) present in the sample is obtained by the formula:

$$\frac{17n}{100p}.$$



**2.3.4 Test for determining fluidity**

To determine the fluidity of liquid, viscous or pasty substances and mixtures, the following test method shall be used.

**2.3.4.1 Test apparatus**

Commercial penetrometer conforming to ISO 2137:1985, with a guide rod of  $47.5 \text{ g} \pm 0.05 \text{ g}$ ;

sieve disc of duralumin with conical bores and a mass of  $102.5 \text{ g} \pm 0.05 \text{ g}$  (see Figure 1);

penetration vessel with an inside diameter of 72 mm to 80 mm for reception of the sample.

**2.3.4.2 Test procedure**

The sample is poured into the penetration vessel not less than half an hour before the measurement. The vessel is then hermetically closed and left standing until the measurement. The sample in the hermetically closed penetration vessel is heated to  $35 \text{ }^{\circ}\text{C} \pm 0.5 \text{ }^{\circ}\text{C}$  and is placed on the penetrometer table immediately prior to measurement (not more than two minutes). The point S of the sieve disc is then brought into contact with the surface of the liquid and the rate of penetration is measured.

**2.3.4.3 Evaluation of test results**

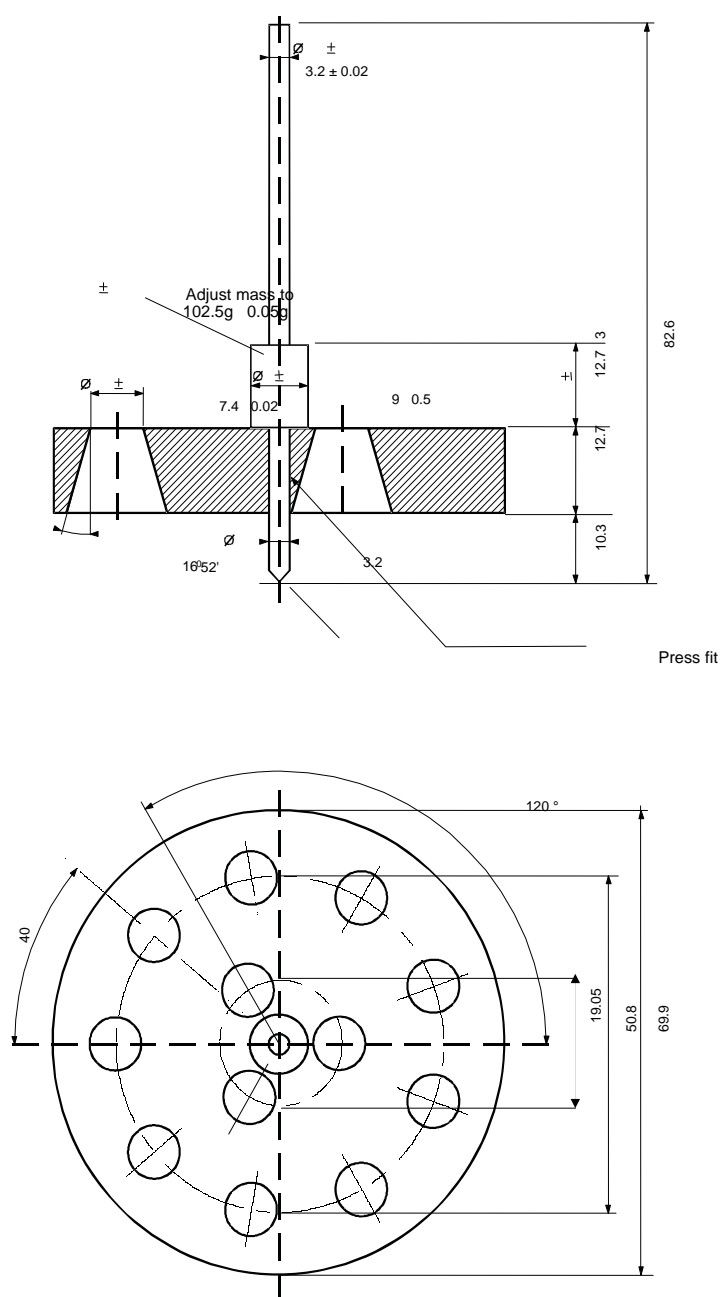
A substance is pasty if, after the centre S has been brought into contact with the surface of the sample, the penetration indicated by the dial gauge:

(a) after a loading time of  $5 \text{ s} \pm 0.1 \text{ s}$ , is less than  $15.0 \text{ mm} \pm 0.3 \text{ mm}$ ; or

(b) after a loading time of  $5 \text{ s} \pm 0.1 \text{ s}$ , is greater than  $15.0 \text{ mm} \pm 0.3 \text{ mm}$ , but the additional penetration after another  $55 \text{ s} \pm 0.5 \text{ s}$  is less than  $5.0 \text{ mm} \pm 0.5 \text{ mm}$ .

**NOTE:** In the case of samples having a flow point, it is often impossible to produce a steady level surface in the penetration vessel and, hence, to establish satisfactory initial measuring conditions for the contact of the point S. Furthermore, with some samples, the impact of the sieve disc can cause an elastic deformation of the surface and, in the first few seconds, simulate a deeper penetration. In all these cases, it may be appropriate to make the evaluation in paragraph (b) above.

**Figure 1**  
**Penetrometer**



Tolerances not specified are  $\pm 0.1$  mm.

**2.3.5****Classification of organometallic substances in classes 4.2 and 4.3**

Depending on their properties as determined in accordance with tests N.1 to N.5 of the Manual of Tests and Criteria, Part III, section 33, organometallic substances may be classified in Class 4.2 or 4.3, as appropriate, in accordance with the flowchart scheme given in Figure 2.3.5.

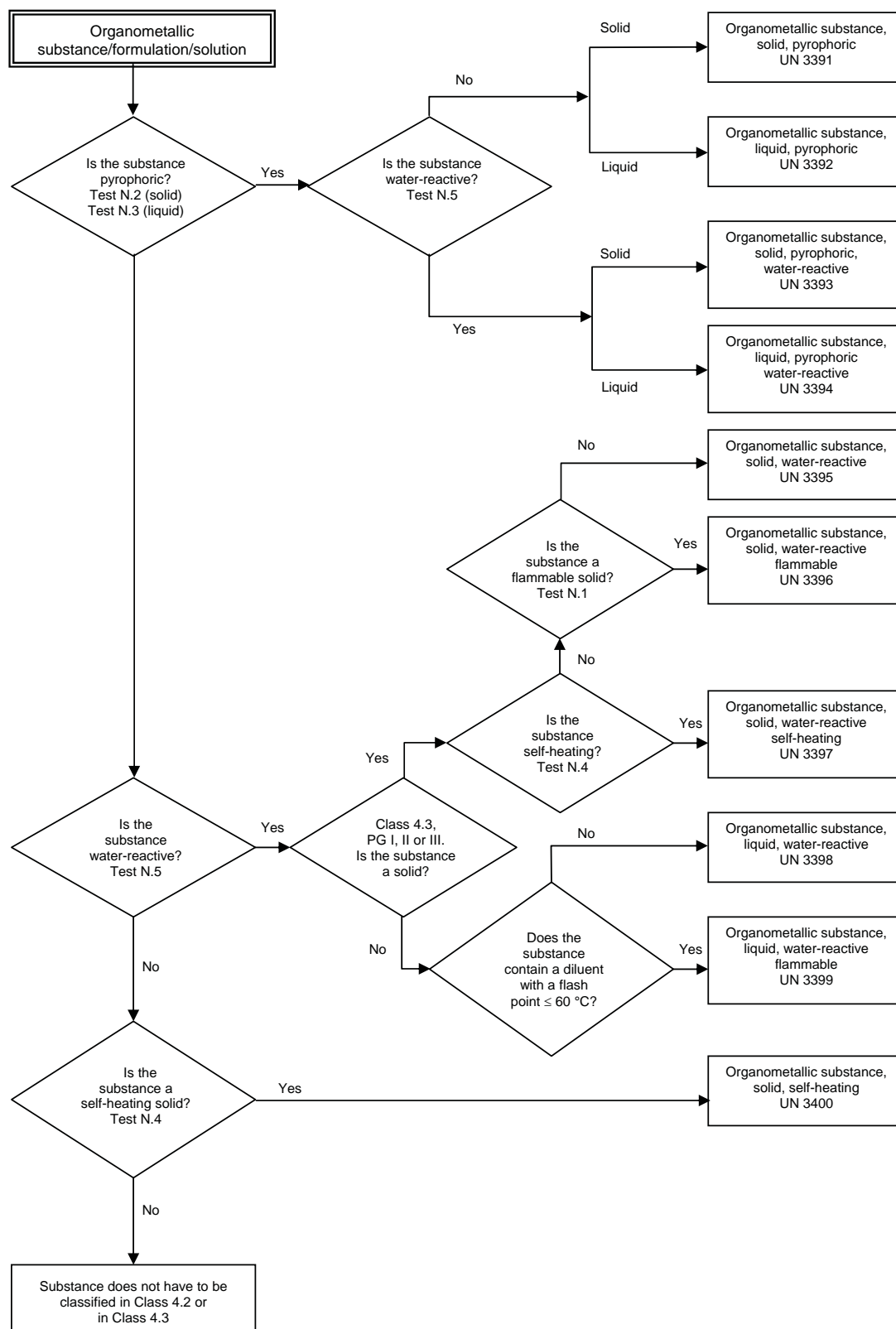
**NOTE 1:** Depending on their other properties and on the precedence of hazard table (see 2.1.3.10), organometallic substances may have to be classified in other classes as appropriate.

**2:** Flammable solutions with organometallic compounds in concentrations which are not liable to spontaneous combustion or, in contact with water, do not emit flammable gases in dangerous quantities, are substances of Class 3.

**Figure 2.3.5:** Flowchart scheme for the classification of organometallic substances in classes 4.2 and 4.3<sup>(a), (b)</sup>

<sup>(a)</sup> Test methods N.1 to N.5 can be found in the Manual of Tests and Criteria, Part III, Section 33.

<sup>(b)</sup> If applicable and testing is relevant, taking into account reactivity properties, Class 6.1 and 8 properties should be considered according to the table of precedence of hazards in 2.1.3.10.



**Part 3**

**Dangerous goods list, special provisions and exemptions related to limited and excepted quantities**

## Chapter 3.1

### General

#### 3.1.1 Introduction

In addition to the provisions referred to or given in the tables of this Part, the general requirements of each Part, Chapter and/or Section are to be observed. These general requirements are not given in the tables. When a general requirement is contradictory to a special provision, the special provision prevails.

#### 3.1.2 Proper shipping name

**NOTE:** For proper shipping names used for the carriage of samples, see 2.1.4.1.

**3.1.2.1** The proper shipping name is that portion of the entry most accurately describing the goods in Table A in Chapter 3.2, which is shown in upper case characters (plus any numbers, Greek letters, "sec", "tert", and the letters "m", "n", "o", "p", which form an integral part of the name). An alternative proper shipping name may be shown in brackets following the main proper shipping name [e.g., ETHANOL (ETHYL ALCOHOL)]. Portions of an entry appearing in lower case need not be considered as part of the proper shipping name.

**3.1.2.2** When conjunctions such as "and" or "or" are in lower case or when segments of the name are punctuated by commas, the entire name of the entry need not necessarily be shown in the transport document or package markings. This is the case particularly when a combination of several distinct entries are listed under a single UN Number. Examples illustrating the selection of the proper shipping name for such entries are:

(a) UN 1057 LIGHTERS or LIGHTER REFILLS - The proper shipping name is the most appropriate of the following possible combinations:

LIGHTERS

LIGHTER REFILLS;

(b) UN 2793 FERROUS METAL BORINGS, SHAVINGS, TURNINGS or CUTTINGS in a form liable to self-heating. The proper shipping name is the most appropriate of the following combinations:

FERROUS METAL BORINGS

FERROUS METAL SHAVINGS

FERROUS METAL TURNINGS

FERROUS METAL CUTTINGS.

**3.1.2.3** Proper shipping names may be used in the singular or plural as appropriate. In addition, when qualifying words are used as part of the proper shipping name, their sequence on the transport document or package markings is optional. For instance, "DIMETHYLAMINE AQUEOUS SOLUTION" may alternatively be shown "AQUEOUS SOLUTION OF DIMETHYLAMINE". Commercial or military names for goods of Class 1 which contain the proper shipping name supplemented by additional descriptive text may be used.

**3.1.2.4** Many substances have an entry for both the liquid and solid state (see definitions for liquid and solid in 1.2.1), or for the solid and solution. These are allocated separate UN numbers which are not necessarily adjacent to each other.<sup>1</sup>

**3.1.2.5** Unless it is already included in capital letters in the name indicated in Table A in Chapter 3.2, the qualifying word "MOLTEN" shall be added as part of the proper shipping name when a substance, which is a solid in accordance with the definition in 1.2.1, is offered for carriage in the molten state (e.g. ALKYLPHENOL, SOLID, N.O.S., MOLTEN).

**3.1.2.6** Except for self-reactive substances and organic peroxides and unless it is already included in capital letters in the name indicated in Column (2) of Table A of Chapter 3.2, the word "STABILIZED" shall be added as part of the proper shipping name of a substance which without stabilization would be forbidden from carriage in accordance with paragraphs 2.2.x.2 due to it being liable to dangerously react under conditions normally encountered in carriage (e.g.: "TOXIC LIQUID, ORGANIC, N.O.S., STABILIZED").

When temperature control is used to stabilize such substances to prevent the development of any dangerous excess pressure, then:

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<sup>1</sup> Details are provided in the alphabetical index (Table B of Chapter 3.2), e.g.:

NITROXYLENES, LIQUID	6.1	1665
NITROXYLENES, SOLID	6.1	3447.

- (a) For liquids: liquids requiring temperature control<sup>2</sup> shall not be accepted for carriage by rail;
- (b) For gases: the conditions of carriage shall be approved by the competent authority.

**3.1.2.7** Hydrates may be carried under the proper shipping name for the anhydrous substance.

**3.1.2.8 Generic or "not otherwise specified" (n.o.s.) names**

**3.1.2.8.1** Generic and "not otherwise specified" proper shipping names that are assigned to special provision 274 in Column (6) of Table A in Chapter 3.2 shall be supplemented with the technical name of the goods unless a national law or international convention prohibits its disclosure if it is a controlled substance. For explosives of Class 1, the dangerous goods description may be supplemented by additional descriptive text to indicate commercial or military names. Technical names shall be entered in brackets immediately following the proper shipping name. An appropriate modifier, such as "contains" or "containing" or other qualifying words such as "mixture", "solution", etc. and the percentage of the technical constituent may also be used. For example: "UN 1993 FLAMMABLE LIQUID, N.O.S. (CONTAINS XYLENE AND BENZENE), 3, II".

**3.1.2.8.1.1** The technical name shall be a recognized chemical name, if relevant a biological name, or other name currently used in scientific and technical handbooks, journals and texts. Trade names shall not be used for this purpose. In the case of pesticides, only ISO common name(s), other name(s) in the World Health Organization (WHO) Recommended Classification of Pesticides by Hazard and Guidelines to Classification, or the name(s) of the active substance(s) may be used.

**3.1.2.8.1.2** When a mixture of dangerous goods is described by one of the "n.o.s." or "generic" entries to which special provision 274 has been allocated in Column (6) of Table A in Chapter 3.2, not more than the two constituents which most predominantly contribute to the hazard or hazards of a mixture need to be shown, excluding controlled substances when their disclosure is prohibited by national law or international convention. If a package containing a mixture is labelled with any subsidiary risk label, one of the two technical names shown in parentheses shall be the name of the constituent which compels the use of the subsidiary risk label.

**NOTE:** See 5.4.1.2.2.

**3.1.2.8.1.3** Examples illustrating the selection of the proper shipping name supplemented with the technical name of goods for such n.o.s. entries are:

UN 3394 ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE (trimethylgallium)

UN 2902 PESTICIDE, LIQUID, TOXIC, N.O.S. (drazoxolon).

**3.1.2.9 Mixtures and solutions containing one dangerous substance**

When mixtures and solutions have to be regarded as the dangerous substance mentioned by name in accordance with the classification requirements of 2.1.3.3, the qualifying word "SOLUTION" or "MIXTURE", as appropriate, shall be added as part of the proper shipping name, e.g. "ACETONE SOLUTION". In addition, the concentration of the solution or mixture may also be indicated, e.g. "ACETONE 75% SOLUTION".

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<sup>2</sup> This includes all substances (including substances stabilized by chemical inhibitors) whose self-accelerating decomposition temperature (SADT) in the containment used for carriage is not more than 50 °C.

## Chapter 3.2

### Dangerous goods list

#### 3.2.1

#### Table A: Dangerous Goods List

##### Explanations

As a rule, each row of Table A of this Chapter deals with the substance(s) or article(s) covered by a specific UN number. However, when substances or articles belonging to the same UN number have different chemical properties, physical properties and/or carriage conditions, several consecutive rows may be used for that UN number.

Each column of Table A is dedicated to a specific subject as indicated in the explanatory notes below. The intersection of columns and rows (cell) contains information concerning the subject treated in that column, for the substance(s) or article(s) of that row:

- The first four cells identify the substance(s) or article(s) belonging to that row (additional information in that respect may be given by the special provisions referred to in Column (6);
- The following cells give the applicable special provisions, either in the form of complete information or in coded form. The codes cross-refer to detailed information that is to be found in the Part, Chapter, Section and/or Sub-section indicated in the explanatory notes below. An empty cell means either that there is no special provision and that only the general requirements apply, or that the carriage restriction indicated in the explanatory notes is in force.

The applicable general requirements are not referred to in the corresponding cells. The explanatory notes below indicate for every column the Part(s), Chapter(s), Section(s) and/or Sub-section(s) where these are to be found.

##### Explanatory notes for each column:

##### Column (1) "UN No."

Contains the UN number:

- of the dangerous substance or article if the substance or article has been assigned its own specific UN number, or
- of the generic or n.o.s. entry to which the dangerous substances or articles not mentioned by name shall be assigned in accordance with the criteria ("decision trees") of Part 2.

##### Column (2) "Name and description"

Contains, in upper case characters, the name of the substance or article, if the substance or article has been assigned its own specific UN number, or of the generic or n.o.s. entry to which it has been assigned in accordance with the criteria ("decision trees") of Part 2. This name shall be used as the proper shipping name or, when applicable, as part of the proper shipping name (see 3.1.2 for further details on the proper shipping name).

A descriptive text in lower case characters is added after the proper shipping name to clarify the scope of the entry if the classification and/or carriage conditions of the substance or article may be different under certain conditions.

##### Column (3a) "Class"

Contains the number of the class, whose heading covers the dangerous substance or article. This class number is assigned in accordance with the procedures and criteria of Part 2.

##### Column (3b) "Classification code"

Contains the classification code of the dangerous substance or article.

- For dangerous substances or articles of Class 1, the code consists of a division number and compatibility group letter, which are assigned in accordance with the procedures and criteria of 2.2.1.1.4.
- For dangerous substances or articles of Class 2, the code consists of a number and hazardous property group, which are explained in 2.2.2.1.2 and 2.2.2.1.3.



- For dangerous substances or articles of Classes 3, 4.1, 4.2, 4.3, 5.1, 5.2, 6.1, 6.2, 8 and 9, the codes are explained in 2.2.x.1.2<sup>1</sup>.
- Dangerous substances or articles of Class 7 do not have a classification code.

**Column (4) "Packing group"**

Contains the packing group number(s) (I, II or III) assigned to the dangerous substance. These packing group numbers are assigned on the basis of the procedures and criteria of Part 2. Certain articles and substances are not assigned to packing groups.

**Column (5) "Labels"**

Contains the model number of the labels/placards (see 5.2.2.2 and 5.3.1.7) that have to be affixed to packages, containers, tank-containers, portable tanks, MEGCs, tank-wagons, wagons with demountable tanks, battery-wagons and wagons.

The shunting labels in accordance with models Nos. 13 and 15 (see 5.3.4) indicated in brackets for some substances shall only be affixed in the following cases:

- Class 1: on both sides of wagons which comprise a wagon load
- Class 2: on both sides of tank-wagons, battery-wagons, wagons with demountable tanks and wagons carrying tank-containers, MEGCs and portable tanks.

However, for substances or articles of Class 7, 7X means label model No.7A, 7B or 7C as appropriate according to the category (see 5.1.5.3.4 and 5.2.2.1.11.1) or placard No. 7D (see 5.3.1.1.3 and 5.3.1.7.2).

The general provisions on labelling/placarding (e.g. number of labels, their location) are to be found in 5.2.2.1 for packages and small containers, and in 5.3.1, for large containers, tank-containers, MEGCs, portable tanks, tank-wagons, wagons with demountable tanks, battery-wagons and wagons.

**NOTE:** Special provisions, indicated in Column (6), may change the above labelling provisions.

**Column (6) "Special provisions"**

Contains the numeric codes of special provisions that have to be met. These provisions concern a wide array of subjects, mainly connected with the contents of Columns (1) to (5) (e.g. carriage prohibitions, exemptions from requirements, explanations concerning the classification of certain forms of the dangerous goods concerned and additional labelling or marking provisions), and are listed in Chapter 3.3 in numerical order. If Column (6) is empty, no special provisions apply to the contents of Columns (1) to (5) for the dangerous goods concerned.

**Column (7a) "Limited quantities"**

Contains an alphanumeric code with the following meaning:

- "LQ0" signifies that no exemption from the provisions of RID exists for the dangerous goods packed in limited quantities;
- All the other alphanumeric codes starting with the letters "LQ" signify that the provisions of RID are not applicable if the conditions indicated in Chapter 3.4 are fulfilled.

**Column (7b) "Excepted Quantities"**

Contains an alphanumeric code with the following meaning:

- "E0" signifies that no exemption from the provisions of RID exists for the dangerous goods packed in excepted quantities;
- All the other alphanumeric codes starting with the letter "E" signify that the provisions of RID are not applicable if the conditions indicated in Chapter 3.5 are fulfilled.

<sup>1</sup> x = the class number of the dangerous substance or article, without dividing point if applicable

**Column (8) "Packing instructions"**

Contains the alphanumeric codes of the applicable packing instructions:

- Alphanumeric codes starting with the letter "P", which refers to packing instructions for packagings and receptacles (except IBCs and large packagings), or "R", which refers to packing instructions for light gauge metal packagings. These are listed in 4.1.4.1 in numerical order, and specify the packagings and receptacles that are authorized. They also indicate which of the general packing provisions of 4.1.1, 4.1.2 and 4.1.3, and which of the special packing provisions of 4.1.5, 4.1.6, 4.1.7, 4.1.8 and 4.1.9 have to be met. If Column (8) does not contain a code starting with the letters "P" or "R", the dangerous goods concerned may not be carried in packagings;
- Alphanumeric codes starting with the letters "IBC" refer to packing instructions for IBCs. These are listed in 4.1.4.2 in numerical order, and specify the IBCs that are authorized. They also indicate which of the general packing provisions of 4.1.1, 4.1.2 and 4.1.3, and which of the special packing provisions of 4.1.5, 4.1.6, 4.1.7, 4.1.8 and 4.1.9 have to be met. If Column (8) does not contain a code starting with the letters "IBC", the dangerous goods concerned may not be carried in IBCs;
- Alphanumeric codes starting with the letters "LP" refer to packing instructions for large packagings. These are listed in 4.1.4.3 in numerical order, and specify the large packagings that are authorized. They also indicate which of the general packing provisions of 4.1.1, 4.1.2 and 4.1.3, and which of the special packing provisions of 4.1.5, 4.1.6, 4.1.7, 4.1.8 and 4.1.9 have to be met. If Column (8) does not contain a code starting with the letters "LP", the dangerous goods concerned cannot be carried in large packagings.

**NOTE:** Special packing provisions, indicated in Column (9a), may change the above packing instructions.

**Column (9a) "Special packing provisions"**

Contains the alphanumeric codes of the applicable special packing provisions:

- Alphanumeric codes starting with the letters "PP" or "RR" refer to special packing provisions for packagings and receptacles (except IBCs and large packagings) that have additionally to be met. These are to be found in 4.1.4.1, at the end of the relevant packing instruction (with the letter "P" or "R") referred to in Column (8). If Column (9a) does not contain a code starting with the letters "PP" or "RR", none of the special packing provisions listed at the end of the relevant packing instruction apply;
- Alphanumeric codes starting with the letter "B" or the letters "BB" refer to special packing provisions for IBCs that have additionally to be met. These are to be found in 4.1.4.2, at the end of the relevant packing instruction (with the letters "IBC") referred to in Column (8). If Column (9a) does not contain a code starting with the letter "B" or the letters "BB", none of the special packing provisions listed at the end of the relevant packing instruction apply;
- Alphanumeric codes starting with the letter "L" refer to special packing provisions for large packagings that have additionally to be met. These are to be found in 4.1.4.3, at the end of the relevant packing instruction (with the letters "LP") referred to in Column (8). If Column (9a) does not contain a code starting with the letter "L", none of the special packing provisions listed at the end of the relevant packing instruction apply.

**Column (9b) "Mixed packing provisions"**

Contains the alphanumeric codes starting with the letters "MP" of the applicable mixed packing provisions. These are listed in 4.1.10 in numerical order. If Column (9b) does not contain a code starting with the letters "MP", only the general requirements apply (see 4.1.1.5 and 4.1.1.6).

**Column (10) "Portable tank and bulk container instructions"**

Contains an alphanumeric code assigned to a portable tank instruction, in accordance with 4.2.5.2.1 to 4.2.5.2.4 and 4.2.5.2.6. This portable tank instruction corresponds to the least stringent provisions that are acceptable for the carriage of the substance in portable tanks. The codes identifying the other portable tank instructions that are also permitted for the carriage of the substance are to be found in 4.2.5.2.5. If no code is given, carriage in portable tanks is not permitted unless a competent authority approval is granted as detailed in 6.7.1.3.

The general requirements for the design, construction, equipment, type approval, testing and marking of portable tanks are to be found in Chapter 6.7. The general requirements for the use (e.g. filling) are to be found in 4.2.1 to 4.2.4.

The indication of an "(M)" means that the substance may be carried in UN MEGCs.

**NOTE:** Special provisions, indicated in Column (11), may change the above requirements.

May also contain alphanumeric codes starting with the letters "BK" referring to types of bulk containers described in Chapter 6.11 which may be used for the carriage of bulk goods in accordance with 7.3.1.1 (a) and 7.3.2.

**Column (11) "Portable tank and bulk container special provisions"**

Contains the alphanumeric codes of the portable tank special provisions that have additionally to be met. These codes, starting with the letters "TP" refer to special provisions for the construction or use of these portable tanks. They are to be found in 4.2.5.3.

**NOTE:** If technically relevant, these special provisions are not only applicable to the portable tanks specified in column (10), but also to the portable tanks that may be used according to the table in 4.2.5.2.5.

**Column (12) "Tank codes for RID tanks"**

Contains an alphanumeric code describing a tank type, in accordance with 4.3.3.1.1 (for gases of Class 2) or 4.3.4.1.1 (for substances of Classes 3 to 9). This tank type corresponds to the least stringent tank provisions that are acceptable for the carriage of the relevant substance in RID tanks. The codes describing the other permitted tank types are to be found in 4.3.3.1.2 (for gases of Class 2) or 4.3.4.1.2 (for substances of Classes 3 to 9). If no code is given, carriage in RID tanks is not permitted.

If in this column a tank code for solids (S) and for liquids (L) is indicated, this means that this substance may be offered for carriage in tanks in the solid or the liquid (molten) state. In general this provision is applicable to substances having melting points from 20 °C to 180 °C.

If for a solid, only a tank code for liquids (L) is indicated in this column, this means that this substance is only offered for carriage in tanks in the liquid (molten) state.

The general requirements for the construction, equipment, type approval, testing and marking that are not indicated in the tank code are to be found in 6.8.1, 6.8.2, 6.8.3 and 6.8.5. The general requirements for the use (e.g. maximum degree of filling, minimum test pressure) are to be found in 4.3.1 to 4.3.4.

The indication of a "(M)" after the tank code means that the substance can also be carried in battery-wagons or MEGCs.

The indication of a "(+)" after the tank code means that the alternative use of the tanks is permitted only where this is specified in the certificate of type approval.

For fibre-reinforced plastic tank-containers, see 4.4.1 and Chapter 6.9; for vacuum-operated waste tanks, see 4.5.1 and Chapter 6.10.

**NOTE:** Special provisions, indicated in Column (13), may change the above requirements.

**Column (13) "Special provisions for RID tanks"**

Contains the alphanumeric codes of the special provisions for RID tanks that have additionally to be met:

- Alphanumeric codes starting with the letters "TU" refer to special provisions for the use of these tanks. These are to be found in 4.3.5;
- Alphanumeric codes starting with the letters "TC" refer to special provisions for the construction of these tanks. These are to be found in 6.8.4 (a);
- Alphanumeric codes starting with the letters "TE" refer to special provisions concerning the items of equipment of these tanks. These are to be found in 6.8.4 (b);
- Alphanumeric codes starting with the letters "TA" refer to special provisions for the type approval of these tanks. These are to be found in 6.8.4 (c);

- Alphanumeric codes starting with the letters "TT" refer to special provisions for the testing of these tanks. These are to be found in 6.8.4 (d);
- Alphanumeric codes starting with the letters "TM" refer to special provisions for the marking of these tanks. These are to be found in 6.8.4 (e).

**NOTE:** If technically relevant, these special provisions are not only applicable to the tanks specified in column (12), but also to the tanks that may be used according to the hierarchies in 4.3.3.1.2 and 4.3.4.1.2.

**Column (14)** (Reserved)

**Column (15)** "Transport category"

Contains a figure indicating the transport category to which the substance or article is assigned for the purposes of exemption from transport operations performed by undertakings in connection with their main business (see 1.1.3.1 (c)).

**Column (16)** "Special provisions for carriage – Packages"

Contains the alphanumeric code(s), starting with letter "W", of the applicable special provisions (if any) for carriage in packages. These are listed in 7.2.4. General provisions concerning the carriage in packages are to be found in Chapters 7.1 and 7.2.

**NOTE:** In addition, special provisions indicated in Column (18), concerning loading, unloading and handling, shall be observed.

**Column (17)** "Special provisions for carriage – Bulk"

Contains the alphanumeric code(s), starting with letters "VW", of the applicable special provisions for carriage in bulk. These are listed in 7.3.3. If no code is given, carriage in bulk is not permitted. General Provisions concerning the carriage in bulk are to be found in Chapters 7.1 and 7.3.

**NOTE:** In addition, special provisions indicated in Column (18), concerning loading, unloading and handling, shall be observed.

**Column (18)** "Special provisions for carriage – Loading and unloading"

Contains the alphanumeric code(s), starting with letters "CW", of the applicable special provisions for loading, unloading and handling. These are listed in 7.5.11. If no code is given, only the general provisions apply (see 7.5.1 to 7.5.4 and 7.5.8).

**Column (19)** "Colis Express (express goods)"

Contains alphanumeric codes beginning with the letters "CE" for the requirements applicable to forwarding as Colis Express (express goods). These requirements are given in Chapter 7.6. When column 19 does not contain a code, forwarding as Colis Express (express goods) is not permitted.

**Column (20)** "Hazard identification number"

Contains a two or three figure number (preceded in certain cases by the letter "X") for substances and articles of classes 2 to 9, and for substances and articles of Class 1, the classification code (see column (3b)). In the cases described in 5.3.2.1, this number shall appear in the upper half of the orange-coloured marking. The meaning of the hazard identification numbers is explained in 5.3.2.3.

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
0004	AMMONIUM PICRATE dry or wetted with less than 10% water, by mass	1	1.1D		1 (+13)		LQ0 E0	P112a P112b P112c	PP26	MP20							1	W2 W3		CW1		1.1D
0005	CARTRIDGES FOR WEAPONS with bursting charge	1	1.1F		1 (+13)		LQ0 E0	P130		MP23							1	W2		CW1		1.1F
0006	CARTRIDGES FOR WEAPONS with bursting charge	1	1.1E		1 (+13)		LQ0 E0	P130 LP101	PP67 L1	MP21							1	W2		CW1		1.1E
0007	CARTRIDGES FOR WEAPONS with bursting charge	1	1.2F		1 (+13)		LQ0 E0	P130		MP23							1	W2		CW1		1.2F
0009	AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge	1	1.2G		1		LQ0 E0	P130 LP101	PP67 L1	MP23							1	W2		CW1		1.2G
0010	AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge	1	1.3G		1		LQ0 E0	P130 LP101	PP67 L1	MP23							1	W2		CW1		1.3G
0012	CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS	1	1.4S		1.4		LQ0 E0	P130		MP23 MP24							4	W2		CW1	CE1	1.4S
0014	CARTRIDGES FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK	1	1.4S		1.4		LQ0 E0	P130		MP23 MP24							4	W2		CW1	CE1	1.4S
0015	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge	1	1.2G		1		LQ0 E0	P130 LP101	PP67 L1	MP23							1	W2		CW1		1.2G
0015	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge, containing corrosive substances	1	1.2G		1+8		LQ0 E0	P130 LP101	PP67 L1	MP23							1	W2		CW1		1.2G
0016	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge	1	1.3G		1		LQ0 E0	P130 LP101	PP67 L1	MP23							1	W2		CW1		1.3G
0016	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge, containing corrosive substances	1	1.3G		1+8		LQ0 E0	P130 LP101	PP67 L1	MP23							1	W2		CW1		1.3G
0018	AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge	1	1.2G		1+6.1+8		LQ0 E0	P130 LP101	PP67 L1	MP23							1	W2		CW1 CW28		1.2G

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
0019	AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge	1	1.3G		1+6.1+8		LQ0 E0	P130 LP101	PP67 L1	MP23					1	W2		CW1 CW28		1.3G
0020	AMMUNITION, TOXIC with burster, expelling charge or propelling charge	1	1.2K	CARRIAGE PROHIBITED																
0021	AMMUNITION, TOXIC with burster, expelling charge or propelling charge	1	1.3K	CARRIAGE PROHIBITED																
0027	BLACK POWDER (GUNPOWDER), granular or as a meal	1	1.1D		1 (+13)		LQ0 E0	P113	PP50	MP20 MP24					1	W2 W3		CW1		1.1D
0028	BLACK POWDER (GUNPOWDER), COMPRESSED or BLACK POWDER (GUNPOWDER), IN PELLETS	1	1.1D		1 (+13)		LQ0 E0	P113	PP51	MP20 MP24					1	W2		CW1		1.1D
0029	DETONATORS, NON-ELECTRIC for blasting	1	1.1B		1 (+13)		LQ0 E0	P131	PP68	MP23					1	W2		CW1		1.1B
0030	DETONATORS, ELECTRIC for blasting	1	1.1B		1 (+13)		LQ0 E0	P131		MP23					1	W2		CW1		1.1B
0033	BOMBS with bursting charge	1	1.1F		1 (+13)		LQ0 E0	P130		MP23					1	W2		CW1		1.1F
0034	BOMBS with bursting charge	1	1.1D		1 (+13)		LQ0 E0	P130 LP101	PP67 L1	MP21					1	W2		CW1		1.1D
0035	BOMBS with bursting charge	1	1.2D		1		LQ0 E0	P130 LP101	PP67 L1	MP21					1	W2		CW1		1.2D
0037	BOMBS, PHOTO-FLASH	1	1.1F		1 (+13)		LQ0 E0	P130		MP23					1	W2		CW1		1.1F
0038	BOMBS, PHOTO-FLASH	1	1.1D		1 (+13)		LQ0 E0	P130 LP101	PP67 L1	MP21					1	W2		CW1		1.1D
0039	BOMBS, PHOTO-FLASH	1	1.2G		1		LQ0 E0	P130 LP101	PP67 L1	MP23					1	W2		CW1		1.2G
0042	BOOSTERS without detonator	1	1.1D		1 (+13)		LQ0 E0	P132a P132b		MP21					1	W2		CW1		1.1D
0043	BURSTERS, explosive	1	1.1D		1 (+13)		LQ0 E0	P133	PP69	MP21					1	W2		CW1		1.1D
0044	PRIMERS, CAP TYPE	1	1.4S		1.4		LQ0 E0	P133		MP23 MP24					4	W2		CW1	CE1	1.4S
0048	CHARGES, DEMOLITION	1	1.1D		1 (+13)		LQ0 E0	P130 LP101	PP67 L1	MP21					1	W2		CW1		1.1D
0049	CARTRIDGES, FLASH	1	1.1G		1 (+13)		LQ0 E0	P135		MP23					1	W2		CW1		1.1G
0050	CARTRIDGES, FLASH	1	1.3G		1		LQ0 E0	P135		MP23					1	W2		CW1		1.3G
0054	CARTRIDGES, SIGNAL	1	1.3G		1		LQ0 E0	P135		MP23 MP24					1	W2		CW1		1.3G

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
0055	CASES, CARTRIDGE, EMPTY, WITH PRIMER	1	1.4S		1.4		LQ0	E0		P136		MP23					4	W2		CW1	CE1	1.4S
0056	CHARGES, DEPTH	1	1.1D		1 (+13)		LQ0	E0		P130 LP101	PP67 L1	MP21					1	W2		CW1		1.1D
0059	CHARGES, SHAPED, without detonator	1	1.1D		1 (+13)		LQ0	E0		P137	PP70	MP21					1	W2		CW1		1.1D
0060	CHARGES, SUPPLEMENTARY, EXPLOSIVE	1	1.1D		1 (+13)		LQ0	E0		P132a P132b		MP21					1	W2		CW1		1.1D
0065	CORD, DETONATING, flexible	1	1.1D		1 (+13)		LQ0	E0		P139	PP71 PP72	MP21					1	W2		CW1		1.1D
0066	CORD, IGNITER	1	1.4G		1.4		LQ0	E0		P140		MP23					2	W2		CW1	CE1	1.4G
0070	CUTTERS, CABLE, EXPLOSIVE	1	1.4S		1.4		LQ0	E0		P134 LP102		MP23					4	W2		CW1	CE1	1.4S
0072	CYCLOTRIMETHYLENETRINITRAMINE (CYCLONITE; HEXOGEN; RDX), WETTED with not less than 15% water,	1	1.1D		1 (+15)	266	LQ0	E0		P112a	PP45	MP20					1	W2		CW1		1.1D
0073	DETONATORS FOR AMMUNITION	1	1.1B		1 (+13)		LQ0	E0		P133		MP23					1	W2		CW1		1.1B
0074	DIAZODINITROPHENOL, WETTED with not less than 40% water, or mixture of alcohol and water, by mass	1	1.1A	CARRIAGE PROHIBITED																		
0075	DIETHYLENEGLYCOL DINITRATE, DESENSITIZED with not less than 25% non-volatile, water-insoluble phlegmatizer, by mass	1	1.1D		1 (+15)	266	LQ0	E0		P115	PP53 PP54 PP57 PP58	MP20					1	W2		CW1		1.1D
0076	DINITROPHENOL, dry or wetted with less than 15% water, by mass	1	1.1D		1+6.1 (+13)		LQ0	E0		P112a P112b P112c	PP26	MP20					1	W2 W3		CW1 CW28		1.1D
0077	DINITROPHENOLATES, alkali metals, dry or wetted with less than 15% water, by mass	1	1.3C		1+6.1 (+13)		LQ0	E0		P114a P114b	PP26	MP20					1	W2 W3		CW1 CW28		1.3C
0078	DINITRORESORCINOL, dry or wetted with less than 15% water, by mass	1	1.1D		1 (+13)		LQ0	E0		P112a P112b P112c	PP26	MP20					1	W2 W3		CW1		1.1D
0079	HEXANITRODIPHENYLAMINE (DIPICRYLAMINE; HEXYL)	1	1.1D		1 (+13)		LQ0	E0		P112b P112c		MP20					1	W2 W3		CW1		1.1D

[illegible]



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
0118	HEXOLITE (HEXOTOL), dry or wetted with less than 15% water, by mass	1	1.1D		1 (+13)		LQ0 E0	P112a P112b P112c		MP20					1	W2 W3		CW1		1.1D
0121	IGNITERS	1	1.1G		1 (+13)		LQ0 E0	P142		MP23					1	W2		CW1		1.1G
0124	JET PERFORATING GUNS, CHARGED, oil well, without detonator	1	1.1D		1 (+13)		LQ0 E0	P101		MP21					1	W2		CW1		1.1D
0129	LEAD AZIDE, WETTED with not less than 20% water, or mixture of alcohol and water, by mass	1	1.1A	CARRIAGE PROHIBITED																
0130	LEAD STYPHNATE (LEAD TRINITRORESORCINATE), WETTED with not less than 20% water, or mixture of alcohol and water, by mass	1	1.1A	CARRIAGE PROHIBITED																
0131	LIGHTERS, FUSE	1	1.4S		1.4		LQ0 E0	P142		MP23					4	W2		CW1	CE1	1.4S
0132	DEFLAGRATING METAL SALTS OF AROMATIC NITRODERIVATIVES,	1	1.3C		1 (+13)	274	LQ0 E0	P114a P114b	PP26	MP2					1	W2 W3		CW1		1.3C
0133	MANNITOL HEXANITRATE (NITROMANNITE), WETTED with not less than 40% water, or mixture of alcohol and water, by mass	1	1.1D		1 (+15)	266	LQ0 E0	P112a		MP20					1	W2		CW1		1.1D
0135	MERCURY FULMINATE, WETTED with not less than 20% water, or mixture of alcohol and water, by mass	1	1.1A	CARRIAGE PROHIBITED																
0136	MINES with bursting charge	1	1.1F		1 (+13)		LQ0 E0	P130		MP23					1	W2		CW1		1.1F
0137	MINES with bursting charge	1	1.1D		1 (+13)		LQ0 E0	P130 LP101	PP67 L1	MP21					1	W2		CW1		1.1D
0138	MINES with bursting charge	1	1.2D		1		LQ0 E0	P130 LP101	PP67 L1	MP21					1	W2		CW1		1.2D
0143	NITROGLYCERIN, DESENSITIZED with not less than 40% non-volatile water-insoluble phlegmatizer, by mass	1	1.1D		1+6.1 (+15)	266 271	LQ0 E0	P115	PP53 PP54 PP57 PP58	MP20					1	W2		CW1 CW28		1.1D

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
0144	NITROGLYCERIN SOLUTION IN ALCOHOL with more than 1% but not more than 10% nitroglycerin	1	1.1D		1 (+13)	500	LQ0 E0	P115	PP45 PP55 PP56 PP59 PP60	MP20					1	W2		CW1		1.1D
0146	NITROSTARCH, dry or wetted with less than 20% water, by mass	1	1.1D		1 (+15)		LQ0 E0	P112a P112b P112c		MP20					1	W2 W3		CW1		1.1D
0147	NITRO UREA	1	1.1D		1 (+13)		LQ0 E0	P112b		MP20					1	W2 W3		CW1		1.1D
0150	PENTAERYTHRITOL TETRANITRATE (PENTAERYTHRITOL TETRANITRATE; PETN), WETTED with not less than 25% water, by mass, or DESENSITIZED with not less than 15% phlegmatizer, by mass	1	1.1D		1 (+15)	266	LQ0 E0	P112a P112b		MP20					1	W2 W3		CW1		1.1D
0151	PENTOLITE, dry or wetted with less than 15% water, by mass	1	1.1D		1 (+13)		LQ0 E0	P112a P112b P112c		MP20					1	W2 W3		CW1		1.1D
0153	TRINITROANILINE (PICRAMIDE)	1	1.1D		1 (+13)		LQ0 E0	P112b P112c		MP20					1	W2 W3		CW1		1.1D
0154	TRINITROPHENOL (PICRIC ACID), dry or wetted with less than 30% water, by mass	1	1.1D		1 (+13)		LQ0 E0	P112a P112b P112c	PP26	MP20					1	W2 W3		CW1		1.1D
0155	TRINITROCHLOROBENZENE (PICRYL CHLORIDE)	1	1.1D		1 (+13)		LQ0 E0	P112b P112c		MP20					1	W2 W3		CW1		1.1D
0159	POWDER CAKE (POWDER PASTE), WETTED with not less than 25% water, by mass	1	1.3C		1 (+13)	266	LQ0 E0	P111	PP43	MP20					1	W2		CW1		1.3C
0160	POWDER, SMOKELESS	1	1.1C		1 (+15)		LQ0 E0	P114b	PP50 PP52	MP20 MP24					1	W2 W3		CW1		1.1C
0161	POWDER, SMOKELESS	1	1.3C		1 (+13)		LQ0 E0	P114b	PP50 PP52	MP20 MP24					1	W2 W3		CW1		1.3C
0167	PROJECTILES with bursting charge	1	1.1F		1 (+13)		LQ0 E0	P130		MP23					1	W2		CW1		1.1F
0168	PROJECTILES with bursting charge	1	1.1D		1 (+13)		LQ0 E0	P130 LP101	PP67 L1	MP21					1	W2		CW1		1.1D

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instruc-tions	Special provi-sions	Tank code	Special provi-sions		Packages	Bulk	Loading, unloading and handling		
3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3	
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
0169	PROJECTILES with bursting charge	1	1.2D		1		LQ0	E0	P130 LP101	PP67 L1	MP21					1	W2		CW1		1.2D
0171	AMMUNITION, ILLUMINATING with or without burster, expelling charge or propelling charge	1	1.2G		1		LQ0	E0	P130 LP101	PP67 L1	MP23					1	W2		CW1		1.2G
0173	RELEASE DEVICES, EXPLOSIVE	1	1.4S		1.4		LQ0	E0	P134 LP102		MP23					4	W2		CW1	CE1	1.4S
0174	RIVETS, EXPLOSIVE	1	1.4S		1.4		LQ0	E0	P134 LP102		MP23					4	W2		CW1	CE1	1.4S
0180	ROCKETS with bursting charge	1	1.1F		1 (+13)		LQ0	E0	P130		MP23					1	W2		CW1		1.1F
0181	ROCKETS with bursting charge	1	1.1E		1 (+13)		LQ0	E0	P130 LP101	PP67 L1	MP21					1	W2		CW1		1.1E
0182	ROCKETS with bursting charge	1	1.2E		1		LQ0	E0	P130 LP101	PP67 L1	MP21					1	W2		CW1		1.2E
0183	ROCKETS with inert head	1	1.3C		1		LQ0	E0	P130 LP101	PP67 L1	MP22					1	W2		CW1		1.3C
0186	ROCKET MOTORS	1	1.3C		1		LQ0	E0	P130 LP101	PP67 L1	MP22 MP24					1	W2		CW1		1.3C
0190	SAMPLES, EXPLOSIVE, other than initiating explosive	1				16 274	LQ0	E0	P101		MP2					0	W2		CW1		
0191	SIGNAL DEVICES, HAND	1	1.4G		1.4		LQ0	E0	P135		MP23 MP24					2	W2		CW1		1.4G
0192	SIGNALS, RAILWAY TRACK,	1	1.1G		1 (+13)		LQ0	E0	P135		MP23					1	W2		CW1		1.1G
0193	SIGNALS, RAILWAY TRACK,	1	1.4S		1.4		LQ0	E0	P135		MP23					4	W2		CW1	CE1	1.4S
0194	SIGNALS, DISTRESS, ship	1	1.1G		1 (+13)		LQ0	E0	P135		MP23 MP24					1	W2		CW1		1.1G
0195	SIGNALS, DISTRESS, ship	1	1.3G		1		LQ0	E0	P135		MP23 MP24					1	W2		CW1		1.3G
0196	SIGNALS, SMOKE	1	1.1G		1 (+13)		LQ0	E0	P135		MP23					1	W2		CW1		1.1G
0197	SIGNALS, SMOKE	1	1.4G		1.4		LQ0	E0	P135		MP23 MP24					2	W2		CW1		1.4G
0204	SOUNDING DEVICES, EXPLOSIVE	1	1.2F		1 (+13)		LQ0	E0	P134 LP102		MP23					1	W2		CW1		1.2F
0207	TETRANITROANILINE	1	1.1D		1 (+13)		LQ0	E0	P112b P112c		MP20					1	W2 W3		CW1		1.1D

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
0208	TRINITROPHENYLMETHYLNITRAMINE (TETRYL)	1	1.1D		1 (+15)		LQ0	E0		P112b P112c		MP20					1	W2 W3		CW1		1.1D
0209	TRINITROTOLUENE (TNT), dry or wetted with less than 30% water, by mass	1	1.1D		1 (+13)		LQ0	E0		P112b P112c	PP46	MP20					1	W2 W3		CW1		1.1D
0212	TRACERS FOR AMMUNITION	1	1.3G		1		LQ0	E0		P133	PP69	MP23					1	W2		CW1		1.3G
0213	TRINITROANISOLE	1	1.1D		1 (+13)		LQ0	E0		P112b P112c		MP20					1	W2 W3		CW1		1.1D
0214	TRINITROBENZENE, dry or wetted with less than 30% water, by mass	1	1.1D		1 (+13)		LQ0	E0		P112a P112b P112c		MP20					1	W2 W3		CW1		1.1D
0215	TRINITROBENZOIC ACID, dry or wetted with less than 30% water, by mass	1	1.1D		1 (+13)		LQ0	E0		P112a P112b P112c		MP20					1	W2 W3		CW1		1.1D
0216	TRINITRO-m-CRESOL	1	1.1D		1 (+13)		LQ0	E0		P112b P112c	PP26	MP20					1	W2 W3		CW1		1.1D
0217	TRINITRONAPHTHALENE	1	1.1D		1 (+13)		LQ0	E0		P112b P112c		MP20					1	W2 W3		CW1		1.1D
0218	TRINITROPHENETOLE	1	1.1D		1 (+13)		LQ0	E0		P112b P112c		MP20					1	W2 W3		CW1		1.1D
0219	TRINITRORESORCINOL (STYPHNIC ACID), dry or wetted with less than 20% water, or mixture of alcohol and water, by	1	1.1D		1 (+15)		LQ0	E0		P112a P112b P112c	PP26	MP20					1	W2 W3		CW1		1.1D
0220	UREA NITRATE, dry or wetted with less than 20% water, by mass	1	1.1D		1 (+13)		LQ0	E0		P112a P112b P112c		MP20					1	W2 W3		CW1		1.1D
0221	WARHEADS, TORPEDO with bursting charge	1	1.1D		1 (+13)		LQ0	E0		P130 LP101	PP67 L1	MP21					1	W2		CW1		1.1D
0222	AMMONIUM NITRATE with more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance	1	1.1D		1 (+13)		LQ0	E0		P112b P112c	PP47	MP20					1	W2 W3		CW1		1.1D
0224	BARIUM AZIDE, dry or wetted with less than 50% water, by mass	1	1.1A	CARRIAGE PROHIBITED																		
0225	BOOSTERS WITH DETONATOR	1	1.1B		1 (+13)		LQ0	E0		P133	PP69	MP23					1	W2		CW1		1.1B

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
0226	CYCLOTETRAMETHYLENETETRA-NITRAMINE (HMX; OCTOGEN), WETTED with not less than 15% water, by mass	1	1.1D		1 (+15)	266	LQ0	E0		P112a	PP45	MP20					1	W2		CW1		1.1D
0234	SODIUM DINITRO-o-CRESOLATE, dry or wetted with less than 15% water, by mass	1	1.3C		1 (+13)		LQ0	E0		P114a P114b	PP26	MP20					1	W2 W3		CW1		1.3C
0235	SODIUM PICRAMATE, dry or wetted with less than 20% water, by mass	1	1.3C		1 (+13)		LQ0	E0		P114a P114b	PP26	MP20					1	W2 W3		CW1		1.3C
0236	ZIRCONIUM PICRAMATE, dry or wetted with less than 20% water, by mass	1	1.3C		1 (+13)		LQ0	E0		P114a P114b	PP26	MP20					1	W2 W3		CW1		1.3C
0237	CHARGES, SHAPED, FLEXIBLE, LINEAR	1	1.4D		1.4		LQ0	E0		P138		MP21					2	W2		CW1		1.4D
0238	ROCKETS, LINE-THROWING	1	1.2G		1		LQ0	E0		P130		MP23 MP24					1	W2		CW1		1.2G
0240	ROCKETS, LINE-THROWING	1	1.3G		1		LQ0	E0		P130		MP23 MP24					1	W2		CW1		1.3G
0241	EXPLOSIVE, BLASTING, TYPE E	1	1.1D		1 (+13)	617	LQ0	E0		P116  IBC100	PP61 PP62 PP65 B10	MP20					1	W2		CW1		1.1D
0242	CHARGES, PROPELLING, FOR CANNON	1	1.3C		1		LQ0	E0		P130		MP22					1	W2		CW1		1.3C
0243	AMMUNITION, INCENDIARY, WHITE PHOSPHORUS with burster, expelling charge or propelling charge	1	1.2H		1 (+13)		LQ0	E0		P130 LP101	PP67 L1	MP23					1	W2		CW1		1.2H
0244	AMMUNITION, INCENDIARY, WHITE PHOSPHORUS with burster, expelling charge or propelling charge	1	1.3H		1 (+13)		LQ0	E0		P130 LP101	PP67 L1	MP23					1	W2		CW1		1.3H
0245	AMMUNITION, SMOKE, WHITE PHOSPHORUS with burster, expelling charge or propelling charge	1	1.2H		1 (+13)		LQ0	E0		P130 LP101	PP67 L1	MP23					1	W2		CW1		1.2H
0246	AMMUNITION, SMOKE, WHITE PHOSPHORUS with burster, expelling charge or propelling charge	1	1.3H		1 (+13)		LQ0	E0		P130 LP101	PP67 L1	MP23					1	W2		CW1		1.3H

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
0247	AMMUNITION, INCENDIARY, liquid or gel, with burster, expelling charge or propelling charge	1	1.3J		1 (+13)		LQ0 E0	P101		MP23					1	W2		CW1		1.3J
0248	CONTRIVANCES, WATER-ACTIVATED with burster, expelling charge or propelling charge	1	1.2L		1 (+13)	274	LQ0 E0	P144	PP77	MP1					0	W2		CW1 CW4		1.2L
0249	CONTRIVANCES, WATER-ACTIVATED with burster, expelling charge or propelling charge	1	1.3L		1 (+13)	274	LQ0 E0	P144	PP77	MP1					0	W2		CW1 CW4		1.3L
0250	ROCKET MOTORS WITH HYPERGOLIC LIQUIDS with or without expelling charge	1	1.3L		1 (+13)		LQ0 E0	P101		MP1					0	W2		CW1 CW4		1.3L
0254	AMMUNITION, ILLUMINATING with or without burster, expelling charge or propelling charge	1	1.3G		1		LQ0 E0	P130 LP101	PP67 L1	MP23					1	W2		CW1		1.3G
0255	DETONATORS, ELECTRIC for blasting	1	1.4B		1.4		LQ0 E0	P131		MP23					2	W2		CW1		1.4B
0257	FUZES, DETONATING	1	1.4B		1.4		LQ0 E0	P141		MP23					2	W2		CW1		1.4B
0266	OCTOLITE (OCTOL), dry or wetted with less than 15% water, by mass	1	1.1D		1 (+13)		LQ0 E0	P112a P112b P112c		MP20					1	W2 W3		CW1		1.1D
0267	DETONATORS, NON-ELECTRIC for blasting	1	1.4B		1.4		LQ0 E0	P131	PP68	MP23					2	W2		CW1		1.4B
0268	BOOSTERS WITH DETONATOR	1	1.2B		1 (+13)		LQ0 E0	P133	PP69	MP23					1	W2		CW1		1.2B
0271	CHARGES, PROPELLING	1	1.1C		1 (+13)		LQ0 E0	P143	PP76	MP22					1	W2		CW1		1.1C
0272	CHARGES, PROPELLING	1	1.3C		1		LQ0 E0	P143	PP76	MP22					1	W2		CW1		1.3C
0275	CARTRIDGES, POWER DEVICE	1	1.3C		1		LQ0 E0	P134 LP102		MP22					1	W2		CW1		1.3C
0276	CARTRIDGES, POWER DEVICE	1	1.4C		1.4		LQ0 E0	P134 LP102		MP22					2	W2		CW1		1.4C
0277	CARTRIDGES, OIL WELL	1	1.3C		1		LQ0 E0	P134 LP102		MP22					1	W2		CW1		1.3C
0278	CARTRIDGES, OIL WELL	1	1.4C		1.4		LQ0 E0	P134 LP102		MP22					2	W2		CW1		1.4C
0279	CHARGES, PROPELLING, FOR	1	1.1C		1 (+13)		LQ0 E0	P130		MP22					1	W2		CW1		1.1C
0280	ROCKET MOTORS	1	1.1C		1 (+13)		LQ0 E0	P130 LP101	PP67 L1	MP22					1	W2		CW1		1.1C

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								Packing instructions	Special packing provisions	Mixed packing provisions	Instruc-tions	Special provi-sions	Tank code	Special provi-sions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
0281	ROCKET MOTORS	1	1.2C		1		LQ0 E0	P130 LP101	PP67 L1	MP22					1	W2		CW1		1.2C
0282	NITROGUANIDINE (PICRITE), dry or wetted with less than 20% water, by mass	1	1.1D		1 (+13)		LQ0 E0	P112a P112b P112c		MP20					1	W2 W3		CW1		1.1D
0283	BOOSTERS without detonator	1	1.2D		1		LQ0 E0	P132a P132b		MP21					1	W2		CW1		1.2D
0284	GRENADES, hand or rifle, with bursting charge	1	1.1D		1 (+13)		LQ0 E0	P141		MP21					1	W2		CW1		1.1D
0285	GRENADES, hand or rifle, with bursting charge	1	1.2D		1		LQ0 E0	P141		MP21					1	W2		CW1		1.2D
0286	WARHEADS, ROCKET with bursting charge	1	1.1D		1 (+13)		LQ0 E0	P130 LP101	PP67 L1	MP21					1	W2		CW1		1.1D
0287	WARHEADS, ROCKET with bursting charge	1	1.2D		1		LQ0 E0	P130 LP101	PP67 L1	MP21					1	W2		CW1		1.2D
0288	CHARGES, SHAPED, FLEXIBLE, LINEAR	1	1.1D		1 (+13)		LQ0 E0	P138		MP21					1	W2		CW1		1.1D
0289	CORD, DETONATING, flexible	1	1.4D		1.4		LQ0 E0	P139	PP71 PP72	MP21					2	W2		CW1		1.4D
0290	CORD (FUSE), DETONATING, metal clad	1	1.1D		1 (+13)		LQ0 E0	P139	PP71	MP21					1	W2		CW1		1.1D
0291	BOMBS with bursting charge	1	1.2F		1 (+13)		LQ0 E0	P130		MP23					1	W2		CW1		1.2F
0292	GRENADES, hand or rifle, with bursting charge	1	1.1F		1 (+13)		LQ0 E0	P141		MP23					1	W2		CW1		1.1F
0293	GRENADES, hand or rifle, with bursting charge	1	1.2F		1 (+13)		LQ0 E0	P141		MP23					1	W2		CW1		1.2F
0294	MINES with bursting charge	1	1.2F		1 (+13)		LQ0 E0	P130		MP23					1	W2		CW1		1.2F
0295	ROCKETS with bursting charge	1	1.2F		1 (+13)		LQ0 E0	P130		MP23					1	W2		CW1		1.2F
0296	SOUNDING DEVICES, EXPLOSIVE	1	1.1F		1 (+13)		LQ0 E0	P134 LP102		MP23					1	W2		CW1		1.1F
0297	AMMUNITION, ILLUMINATING with or without burster, expelling charge or propelling charge	1	1.4G		1.4		LQ0 E0	P130 LP101	PP67 L1	MP23					2	W2		CW1		1.4G
0299	BOMBS, PHOTO-FLASH	1	1.3G		1		LQ0 E0	P130 LP101	PP67 L1	MP23					1	W2		CW1		1.3G

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								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
0300	AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge	1	1.4G		1.4		LQ0 E0	P130 LP101	PP67 L1	MP23					2	W2		CW1		1.4G
0301	AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge	1	1.4G		1.4+6.1+8		LQ0 E0	P130 LP101	PP67 L1	MP23					2	W2		CW1 CW28		1.4G
0303	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge	1	1.4G		1.4		LQ0 E0	P130 LP101	PP67 L1	MP23					2	W2		CW1		1.4G
0303	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge, containing corrosive substances	1	1.4G		1.4+8		LQ0 E0	P130 LP101	PP67 L1	MP23					2	W2		CW1		1.4G
0305	FLASH POWDER	1	1.3G		1		LQ0 E0	P113	PP49	MP20					1	W2 W3		CW1		1.3G
0306	TRACERS FOR AMMUNITION	1	1.4G		1.4		LQ0 E0	P133	PP69	MP23					2	W2		CW1		1.4G
0312	CARTRIDGES, SIGNAL	1	1.4G		1.4		LQ0 E0	P135		MP23 MP24					2	W2		CW1		1.4G
0313	SIGNALS, SMOKE	1	1.2G		1		LQ0 E0	P135		MP23					1	W2		CW1		1.2G
0314	IGNITERS	1	1.2G		1		LQ0 E0	P142		MP23					1	W2		CW1		1.2G
0315	IGNITERS	1	1.3G		1		LQ0 E0	P142		MP23					1	W2		CW1		1.3G
0316	FUZES, IGNITING	1	1.3G		1		LQ0 E0	P141		MP23					1	W2		CW1		1.3G
0317	FUZES, IGNITING	1	1.4G		1.4		LQ0 E0	P141		MP23					2	W2		CW1		1.4G
0318	GRENADES, PRACTICE, hand or rifle	1	1.3G		1		LQ0 E0	P141		MP23					1	W2		CW1		1.3G
0319	PRIMERS, TUBULAR	1	1.3G		1		LQ0 E0	P133		MP23					1	W2		CW1		1.3G
0320	PRIMERS, TUBULAR	1	1.4G		1.4		LQ0 E0	P133		MP23					2	W2		CW1		1.4G
0321	CARTRIDGES FOR WEAPONS with bursting charge	1	1.2E		1		LQ0 E0	P130 LP101	PP67 L1	MP21					1	W2		CW1		1.2E
0322	ROCKET MOTORS WITH HYPERGOLIC LIQUIDS with or without expelling charge	1	1.2L		1 (+13)		LQ0 E0	P101		MP1					0	W2		CW1 CW4		1.2L
0323	CARTRIDGES, POWER DEVICE	1	1.4S		1.4		LQ0 E0	P134 LP102		MP23					4	W2		CW1	CE1	1.4S
0324	PROJECTILES with bursting charge	1	1.2F		1 (+13)		LQ0 E0	P130		MP23					1	W2		CW1		1.2F
0325	IGNITERS	1	1.4G		1.4		LQ0 E0	P142		MP23					2	W2		CW1		1.4G
0326	CARTRIDGES FOR WEAPONS, BLANK	1	1.1C		1 (+13)		LQ0 E0	P130		MP22					1	W2		CW1		1.1C
0327	CARTRIDGES FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK	1	1.3C		1		LQ0 E0	P130		MP22					1	W2		CW1		1.3C



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
0328	CARTRIDGES FOR WEAPONS, INERT PROJECTILE	1	1.2C		1		LQ0	E0	P130 LP101	PP67 L1	MP22						1	W2		CW1		1.2C
0329	TORPEDOES with bursting charge	1	1.1E		1 (+13)		LQ0	E0	P130 LP101	PP67 L1	MP21						1	W2		CW1		1.1E
0330	TORPEDOES with bursting charge	1	1.1F		1 (+13)		LQ0	E0	P130		MP23						1	W2		CW1		1.1F
0331	EXPLOSIVE, BLASTING, TYPE B (AGENT, BLASTING, TYPE B)	1	1.5D		1.5	617	LQ0	E0	P116  IBC100	PP61 PP62 PP64 PP65	MP20	T1	TP1 TP17 TP32				1	W2		CW1		1.5D
0332	EXPLOSIVE, BLASTING, TYPE E (AGENT, BLASTING, TYPE E)	1	1.5D		1.5	617	LQ0	E0	P116  IBC100	PP61 PP62 PP65	MP20	T1	TP1 TP17 TP32				1	W2		CW1		1.5D
0333	FIREWORKS	1	1.1G		1 (+13)	645	LQ0	E0	P135		MP23 MP24						1	W2 W3		CW1		1.1G
0334	FIREWORKS	1	1.2G		1	645	LQ0	E0	P135		MP23 MP24						1	W2 W3		CW1		1.2G
0335	FIREWORKS	1	1.3G		1	645	LQ0	E0	P135		MP23 MP24						1	W2 W3		CW1		1.3G
0336	FIREWORKS	1	1.4G		1.4	645	LQ0	E0	P135		MP23 MP24						2	W2		CW1	CE1	1.4G
0337	FIREWORKS	1	1.4S		1.4	645	LQ0	E0	P135		MP23 MP24						4	W2		CW1	CE1	1.4S
0338	CARTRIDGES FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK	1	1.4C		1.4		LQ0	E0	P130		MP22						2	W2		CW1		1.4C
0339	CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS	1	1.4C		1.4		LQ0	E0	P130		MP22						2	W2		CW1		1.4C
0340	NITROCELLULOSE, dry or wetted with less than 25% water (or alcohol), by mass	1	1.1D		1 (+15)		LQ0	E0	P112a P112b		MP20						1	W2 W3		CW1		1.1D
0341	NITROCELLULOSE, unmodified or plasticized with less than 18% plasticizing substance, by mass	1	1.1D		1 (+15)		LQ0	E0	P112b		MP20						1	W2 W3		CW1		1.1D

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	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
0342	NITROCELLULOSE, WETTED with not less than 25% alcohol, by mass	1	1.3C		1 (+13)	105	LQ0 E0	P114a	PP43	MP20							1	W2		CW1		1.3C
0343	NITROCELLULOSE, PLASTICIZED with not less than 18% plasticizing substance, by mass	1	1.3C		1 (+13)	105	LQ0 E0	P111		MP20							1	W2		CW1		1.3C
0344	PROJECTILES with bursting charge	1	1.4D		1.4		LQ0 E0	P130 LP101	PP67 L1	MP21							2	W2		CW1		1.4D
0345	PROJECTILES, inert with tracer	1	1.4S		1.4		LQ0 E0	P130 LP101	PP67 L1	MP23							4	W2		CW1	CE1	1.4S
0346	PROJECTILES with burster or expelling charge	1	1.2D		1		LQ0 E0	P130 LP101	PP67 L1	MP21							1	W2		CW1		1.2D
0347	PROJECTILES with burster or expelling charge	1	1.4D		1.4		LQ0 E0	P130 LP101	PP67 L1	MP21							2	W2		CW1		1.4D
0348	CARTRIDGES FOR WEAPONS with bursting charge	1	1.4F		1.4		LQ0 E0	P130		MP23							2	W2		CW1		1.4F
0349	ARTICLES, EXPLOSIVE, N.O.S.	1	1.4S		1.4	178 274	LQ0 E0	P101		MP2							4	W2		CW1	CE1	1.4S
0350	ARTICLES, EXPLOSIVE, N.O.S.	1	1.4B		1.4	178 274	LQ0 E0	P101		MP2							2	W2		CW1		1.4B
0351	ARTICLES, EXPLOSIVE, N.O.S.	1	1.4C		1.4	178 274	LQ0 E0	P101		MP2							2	W2		CW1		1.4C
0352	ARTICLES, EXPLOSIVE, N.O.S.	1	1.4D		1.4	178 274	LQ0 E0	P101		MP2							2	W2		CW1		1.4D
0353	ARTICLES, EXPLOSIVE, N.O.S.	1	1.4G		1.4	178 274	LQ0 E0	P101		MP2							2	W2		CW1		1.4G
0354	ARTICLES, EXPLOSIVE, N.O.S.	1	1.1L		1 (+13)	178 274	LQ0 E0	P101		MP1							0	W2		CW1 CW4		1.1L
0355	ARTICLES, EXPLOSIVE, N.O.S.	1	1.2L		1 (+13)	178 274	LQ0 E0	P101		MP1							0	W2		CW1 CW4		1.2L
0356	ARTICLES, EXPLOSIVE, N.O.S.	1	1.3L		1 (+13)	178 274	LQ0 E0	P101		MP1							0	W2		CW1 CW4		1.3L
0357	SUBSTANCES, EXPLOSIVE, N.O.S.	1	1.1L		1 (+13)	178 274	LQ0 E0	P101		MP1							0	W2		CW1 CW4		1.1L
0358	SUBSTANCES, EXPLOSIVE, N.O.S.	1	1.2L		1 (+13)	178 274	LQ0 E0	P101		MP1							0	W2		CW1 CW4		1.2L

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
0359	SUBSTANCES, EXPLOSIVE, N.O.S.	1	1.3L		1 (+13)	178 274	LQ0	E0		P101		MP1					0	W2		CW1 CW4		1.3L
0360	DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting	1	1.1B		1 (+13)		LQ0	E0		P131		MP23					1	W2		CW1		1.1B
0361	DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting	1	1.4B		1.4		LQ0	E0		P131		MP23					2	W2		CW1		1.4B
0362	AMMUNITION, PRACTICE	1	1.4G		1.4		LQ0	E0		P130 LP101	PP67 L1	MP23					2	W2		CW1		1.4G
0363	AMMUNITION, PROOF	1	1.4G		1.4		LQ0	E0		P130 LP101	PP67 L1	MP23					2	W2		CW1		1.4G
0364	DETONATORS FOR AMMUNITION	1	1.2B		1 (+13)		LQ0	E0		P133		MP23					1	W2		CW1		1.2B
0365	DETONATORS FOR AMMUNITION	1	1.4B		1.4		LQ0	E0		P133		MP23					2	W2		CW1		1.4B
0366	DETONATORS FOR AMMUNITION	1	1.4S		1.4		LQ0	E0		P133		MP23					4	W2		CW1	CE1	1.4S
0367	FUZES, DETONATING	1	1.4S		1.4		LQ0	E0		P141		MP23					4	W2		CW1	CE1	1.4S
0368	FUZES, IGNITING	1	1.4S		1.4		LQ0	E0		P141		MP23					4	W2		CW1	CE1	1.4S
0369	WARHEADS, ROCKET with bursting charge	1	1.1F		1 (+13)		LQ0	E0		P130		MP23					1	W2		CW1		1.1F
0370	WARHEADS, ROCKET with burster or expelling charge	1	1.4D		1.4		LQ0	E0		P130 LP101	PP67 L1	MP21					2	W2		CW1		1.4D
0371	WARHEADS, ROCKET with burster or expelling charge	1	1.4F		1.4		LQ0	E0		P130		MP23					2	W2		CW1		1.4F
0372	GRENADES, PRACTICE, hand or rifle	1	1.2G		1		LQ0	E0		P141		MP23					1	W2		CW1		1.2G
0373	SIGNAL DEVICES, HAND	1	1.4S		1.4		LQ0	E0		P135		MP23 MP24					4	W2		CW1	CE1	1.4S
0374	SOUNDING DEVICES, EXPLOSIVE	1	1.1D		1 (+13)		LQ0	E0		P134 LP102		MP21					1	W2		CW1		1.1D
0375	SOUNDING DEVICES, EXPLOSIVE	1	1.2D		1		LQ0	E0		P134 LP102		MP21					1	W2		CW1		1.2D
0376	PRIMERS, TUBULAR	1	1.4S		1.4		LQ0	E0		P133		MP23					4	W2		CW1	CE1	1.4S
0377	PRIMERS, CAP TYPE	1	1.1B		1 (+13)		LQ0	E0		P133		MP23					1	W2		CW1		1.1B
0378	PRIMERS, CAP TYPE	1	1.4B		1.4		LQ0	E0		P133		MP23					2	W2		CW1		1.4B
0379	CASES, CARTRIDGE, EMPTY, WITH PRIMER	1	1.4C		1.4		LQ0	E0		P136		MP22					2	W2		CW1		1.4C
0380	ARTICLES, PYROPHORIC	1	1.2L		1 (+13)		LQ0	E0		P101		MP1					0	W2		CW1 CW4		1.2L

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										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
0381	CARTRIDGES, POWER DEVICE	1	1.2C		1		LQ0	E0		P134 LP102		MP22					1	W2		CW1		1.2C
0382	COMPONENTS, EXPLOSIVE TRAIN, N.O.S.	1	1.2B		1 (+13)	178 274	LQ0	E0		P101		MP2					1	W2		CW1		1.2B
0383	COMPONENTS, EXPLOSIVE TRAIN, N.O.S.	1	1.4B		1.4	178 274	LQ0	E0		P101		MP2					2	W2		CW1		1.4B
0384	COMPONENTS, EXPLOSIVE TRAIN, N.O.S.	1	1.4S		1.4	178 274	LQ0	E0		P101		MP2					4	W2		CW1	CE1	1.4S
0385	5-NITROBENZOTRIAZOL	1	1.1D		1 (+13)		LQ0	E0		P112b P112c		MP20					1	W2 W3		CW1		1.1D
0386	TRINITROBENZENESULPHONIC ACID	1	1.1D		1 (+13)		LQ0	E0		P112b P112c	PP26	MP20					1	W2 W3		CW1		1.1D
0387	TRINITROFLUORENONE	1	1.1D		1 (+13)		LQ0	E0		P112b P112c		MP20					1	W2 W3		CW1		1.1D
0388	TRINITROTOLUENE (TNT) AND TRINITROBENZENE MIXTURE or TRINITROTOLUENE (TNT) AND HEXANITROSTILBENE MIXTURE	1	1.1D		1 (+13)		LQ0	E0		P112b P112c		MP20					1	W2 W3		CW1		1.1D
0389	TRINITROTOLUENE (TNT) MIXTURE CONTAINING TRINITROBENZENE AND HEXANITROSTILBENE	1	1.1D		1 (+13)		LQ0	E0		P112b P112c		MP20					1	W2 W3		CW1		1.1D
0390	TRITONAL	1	1.1D		1 (+13)		LQ0	E0		P112b P112c		MP20					1	W2 W3		CW1		1.1D
0391	CYCLOTRIMETHYLENETRINITRAMINE (CYCLONITE; HEXOGEN; RDX) AND CYCLOTETRAMETHYLENETETRA-NITRAMINE (HMX; OCTOGEN) MIXTURE, WETTED with not less than 15% water, by mass or DESENSITIZED with not less than 10% phlegmatizer by mass	1	1.1D		1 (+15)	266	LQ0	E0		P112a P112b		MP20					1	W2 W3		CW1		1.1D
0392	HEXANITROSTILBENE	1	1.1D		1 (+13)		LQ0	E0		P112b P112c		MP20					1	W2 W3		CW1		1.1D
0393	HEXOTONAL	1	1.1D		1 (+13)		LQ0	E0		P112b		MP20					1	W2 W3		CW1		1.1D

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								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
0394	TRINITRORESORCINOL (STYPHNIC ACID), WETTED with not less than 20% water, or mixture of alcohol and water, by mass	1	1.1D		1 (+15)		LQ0 E0	P112a	PP26	MP20					1	W2		CW1		1.1D
0395	ROCKET MOTORS, LIQUID FUELLED	1	1.2J		1 (+13)		LQ0 E0	P101		MP23					1	W2		CW1		1.2J
0396	ROCKET MOTORS, LIQUID FUELLED	1	1.3J		1 (+13)		LQ0 E0	P101		MP23					1	W2		CW1		1.3J
0397	ROCKETS, LIQUID FUELLED with bursting charge	1	1.1J		1 (+13)		LQ0 E0	P101		MP23					1	W2		CW1		1.1J
0398	ROCKETS, LIQUID FUELLED with bursting charge	1	1.2J		1 (+13)		LQ0 E0	P101		MP23					1	W2		CW1		1.2J
0399	BOMBS WITH FLAMMABLE LIQUID with bursting charge	1	1.1J		1 (+13)		LQ0 E0	P101		MP23					1	W2		CW1		1.1J
0400	BOMBS WITH FLAMMABLE LIQUID with bursting charge	1	1.2J		1 (+13)		LQ0 E0	P101		MP23					1	W2		CW1		1.2J
0401	DIPICRYL SULPHIDE, dry or wetted with less than 10% water, by mass	1	1.1D		1 (+13)		LQ0 E0	P112a P112b P112c		MP20					1	W2 W3		CW1		1.1D
0402	AMMONIUM PERCHLORATE	1	1.1D		1 (+13)	152	LQ0 E0	P112b P112c		MP20					1	W2 W3		CW1		1.1D
0403	FLARES, AERIAL	1	1.4G		1.4		LQ0 E0	P135		MP23					2	W2		CW1		1.4G
0404	FLARES, AERIAL	1	1.4S		1.4		LQ0 E0	P135		MP23					4	W2		CW1	CE1	1.4S
0405	CARTRIDGES, SIGNAL	1	1.4S		1.4		LQ0 E0	P135		MP23 MP24					4	W2		CW1	CE1	1.4S
0406	DINITROSOBENZENE	1	1.3C		1 (+13)		LQ0 E0	P114b		MP20					1	W2 W3		CW1		1.3C
0407	TETRAZOL-1-ACETIC ACID	1	1.4C		1.4		LQ0 E0	P114b		MP20					2	W2		CW1		1.4C
0408	FUZES, DETONATING with protective features	1	1.1D		1 (+13)		LQ0 E0	P141		MP21					1	W2		CW1		1.1D
0409	FUZES, DETONATING with protective features	1	1.2D		1		LQ0 E0	P141		MP21					1	W2		CW1		1.2D
0410	FUZES, DETONATING with protective features	1	1.4D		1.4		LQ0 E0	P141		MP21					2	W2		CW1		1.4D
0411	PENTAERYTHRITOL TETRANITRATE (PENTAERYTHRITOL TETRANITRATE; PETN) with not less than 7% wax, by mass	1	1.1D		1 (+15)	131	LQ0 E0	P112b P112c		MP20					1	W2 W3		CW1		1.1D

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
0412	CARTRIDGES FOR WEAPONS with bursting charge	1	1.4E		1.4		LQ0	E0		P130 LP101	PP67 L1	MP21					2	W2		CW1		1.4E
0413	CARTRIDGES FOR WEAPONS, BLANK	1	1.2C		1		LQ0	E0		P130		MP22					1	W2		CW1		1.2C
0414	CHARGES, PROPELLING, FOR CANNON	1	1.2C		1		LQ0	E0		P130		MP22					1	W2		CW1		1.2C
0415	CHARGES, PROPELLING	1	1.2C		1		LQ0	E0		P143	PP76	MP22					1	W2		CW1		1.2C
0417	CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS	1	1.3C		1		LQ0	E0		P130		MP22					1	W2		CW1		1.3C
0418	FLARES, SURFACE	1	1.1G		1 (+13)		LQ0	E0		P135		MP23					1	W2		CW1		1.1G
0419	FLARES, SURFACE	1	1.2G		1		LQ0	E0		P135		MP23					1	W2		CW1		1.2G
0420	FLARES, AERIAL	1	1.1G		1 (+13)		LQ0	E0		P135		MP23					1	W2		CW1		1.1G
0421	FLARES, AERIAL	1	1.2G		1		LQ0	E0		P135		MP23					1	W2		CW1		1.2G
0424	PROJECTILES, inert with tracer	1	1.3G		1		LQ0	E0		P130 LP101	PP67 L1	MP23					1	W2		CW1		1.3G
0425	PROJECTILES, inert with tracer	1	1.4G		1.4		LQ0	E0		P130 LP101	PP67 L1	MP23					2	W2		CW1		1.4G
0426	PROJECTILES with burster or expelling charge	1	1.2F		1 (+13)		LQ0	E0		P130		MP23					1	W2		CW1		1.2F
0427	PROJECTILES with burster or expelling charge	1	1.4F		1.4		LQ0	E0		P130		MP23					2	W2		CW1		1.4F
0428	ARTICLES, PYROTECHNIC for technical purposes	1	1.1G		1 (+13)		LQ0	E0		P135		MP23 MP24					1	W2		CW1		1.1G
0429	ARTICLES, PYROTECHNIC for technical purposes	1	1.2G		1		LQ0	E0		P135		MP23 MP24					1	W2		CW1		1.2G
0430	ARTICLES, PYROTECHNIC for technical purposes	1	1.3G		1		LQ0	E0		P135		MP23 MP24					1	W2		CW1		1.3G
0431	ARTICLES, PYROTECHNIC for technical purposes	1	1.4G		1.4		LQ0	E0		P135		MP23 MP24					2	W2		CW1	CE1	1.4G
0432	ARTICLES, PYROTECHNIC for technical purposes	1	1.4S		1.4		LQ0	E0		P135		MP23 MP24					4	W2		CW1	CE1	1.4S
0433	POWDER CAKE (POWDER PASTE), WETTED with not less than 17% alcohol, by mass	1	1.1C		1 (+13)	266	LQ0	E0		P111		MP20					1	W2		CW1		1.1C
0434	PROJECTILES with burster or expelling charge	1	1.2G		1		LQ0	E0		P130 LP101	PP67 L1	MP23					1	W2		CW1		1.2G

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
0435	PROJECTILES with burster or expelling charge	1	1.4G		1.4		LQ0	E0		P130 LP101	PP67 L1	MP23					2	W2		CW1		1.4G
0436	ROCKETS with expelling charge	1	1.2C		1		LQ0	E0		P130 LP101	PP67 L1	MP22					1	W2		CW1		1.2C
0437	ROCKETS with expelling charge	1	1.3C		1		LQ0	E0		P130 LP101	PP67 L1	MP22					1	W2		CW1		1.3C
0438	ROCKETS with expelling charge	1	1.4C		1.4		LQ0	E0		P130 LP101	PP67 L1	MP22					2	W2		CW1		1.4C
0439	CHARGES, SHAPED, without detonator	1	1.2D		1		LQ0	E0		P137	PP70	MP21					1	W2		CW1		1.2D
0440	CHARGES, SHAPED, without detonator	1	1.4D		1.4		LQ0	E0		P137	PP70	MP21					2	W2		CW1		1.4D
0441	CHARGES, SHAPED, without detonator	1	1.4S		1.4		LQ0	E0		P137	PP70	MP23					4	W2		CW1	CE1	1.4S
0442	CHARGES, EXPLOSIVE, COMMERCIAL without detonator	1	1.1D		1 (+13)		LQ0	E0		P137		MP21					1	W2		CW1		1.1D
0443	CHARGES, EXPLOSIVE, COMMERCIAL without detonator	1	1.2D		1		LQ0	E0		P137		MP21					1	W2		CW1		1.2D
0444	CHARGES, EXPLOSIVE, COMMERCIAL without detonator	1	1.4D		1.4		LQ0	E0		P137		MP21					2	W2		CW1		1.4D
0445	CHARGES, EXPLOSIVE, COMMERCIAL without detonator	1	1.4S		1.4		LQ0	E0		P137		MP23					4	W2		CW1	CE1	1.4S
0446	CASES, COMBUSTIBLE, EMPTY, WITHOUT PRIMER	1	1.4C		1.4		LQ0	E0		P136		MP22					2	W2		CW1		1.4C
0447	CASES, COMBUSTIBLE, EMPTY, WITHOUT PRIMER	1	1.3C		1		LQ0	E0		P136		MP22					1	W2		CW1		1.3C
0448	5-MERCAPTOTETRAZOL-1-ACETIC ACID	1	1.4C		1.4		LQ0	E0		P114b		MP20					2	W2		CW1		1.4C
0449	TORPEDOES, LIQUID FUELLED with or without bursting charge	1	1.1J		1 (+13)		LQ0	E0		P101		MP23					1	W2		CW1		1.1J
0450	TORPEDOES, LIQUID FUELLED with inert head	1	1.3J		1 (+13)		LQ0	E0		P101		MP23					1	W2		CW1		1.3J
0451	TORPEDOES with bursting charge	1	1.1D		1 (+13)		LQ0	E0		P130 LP101	PP67 L1	MP21					1	W2		CW1		1.1D
0452	GRENADES, PRACTICE, hand or rifle	1	1.4G		1.4		LQ0	E0		P141		MP23					2	W2		CW1		1.4G
0453	ROCKETS, LINE-THROWING	1	1.4G		1.4		LQ0	E0		P130		MP23					2	W2		CW1		1.4G

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
0454	IGNITERS	1	1.4S		1.4		LQ0	E0		P142		MP23					4	W2		CW1	CE1	1.4S
0455	DETONATORS, NON-ELECTRIC for blasting	1	1.4S		1.4		LQ0	E0		P131	PP68	MP23					4	W2		CW1	CE1	1.4S
0456	DETONATORS, ELECTRIC for blasting	1	1.4S		1.4		LQ0	E0		P131		MP23					4	W2		CW1	CE1	1.4S
0457	CHARGES, BURSTING, PLASTICS BONDED	1	1.1D		1 (+13)		LQ0	E0		P130		MP21					1	W2		CW1		1.1D
0458	CHARGES, BURSTING, PLASTICS BONDED	1	1.2D		1		LQ0	E0		P130		MP21					1	W2		CW1		1.2D
0459	CHARGES, BURSTING, PLASTICS BONDED	1	1.4D		1.4		LQ0	E0		P130		MP21					2	W2		CW1		1.4D
0460	CHARGES, BURSTING, PLASTICS BONDED	1	1.4S		1.4		LQ0	E0		P130		MP23					4	W2		CW1	CE1	1.4S
0461	COMPONENTS, EXPLOSIVE TRAIN, N.O.S.	1	1.1B		1 (+13)	178 274	LQ0	E0		P101		MP2					1	W2		CW1		1.1B
0462	ARTICLES, EXPLOSIVE, N.O.S.	1	1.1C		1 (+13)	178 274	LQ0	E0		P101		MP2					1	W2		CW1		1.1C
0463	ARTICLES, EXPLOSIVE, N.O.S.	1	1.1D		1 (+13)	178 274	LQ0	E0		P101		MP2					1	W2		CW1		1.1D
0464	ARTICLES, EXPLOSIVE, N.O.S.	1	1.1E		1 (+13)	178 274	LQ0	E0		P101		MP2					1	W2		CW1		1.1E
0465	ARTICLES, EXPLOSIVE, N.O.S.	1	1.1F		1 (+13)	178 274	LQ0	E0		P101		MP2					1	W2		CW1		1.1F
0466	ARTICLES, EXPLOSIVE, N.O.S.	1	1.2C		1	178 274	LQ0	E0		P101		MP2					1	W2		CW1		1.2C
0467	ARTICLES, EXPLOSIVE, N.O.S.	1	1.2D		1	178 274	LQ0	E0		P101		MP2					1	W2		CW1		1.2D
0468	ARTICLES, EXPLOSIVE, N.O.S.	1	1.2E		1	178 274	LQ0	E0		P101		MP2					1	W2		CW1		1.2E
0469	ARTICLES, EXPLOSIVE, N.O.S.	1	1.2F		1 (+13)	178 274	LQ0	E0		P101		MP2					1	W2		CW1		1.2F
0470	ARTICLES, EXPLOSIVE, N.O.S.	1	1.3C		1	178 274	LQ0	E0		P101		MP2					1	W2		CW1		1.3C
0471	ARTICLES, EXPLOSIVE, N.O.S.	1	1.4E		1.4	178 274	LQ0	E0		P101		MP2					2	W2		CW1		1.4E
0472	ARTICLES, EXPLOSIVE, N.O.S.	1	1.4F		1.4	178 274	LQ0	E0		P101		MP2					2	W2		CW1		1.4F



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
0473	SUBSTANCES, EXPLOSIVE, N.O.S.	1	1.1A	CARRIAGE PROHIBITED																		
0474	SUBSTANCES, EXPLOSIVE, N.O.S.	1	1.1C		1 (+13)	178 274	LQ0	E0	P101		MP2						1	W2 W3		CW1		1.1C
0475	SUBSTANCES, EXPLOSIVE, N.O.S.	1	1.1D		1 (+13)	178 274	LQ0	E0	P101		MP2						1	W2 W3		CW1		1.1D
0476	SUBSTANCES, EXPLOSIVE, N.O.S.	1	1.1G		1 (+13)	178 274	LQ0	E0	P101		MP2						1	W2 W3		CW1		1.1G
0477	SUBSTANCES, EXPLOSIVE, N.O.S.	1	1.3C		1 (+13)	178 274	LQ0	E0	P101		MP2						1	W2 W3		CW1		1.3C
0478	SUBSTANCES, EXPLOSIVE, N.O.S.	1	1.3G		1	178 274	LQ0	E0	P101		MP2						1	W2 W3		CW1		1.3G
0479	SUBSTANCES, EXPLOSIVE, N.O.S.	1	1.4C		1.4	178 274	LQ0	E0	P101		MP2						2	W2		CW1		1.4C
0480	SUBSTANCES, EXPLOSIVE, N.O.S.	1	1.4D		1.4	178 274	LQ0	E0	P101		MP2						2	W2		CW1		1.4D
0481	SUBSTANCES, EXPLOSIVE, N.O.S.	1	1.4S		1.4	178 274	LQ0	E0	P101		MP2						4	W2		CW1		1.4S
0482	SUBSTANCES, EXPLOSIVE, VERY INSENSITIVE (SUBSTANCES, EVI).	1	1.5D		1.5	178 274	LQ0	E0	P101		MP2						1	W2		CW1		1.5D
0483	CYCLOTETRAMETHYLENETRINITRAMINE (CYCLONITE; HEXOGEN; RDX), DESENSITIZED	1	1.1D		1 (+13)		LQ0	E0	P112b P112c		MP20						1	W2 W3		CW1		1.1D
0484	CYCLOTETRAMETHYLENE-TETRANITRAMINE (HMX; OCTOGEN), DESENSITIZED	1	1.1D		1 (+13)		LQ0	E0	P112b P112c		MP20						1	W2 W3		CW1		1.1D
0485	SUBSTANCES, EXPLOSIVE, N.O.S.	1	1.4G		1.4	178 274	LQ0	E0	P101		MP2						2	W2 W3		CW1		1.4G
0486	ARTICLES, EXPLOSIVE, EXTREMELY INSENSITIVE (ARTICLES, EEI)	1	1.6N		1.6		LQ0	E0	P101		MP23						2	W2		CW1		1.6N
0487	SIGNALS, SMOKE	1	1.3G		1		LQ0	E0	P135		MP23						1	W2		CW1		1.3G
0488	AMMUNITION, PRACTICE	1	1.3G		1		LQ0	E0	P130 LP101	PP67 L1	MP23						1	W2		CW1		1.3G
0489	DINITROGLYCOURIL (DINGU)	1	1.1D		1 (+13)		LQ0	E0	P112b P112c		MP20						1	W2 W3		CW1		1.1D
0490	NITROTRIAZOLONE (NTO)	1	1.1D		1 (+13)		LQ0	E0	P112b P112c		MP20						1	W2 W3		CW1		1.1D

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								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
0491	CHARGES, PROPELLING	1	1.4C		1.4		LQ0 E0	P143	PP76	MP22					2	W2		CW1		1.4C
0492	SIGNALS, RAILWAY TRACK, EXPLOSIVE	1	1.3G		1		LQ0 E0	P135		MP23					1	W2		CW1		1.3G
0493	SIGNALS, RAILWAY TRACK, EXPLOSIVE	1	1.4G		1.4		LQ0 E0	P135		MP23					2	W2		CW1		1.4G
0494	JET PERFORATING GUNS, CHARGED, oil well, without detonator	1	1.4D		1.4		LQ0 E0	P101		MP21					2	W2		CW1		1.4D
0495	PROPELLANT, LIQUID	1	1.3C		1 (+13)	224	LQ0 E0	P115	PP53 PP54 PP57 PP58	MP20					1	W2		CW1		1.3C
0496	OCTONAL	1	1.1D		1 (+13)		LQ0 E0	P112b P112c		MP20					1	W2 W3		CW1		1.1D
0497	PROPELLANT, LIQUID	1	1.1C		1 (+13)	224	LQ0 E0	P115	PP53 PP54 PP57 PP58	MP20					1	W2		CW1		1.1C
0498	PROPELLANT, SOLID	1	1.1C		1 (+13)		LQ0 E0	P114b		MP20					1	W2		CW1		1.1C
0499	PROPELLANT, SOLID	1	1.3C		1 (+13)		LQ0 E0	P114b		MP20					1	W2		CW1		1.3C
0500	DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting	1	1.4S		1.4		LQ0 E0	P131		MP23					4	W2		CW1	CE1	1.4S
0501	PROPELLANT, SOLID	1	1.4C		1.4		LQ0 E0	P114b		MP20					2	W2		CW1		1.4C
0502	ROCKETS with inert head	1	1.2C		1		LQ0 E0	P130 LP101	PP67 L1	MP22					1	W2		CW1		1.2C
0503	AIR BAG INFLATORS or AIR BAG MODULES or SEAT-BELT PRETENSIONERS	1	1.4G		1.4	235 289	LQ0 E0	P135		MP23					2	W2		CW1		1.4G
0504	1H-TETRAZOLE	1	1.1D		1 (+13)		LQ0 E0	P112c	PP48	MP20					1	W2		CW1		1.1D
0505	SIGNALS, DISTRESS, ship	1	1.4G		1.4		LQ0 E0	P135		MP23 MP24					2	W2		CW1		1.4G
0506	SIGNALS, DISTRESS, ship	1	1.4S		1.4		LQ0 E0	P135		MP23 MP24					4	W2		CW1	CE1	1.4S
0507	SIGNALS, SMOKE	1	1.4S		1.4		LQ0 E0	P135		MP23 MP24					4	W2		CW1	CE1	1.4S

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	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
0508	1-HYDROXY-BENZOTRIAZOLE, ANHYDROUS, dry or wetted with less than 20% water, by mass	1	1.3C		1 (+13)		LQ0 E0			P114b	PP48 PP50	MP20					1	W2 W3		CW1		1.3C
1001	ACETYLENE, DISSOLVED	2	4F		2.1 (+13)		LQ0 E0			P200		MP9			PxBN(M)	TU17 TU38 TE22 TA4 TT9	2			CW9 CW10 CW36	CE2	239
1002	AIR, COMPRESSED	2	1A		2.2 (+13)	292	LQ1 E1			P200		MP9	(M)		CxBN(M)	TA4 TT9	3			CW9 CW10	CE3	20
1003	AIR, REFRIGERATED LIQUID	2	3O		2.2+5.1 (+13)		LQ0 E0			P203		MP9	T75 TP22		RxBN	TU7 TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	225
1005	AMMONIA, ANHYDROUS	2	2TC		2.3+8 (+13)	23	LQ0 E0			P200		MP9	T50 (M)		PxBH(M)	TU38 TE22 TE25 TA4 TT8 TT9 TM6	1			CW9 CW10 CW36		268
1006	ARGON, COMPRESSED	2	1A		2.2 (+13)		LQ1 E1			P200		MP9	(M)		CxBN(M)	TA4 TT9	3			CW9 CW10 CW36	CE3	20
1008	BORON TRIFLUORIDE	2	2TC		2.3+8 (+13)		LQ0 E0			P200		MP9	(M)		PxBH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		268
1009	BROMOTRIFLUOROMETHANE (REFRIGERANT GAS R 13B1)	2	2A		2.2 (+13)		LQ1 E1			P200		MP9	T50 (M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1010	BUTADIENES, STABILIZED or BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED, having a vapour pressure at 70 °C not exceeding 1.1 MPa (11 bar) and a density at 50 °C not lower than 0.525 kg/l	2	2F		2.1 (+13)	618	LQ0 E0	P200		MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	239
1011	BUTANE	2	2F		2.1 (+13)		LQ0 E0	P200		MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23
1012	BUTYLENES MIXTURE or 1-BUTYLENE or cis-2-BUTYLENE or trans-2-BUTYLENE	2	2F		2.1 (+13)		LQ0 E0	P200		MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23
1013	CARBON DIOXIDE	2	2A		2.2 (+13)	584 653	LQ1 E1	P200		MP9	(M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
1016	CARBON MONOXIDE, COMPRESSED	2	1TF		2.3+2.1 (+13)		LQ0 E0	P200		MP9	(M)		CxBH(M)	TU38 TE22 TE25 TA4 TT9	1			CW9 CW10 CW36		263
1017	CHLORINE	2	2TOC		2.3+5.1+8 (+13)		LQ0 E0	P200		MP9	T50 (M)	TP19	P22DH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		265
1018	CHLORODIFLUOROMETHANE (REFRIGERANT GAS R 22)	2	2A		2.2 (+13)		LQ1 E1	P200		MP9	T50 (M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
1020	CHLOROPENTAFLUOROETHANE (REFRIGERANT GAS R 115)	2	2A		2.2 (+13)		LQ1 E1	P200		MP9	T50 (M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1021	1-CHLORO-1,2,2,2-TETRAFLUOROETHANE (REFRIGERANT GAS R 124)	2	2A		2.2 (+13)		LQ1	E1		P200		MP9	T50 (M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
1022	CHLOROTRIFLUOROMETHANE (REFRIGERANT GAS R 13)	2	2A		2.2 (+13)		LQ1	E1		P200		MP9	(M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
1023	COAL GAS, COMPRESSED	2	1TF		2.3+2.1 (+13)		LQ0	E0		P200		MP9	(M)		CxBH(M)	TU38 TE22 TE25 TA4 TT9	1			CW9 CW10 CW36		263
1026	CYANOGEN	2	2TF		2.3+2.1 (+13)		LQ0	E0		P200		MP9	(M)		PxBH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		263
1027	CYCLOPROPANE	2	2F		2.1 (+13)		LQ0	E0		P200		MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23
1028	DICHLORODIFLUOROMETHANE (REFRIGERANT GAS R 12)	2	2A		2.2 (+13)		LQ1	E1		P200		MP9	T50 (M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
1029	DICHLOROFLUOROMETHANE (REFRIGERANT GAS R 21)	2	2A		2.2 (+13)		LQ1	E1		P200		MP9	T50 (M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
1030	1,1-DIFLUOROETHANE (REFRIGERANT GAS R 152a)	2	2F		2.1 (+13)		LQ0	E0		P200		MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1032	DIMETHYLAMINE, ANHYDROUS	2	2F		2.1 (+13)		LQ0 E0	P200		MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23
1033	DIMETHYL ETHER	2	2F		2.1 (+13)		LQ0 E0	P200		MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23
1035	ETHANE	2	2F		2.1 (+13)		LQ0 E0	P200		MP9	(M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23
1036	ETHYLAMINE	2	2F		2.1 (+13)		LQ0 E0	P200		MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23
1037	ETHYL CHLORIDE	2	2F		2.1 (+13)		LQ0 E0	P200		MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23
1038	ETHYLENE, REFRIGERATED LIQUID	2	3F		2.1 (+13)		LQ0 E0	P203		MP9	T75	TP5	RxBN	TU18 TU38 TE22 TA4 TT9 TM6	2	W5		CW9 CW11 CW30 CW36	CE2	223
1039	ETHYL METHYL ETHER	2	2F		2.1 (+13)		LQ0 E0	P200		MP9	(M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1040	ETHYLENE OXIDE	2	2TF		2.3+2.1		LQ0	E0		P200		MP9	(M)				1			CW9 CW10 CW36		263
1040	ETHYLENE OXIDE WITH NITROGEN up to a total pressure of 1 MPa (10 bar) at 50 °C	2	2TF		2.3+2.1 (+13)		LQ0	E0		P200		MP9	T50 (M)	TP20	PxBH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		263
1041	ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with more than 9% but not more than 87% ethylene oxide	2	2F		2.1 (+13)		LQ0	E0		P200		MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	239
1043	FERTILIZER AMMONIATING SOLUTION with free ammonia	2			2.2	642																
1044	FIRE EXTINGUISHERS with compressed or liquefied gas	2	6A		2.2	225 594	LQ0	E0		P003		MP9					3			CW9	CE2	20
1045	FLUORINE, COMPRESSED	2	1TOC		2.3+5.1+8		LQ0	E0		P200		MP9					1			CW9 CW10 CW36		265
1046	HELIUM, COMPRESSED	2	1A		2.2 (+13)		LQ1	E1		P200		MP9	(M)		CxBN(M)	TA4 TT9	3			CW9 CW10 CW36	CE3	20
1048	HYDROGEN BROMIDE, ANHYDROUS	2	2TC		2.3+8 (+13)		LQ0	E0		P200		MP9	(M)		PxBH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		268
1049	HYDROGEN, COMPRESSED	2	1F		2.1 (+13)		LQ0	E0		P200		MP9	(M)		CxBN(M)	TU38 TE22 TA4 TT9	2			CW9 CW10 CW36	CE3	23

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1050	HYDROGEN CHLORIDE, ANHYDROUS	2	2TC		2.3+8 (+13)		LQ0 E0		P200		MP9	(M)		PxBH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		268
1051	HYDROGEN CYANIDE, STABILIZED containing less than 3% water	6.1	TF1	I	6.1+3	603	LQ0 E5		P200		MP2					0			CW13 CW28 CW31		663
1052	HYDROGEN FLUORIDE, ANHYDROUS	8	CT1	I	8+6.1		LQ0 E0		P200		MP2	T10	TP2	L21DH(+)	TU14 TU34 TU38 TC1 TE17 TE21 TE22 TE25 TA4 TT4 TT9 TM3	1			CW13 CW28 CW34		886
1053	HYDROGEN SULPHIDE	2	2TF		2.3+2.1 (+13)		LQ0 E0		P200		MP9	(M)		PxDH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		263
1055	ISOBUTYLENE	2	2F		2.1 (+13)		LQ0 E0		P200		MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23
1056	KRYPTON, COMPRESSED	2	1A		2.2 (+13)		LQ1 E1		P200		MP9	(M)		CxBN(M)	TA4 TT9	3			CW9 CW10 CW36	CE3	20



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
1057	LIGHTERS or LIGHTER REFILLS containing flammable gas	2	6F		2.1	201 654	LQ0 E0		P002	PP84 RR5	MP9						2			CW9	CE2	23
1058	LIQUEFIED GASES, non-flammable, charged with nitrogen, carbon dioxide or air	2	2A		2.2 (+13)		LQ1 E1		P200		MP9	(M)		PxBN(M)		TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
1060	METHYLACETYLENE AND PROPADIENE MIXTURE, STABILIZED such as mixture P1 or mixture P2	2	2F		2.1 (+13)	581	LQ0 E0		P200		MP9	T50 (M)		PxBN(M)		TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	239
1061	METHYLAMINE, ANHYDROUS	2	2F		2.1 (+13)		LQ0 E0		P200		MP9	T50 (M)		PxBN(M)		TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23
1062	METHYL BROMIDE with not more than 2% chloropicrin	2	2T		2.3 (+13)	23	LQ0 E0		P200		MP9	T50 (M)		PxBH(M)		TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		26
1063	METHYL CHLORIDE (REFRIGERANT GAS R 40)	2	2F		2.1 (+13)		LQ0 E0		P200		MP9	T50 (M)		PxBN(M)		TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23
1064	METHYL MERCAPTAN	2	2TF		2.3+2.1 (+13)		LQ0 E0		P200		MP9	T50 (M)		PxDH(M)		TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		263
1065	NEON, COMPRESSED	2	1A		2.2 (+13)		LQ1 E1		P200		MP9	(M)		CxBN(M)		TA4 TT9	3			CW9 CW10 CW36	CE3	20

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1066	NITROGEN, COMPRESSED	2	1A		2.2 (+13)		LQ1 E1	P200		MP9	(M)		CxBN(M)	TA4 TT9	3			CW9 CW10 CW36	CE3	20
1067	DINITROGEN TETROXIDE (NITROGEN DIOXIDE)	2	2TOC		2.3+5.1+8 (+13)		LQ0 E0	P200		MP9	T50	TP21	PxBH(M)	TU17 TU38 TE22 TA4 TT9	1			CW9 CW10 CW36		265
1069	NITROSYL CHLORIDE	2	2TC		2.3+8		LQ0 E0	P200		MP9					1			CW9 CW10 CW36		268
1070	NITROUS OXIDE	2	2O		2.2+5.1 (+13)	584	LQ0 E0	P200		MP9	(M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	25
1071	OIL GAS, COMPRESSED	2	1TF		2.3+2.1 (+13)		LQ0 E0	P200		MP9	(M)		CxBH(M)	TU38 TE22 TE25 TA4 TT9	1			CW9 CW10 CW36		263
1072	OXYGEN, COMPRESSED	2	1O		2.2+5.1 (+13)		LQ0 E0	P200		MP9	(M)		CxBN(M)	TA4 TT9	3			CW9 CW10 CW36	CE3	25
1073	OXYGEN, REFRIGERATED LIQUID	2	3O		2.2+5.1 (+13)		LQ0 E0	P203		MP9	T75	TP5 TP22	RxBN	TU7 TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	225
1075	PETROLEUM GASES, LIQUEFIED	2	2F		2.1 (+13)	274 583 639	LQ0 E0	P200		MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1076	PHOSGENE	2	2TC		2.3+8 (+13)		LQ0	E0		P200		MP9			P22DH(M)	TU17 TU38 TE22 TA4 TT9	1			CW9 CW10 CW36		268
1077	PROPYLENE	2	2F		2.1 (+13)		LQ0	E0		P200		MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23
1078	REFRIGERANT GAS, N.O.S., such as mixture F1, mixture F2 or mixture F3	2	2A		2.2 (+13)	274 582	LQ1	E1		P200		MP9	T50 (M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
1079	SULPHUR DIOXIDE	2	2TC		2.3+8 (+13)		LQ0	E0		P200		MP9	T50 (M)	TP19	PxDH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		268
1080	SULPHUR HEXAFLUORIDE	2	2A		2.2 (+13)		LQ1	E1		P200		MP9	(M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
1081	TETRAFLUOROETHYLENE, STABILIZED	2	2F		2.1		LQ0	E0		P200		MP9	(M)				2			CW9 CW10 CW36	CE3	239
1082	TRIFLUOROCHELOETHYLENE, STABILIZED	2	2TF		2.3+2.1 (+13)		LQ0	E0		P200		MP9	T50 (M)		PxBH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		263
1083	TRIMETHYLAMINE, ANHYDROUS	2	2F		2.1 (+13)		LQ0	E0		P200		MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1085	VINYL BROMIDE, STABILIZED	2	2F		2.1 (+13)		LQ0 E0	P200		MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	239
1086	VINYL CHLORIDE, STABILIZED	2	2F		2.1 (+13)		LQ0 E0	P200		MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	239
1087	VINYL METHYL ETHER, STABILIZED	2	2F		2.1 (+13)		LQ0 E0	P200		MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	239
1088	ACETAL	3	F1	II	3		LQ4 E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
1089	ACETALDEHYDE	3	F1	I	3		LQ3 E3	P001		MP7 MP17	T11	TP2 TP7	L4BN	TU8	1					33
1090	ACETONE	3	F1	II	3		LQ4 E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
1091	ACETONE OILS	3	F1	II	3		LQ4 E2	P001 IBC02 R001		MP19	T4	TP1 TP8	LGBF		2				CE7	33
1092	ACROLEIN, STABILIZED	6.1	TF1	I	6.1+3		LQ0 E5	P601		MP8 MP17	T22	TP2 TP7 TP35	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
1093	ACRYLONITRILE, STABILIZED	3	FT1	I	3+6.1		LQ0 E0	P001		MP7 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1098	ALLYL ALCOHOL	6.1	TF1	I	6.1+3		LQ0	E5		P602		MP8 MP17	T20	TP2 TP35	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
1099	ALLYL BROMIDE	3	FT1	I	3+6.1		LQ0	E0		P001		MP7 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336
1100	ALLYL CHLORIDE	3	FT1	I	3+6.1		LQ0	E0		P001		MP7 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336
1104	AMYL ACETATES	3	F1	III	3		LQ7	E1		P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
1105	PENTANOLS	3	F1	II	3		LQ4	E2		P001 IBC02 R001		MP19	T4	TP1 TP29	LGBF		2				CE7	33
1105	PENTANOLS	3	F1	III	3		LQ7	E1		P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
1106	AMYLAMINE	3	FC	II	3+8		LQ4	E2		P001 IBC02		MP19	T7	TP1	L4BH		2				CE7	338
1106	AMYLAMINE	3	FC	III	3+8		LQ7	E1		P001 IBC03 R001		MP19	T4	TP1	L4BN		3				CE4	38
1107	AMYL CHLORIDE	3	F1	II	3		LQ4	E2		P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
1108	1-PENTENE (n-AMYLENE)	3	F1	I	3		LQ3	E3		P001		MP7 MP17	T11	TP2	L4BN		1					33

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1109	AMYL FORMATES	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
1110	n-AMYL METHYL KETONE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
1111	AMYL MERCAPTAN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
1112	AMYL NITRATE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
1113	AMYL NITRITE	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
1114	BENZENE	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
1120	BUTANOLS	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1 TP29	LGBF		2				CE7	33
1120	BUTANOLS	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
1123	BUTYL ACETATES	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
1123	BUTYL ACETATES	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1125	n-BUTYLAMINE	3	FC	II	3+8		LQ4 E2	P001 IBC02			MP19	T7	TP1	L4BH		2				CE7	338
1126	1-BROMOBUTANE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
1127	CHLOROBUTANES	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
1128	n-BUTYL FORMATE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
1129	BUTYRALDEHYDE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
1130	CAMPHOR OIL	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
1131	CARBON DISULPHIDE	3	FT1	I	3+6.1		LQ0 E0	P001	PP31	MP7 MP17	T14	TP2 TP7	L10CH	TU14 TU15 TU38 TE21 TE22		1			CW13 CW28		336
1133	ADHESIVES containing flammable liquid	3	F1	I	3		LQ3 E3	P001			MP7 MP17	T11	TP1 TP8 TP27	L4BN		1					33
1133	ADHESIVES containing flammable liquid (vapour pressure at 50 °C more than 110 kPa)	3	F1	II	3	640C	LQ6 E2	P001	PP1	MP19	T4	TP1 TP8	L1.5BN			2				CE7	33
1133	ADHESIVES containing flammable liquid (vapour pressure at 50 °C not more than 110 kPa)	3	F1	II	3	640D	LQ6 E2	P001 IBC02 R001	PP1	MP19	T4	TP1 TP8	LGBF			2				CE7	33
1133	ADHESIVES containing flammable liquid	3	F1	III	3	640E	LQ7 E1	P001 IBC03 LP01 R001	PP1	MP19	T2	TP1	LGBF			3				CE4	30

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1133	ADHESIVES containing flammable liquid (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)	3	F1	III	3	640F	LQ7	E1		P001 LP01 R001	PP1	MP19	T2	TP1	L4BN		3				CE4	33
1133	ADHESIVES containing flammable liquid (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C)	3	F1	III	3	640G	LQ7	E1		P001 LP01 R001	PP1	MP19	T2	TP1	L1.5BN		3				CE4	33
1133	ADHESIVES containing flammable liquid (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)	3	F1	III	3	640H	LQ7	E1		P001 IBC02 LP01 R001	PP1	MP19	T2	TP1	LGBF		3				CE4	33
1134	CHLOROBENZENE	3	F1	III	3		LQ7	E1		P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
1135	ETHYLENE CHLOROHYDRIN	6.1	TF1	I	6.1+3		LQ0	E5		P001		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
1136	COAL TAR DISTILLATES, FLAMMABLE	3	F1	II	3		LQ4	E2		P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
1136	COAL TAR DISTILLATES, FLAMMABLE	3	F1	III	3		LQ7	E1		P001 IBC03 LP01 R001		MP19	T4	TP1 TP29	LGBF		3				CE4	30
1139	COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining)	3	F1	I	3		LQ3	E3		P001		MP7 MP17	T11	TP1 TP8 TP27	L4BN		1					33



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1139	COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining) (vapour pressure at 50 °C more than 110 kPa)	3	F1	II	3	640C	LQ6 E2	P001		MP19	T4	TP1 TP8	L1.5BN		2				CE7	33
1139	COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining) (vapour pressure at 50 °C not more than 110 kPa)	3	F1	II	3	640D	LQ6 E2	P001 IBC02 R001		MP19	T4	TP1 TP8	LGBF		2				CE7	33
1139	COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining)	3	F1	III	3	640E	LQ7 E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
1139	COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)	3	F1	III	3	640F	LQ7 E1	P001 LP01 R001		MP19	T2	TP1	L4BN		3				CE4	33
1139	COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C)	3	F1	III	3	640G	LQ7 E1	P001 LP01 R001		MP19	T2	TP1	L1.5BN		3				CE4	33
1139	COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)	3	F1	III	3	640H	LQ7 E1	P001 IBC02 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	33

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1143	CROTONALDEHYDE or CROTONALDEHYDE, STABILIZED	6.1	TF1	I	6.1+3	324	LQ0	E5	P001		MP8 MP17	T20	TP2 TP35	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
1144	CROTONYLENE	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP2	L4BN		1					339
1145	CYCLOHEXANE	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
1146	CYCLOPENTANE	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T7	TP1	LGBF		2				CE7	33
1147	DECAHYDRO-NAPHTHALENE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
1148	DIACETONE ALCOHOL	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
1148	DIACETONE ALCOHOL	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
1149	DIBUTYL ETHERS	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
1150	1,2-DICHLOROETHYLENE	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T7	TP2	LGBF		2				CE7	33
1152	DICHLOROPENTANES	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1153	ETHYLENE GLYCOL DIETHYL ETHER	3	F1	II	3		LQ4 E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
1153	ETHYLENE GLYCOL DIETHYL ETHER	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
1154	DIETHYLAMINE	3	FC	II	3+8		LQ4 E2	P001 IBC02		MP19	T7	TP1	L4BH		2				CE7	338
1155	DIETHYL ETHER (ETHYL ETHER)	3	F1	I	3		LQ3 E3	P001		MP7 MP17	T11	TP2	L4BN		1					33
1156	DIETHYL KETONE	3	F1	II	3		LQ4 E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
1157	DIISOBUTYL KETONE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
1158	DIISOPROPYLAMINE	3	FC	II	3+8		LQ4 E2	P001 IBC02		MP19	T7	TP1	L4BH		2				CE7	338
1159	DIISOPROPYL ETHER	3	F1	II	3		LQ4 E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
1160	DIMETHYLAMINE AQUEOUS SOLUTION	3	FC	II	3+8		LQ4 E2	P001 IBC02		MP19	T7	TP1	L4BH		2				CE7	338
1161	DIMETHYL CARBONATE	3	F1	II	3		LQ4 E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
1162	DIMETHYLDICHLOROSILANE	3	FC	II	3+8		LQ4 E2	P010		MP19	T10	TP2 TP7	L4BH		2				CE7	X338
1163	DIMETHYLHYDRAZINE, UNSYMMETRICAL	6.1	TFC	I	6.1+3+8		LQ0 E5	P602		MP8 MP17	T20	TP2 TP35	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1164	DIMETHYL SULPHIDE	3	F1	II	3		LQ4	E2	P001 IBC02	B8	MP19	T7	TP2	L1.5BN		2					CE7	33
1165	DIOXANE	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2					CE7	33
1166	DIOXOLANE	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2					CE7	33
1167	DIVINYL ETHER, STABILIZED	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP2	L4BN		1						339
1169	EXTRACTS, AROMATIC, LIQUID	3	F1	I	3		LQ3	E3	P001		MP7 MP17			L4BN		1						33
1169	EXTRACTS, AROMATIC, LIQUID (vapour pressure at 50 °C more than 110 kPa)	3	F1	II	3	601 640C	LQ6	E2	P001		MP19	T4	TP1 TP8	L1.5BN		2					CE7	33
1169	EXTRACTS, AROMATIC, LIQUID (vapour pressure at 50 °C not more than 110 kPa)	3	F1	II	3	601 640D	LQ6	E2	P001 IBC02 R001		MP19	T4	TP1 TP8	LGBF		2					CE7	33
1169	EXTRACTS, AROMATIC, LIQUID	3	F1	III	3	601 640E	LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3					CE4	30
1169	EXTRACTS, AROMATIC, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)	3	F1	III	3	601 640F	LQ7	E1	P001 LP01 R001		MP19	T2	TP1	L4BN		3					CE4	33
1169	EXTRACTS, AROMATIC, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C)	3	F1	III	3	601 640G	LQ7	E1	P001 LP01 R001		MP19	T2	TP1	L1.5BN		3					CE4	33
1169	EXTRACTS, AROMATIC, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)	3	F1	III	3	601 640H	LQ7	E1	P001 IBC02 LP01 R001		MP19	T2	TP1	LGBF		3					CE4	33

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1170	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)	3	F1	II	3	144 601	LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
1170	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)	3	F1	III	3	144 601	LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
1171	ETHYLENE GLYCOL MONOETHYL ETHER	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
1172	ETHYLENE GLYCOL MONOETHYL ETHER ACETATE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
1173	ETHYL ACETATE	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
1175	ETHYLBENZENE	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
1176	ETHYL BORATE	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
1177	2-ETHYLBUTYL ACETATE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
1178	2-ETHYLBUTYRALDEHYDE	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
1179	ETHYL BUTYL ETHER	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1180	ETHYL BUTYRATE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
1181	ETHYL CHLOROACETATE	6.1	TF1	II	6.1+3		LQ17 E4	P001 IBC02			MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	63
1182	ETHYL CHLOROFORMATE	6.1	TFC	I	6.1+3+8		LQ0 E5	P602			MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
1183	ETHYLDICHLOROSILANE	4.3	WFC	I	4.3+3+8		LQ0 E0	P401	RR7		MP2	T14	TP2 TP7	L10DH	TU14 TU23 TU38 TE21 TE22 TM2 TM3	0	W1		CW23		X338
1184	ETHYLENE DICHLORIDE	3	FT1	II	3+6.1		LQ0 E2	P001 IBC02			MP19	T7	TP1	L4BH	TU15	2			CW13 CW28	CE7	336
1185	ETHYLENEIMINE, STABILIZED	6.1	TF1	I	6.1+3		LQ0 E5	P601			MP2	T22	TP2	L15CH	TU14 TU15 TU38 TE21 TE22 TE25	1			CW13 CW28 CW31		663
1188	ETHYLENE GLYCOL MONOMETHYL ETHER	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
1189	ETHYLENE GLYCOL MONOMETHYL ETHER ACETATE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instruc-tions	Special provi-sions	Tank code	Special provi-sions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1190	ETHYL FORMATE	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
1191	OCTYL ALDEHYDES	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
1192	ETHYL LACTATE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
1193	ETHYL METHYL KETONE (METHYL ETHYL KETONE)	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
1194	ETHYL NITRITE SOLUTION	3	FT1	I	3+6.1		LQ0	E0	P001			MP7 MP17			L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336
1195	ETHYL PROPIONATE	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
1196	ETHYLTRICHLOROSILANE	3	FC	II	3+8		LQ4	E2	P010			MP19	T10	TP2 TP7	L4BH		2				CE7	X338
1197	EXTRACTS, FLAVOURING, LIQUID	3	F1	I	3		LQ3	E3	P001			MP7 MP17			L4BN		1					33
1197	EXTRACTS, FLAVOURING, LIQUID (vapour pressure at 50 °C more than 110 kPa)	3	F1	II	3	601 640C	LQ6	E2	P001			MP19	T4	TP1 TP8	L1.5BN		2				CE7	33
1197	EXTRACTS, FLAVOURING, LIQUID (vapour pressure at 50 °C not more than 110 kPa)	3	F1	II	3	601 640D	LQ6	E2	P001 IBC02 R001			MP19	T4	TP1 TP8	LGBF		2				CE7	33
1197	EXTRACTS, FLAVOURING, LIQUID	3	F1	III	3	601 640E	LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1197	EXTRACTS, FLAVOURING, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)	3	F1	III	3	601 640F	LQ7	E1		P001 LP01 R001		MP19	T2	TP1	L4BN		3				CE4	33
1197	EXTRACTS, FLAVOURING, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C)	3	F1	III	3	601 640G	LQ7	E1		P001 LP01 R001		MP19	T2	TP1	L1.5BN		3				CE4	33
1197	EXTRACTS, FLAVOURING, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)	3	F1	III	3	601 640H	LQ7	E1		P001 IBC02 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	33
1198	FORMALDEHYDE SOLUTION, FLAMMABLE	3	FC	III	3+8		LQ7	E1		P001 IBC03 R001		MP19	T4	TP1	L4BN		3				CE4	38
1199	FURALDEHYDES	6.1	TF1	II	6.1+3		LQ0	E4		P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	63
1201	FUSEL OIL	3	F1	II	3		LQ4	E2		P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
1201	FUSEL OIL	3	F1	III	3		LQ7	E1		P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
1202	GAS OIL or DIESEL FUEL or HEATING OIL, LIGHT (flash-point not more than 60 °C)	3	F1	III	3	640K	LQ7	E1		P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
1202	DIESEL FUEL complying with standard EN 590:2004 or GAS OIL or HEATING OIL, LIGHT with a flash-point as specified in EN 590:2004	3	F1	III	3	640L	LQ7	E1		P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1202	GAS OIL or DIESEL FUEL or HEATING OIL, LIGHT (flash-point more than 60 °C and not more than 100 °C)	3	F1	III	3	640M	LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBV		3				CE4	30
1203	MOTOR SPIRIT or GASOLINE or PETROL	3	F1	II	3	243 534	LQ4	E2	P001 IBC02 R001		BB2	MP19	T4	TP1	LGBF	TU9	2				CE7	33
1204	NITROGLYCERIN SOLUTION IN ALCOHOL with not more than 1% nitroglycerin	3	D	II	3	601	LQ0	E0	P001 IBC02	PP5		MP2					2				CE7	33
1206	HEPTANES	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
1207	HEXALDEHYDE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
1208	HEXANES	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
1210	PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable	3	F1	I	3	163	LQ3	E3	P001			MP7 MP17	T11	TP1 TP8	L4BN		1					33
1210	PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable (vapour pressure at 50 °C more than 110 kPa)	3	F1	II	3	163 640C	LQ6	E2	P001	PP1		MP19	T4	TP1 TP8	L1.5BN		2				CE7	33
1210	PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable (vapour pressure at 50 °C not more than 110 kPa)	3	F1	II	3	163 640D	LQ6	E2	P001 IBC02 R001	PP1		MP19	T4	TP1 TP8	LGBF		2				CE7	33

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1210	PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable	3	F1	III	3	163 640E	LQ7	E1		P001 IBC03 LP01 R001	PP1	MP19	T2	TP1	LGBF		3				CE4	30
1210	PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)	3	F1	III	3	163 640F	LQ7	E1		P001 LP01 R001	PP1	MP19	T2	TP1	L4BN		3				CE4	33
1210	PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C)	3	F1	III	3	163 640G	LQ7	E1		P001 LP01 R001	PP1	MP19	T2	TP1	L1.5BN		3				CE4	33
1210	PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)	3	F1	III	3	163 640H	LQ7	E1		P001 IBC02 LP01 R001	PP1	MP19	T2	TP1	LGBF		3				CE4	33
1212	ISOBUTANOL (ISOBUTYL ALCOHOL)	3	F1	III	3		LQ7	E1		P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
1213	ISOBUTYL ACETATE	3	F1	II	3		LQ4	E2		P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
1214	ISOBUTYLAMINE	3	FC	II	3+8		LQ4	E2		P001 IBC02		MP19	T7	TP1	L4BH		2				CE7	338

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1216	ISOCTENES	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
1218	ISOPRENE, STABILIZED	3	F1	I	3		LQ3	E3	P001			MP7 MP17	T11	TP2	L4BN		1					339
1219	ISOPROPANOL (ISOPROPYL ALCOHOL)	3	F1	II	3	601	LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
1220	ISOPROPYL ACETATE	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
1221	ISOPROPYLAMINE	3	FC	I	3+8		LQ3	E0	P001			MP7 MP17	T11	TP2	L10CH	TU14 TU38 TE21 TE22	1					338
1222	ISOPROPYL NITRATE	3	F1	II	3		LQ4	E2	P001 IBC02 R001	B7		MP19					2				CE7	33
1223	KEROSENE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP2	LGBF		3				CE4	30
1224	KETONES, LIQUID, N.O.S. (vapour pressure at 50 °C more than 110 kPa)	3	F1	II	3	274 640C	LQ4	E2	P001			MP19	T7	TP1 TP8 TP28	L1.5BN		2				CE7	33
1224	KETONES, LIQUID, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)	3	F1	II	3	274 640D	LQ4	E2	P001 IBC02 R001			MP19	T7	TP1 TP8 TP28	LGBF		2				CE7	33
1224	KETONES, LIQUID, N.O.S.	3	F1	III	3	274	LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1 TP29	LGBF		3				CE4	30
1228	MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, TOXIC, N.O.S.	3	FT1	II	3+6.1	274	LQ0	E2	P001 IBC02			MP19	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28	CE7	336

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1228	MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, TOXIC, N.O.S.	3	FT1	III	3+6.1	274	LQ7	E1	P001 IBC03 R001			MP19	T7	TP1 TP28	L4BH	TU15	3			CW13 CW28	CE4	36
1229	MESITYL OXIDE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
1230	METHANOL	3	FT1	II	3+6.1	279	LQ0	E2	P001 IBC02			MP19	T7	TP2	L4BH	TU15	2			CW13 CW28	CE7	336
1231	METHYL ACETATE	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
1233	METHYLAMYL ACETATE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
1234	METHYLAL	3	F1	II	3		LQ4	E2	P001 IBC02	B8		MP19	T7	TP2	L1.5BN		2				CE7	33
1235	METHYLAMINE, AQUEOUS SOLUTION	3	FC	II	3+8		LQ4	E2	P001 IBC02			MP19	T7	TP1	L4BH		2				CE7	338
1237	METHYL BUTYRATE	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
1238	METHYL CHLOROFORMATE	6.1	TFC	I	6.1+3+8		LQ0	E5	P602			MP8 MP17	T22	TP2 TP35	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
1239	METHYL CHLOROMETHYL ETHER	6.1	TF1	I	6.1+3		LQ0	E5	P602			MP8 MP17	T22	TP2 TP35	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
									4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4		1.1.3.1 (c)	7.2.4	7.3.3		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1242	METHYLDICHLOROSILANE	4.3	WFC	I	4.3+3+8		LQ0	E0	P401	RR7	MP2	T14	TP2 TP7	L10DH	TU14 TU24 TU38 TE21 TE22 TM2 TM3	0	W1		CW23		X338
1243	METHYL FORMATE	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP2	L4BN		1					33
1244	METHYLHYDRAZINE	6.1	TFC	I	6.1+3+8		LQ0	E5	P602		MP8 MP17	T22	TP2 TP35	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
1245	METHYL ISOBUTYL KETONE	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
1246	METHYL ISOPROPENYL KETONE, STABILIZED	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	339
1247	METHYL METHACRYLATE MONOMER, STABILIZED	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	339
1248	METHYL PROPIONATE	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
1249	METHYL PROPYL KETONE	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
1250	METHYLTRICHLOROSILANE	3	FC	II	3+8		LQ4	E2	P010		MP19	T10	TP2 TP7	L4BH		2				CE7	X338
1251	METHYL VINYL KETONE, STABILIZED	6.1	TFC	I	6.1+3+8		LQ0	E5	P601	RR7	MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		639

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1259	NICKEL CARBONYL	6.1	TF1	I	6.1+3		LQ0	E5	P601			MP2			L15CH	TU14 TU15 TU31 TU38 TE21 TE22 TE25 TM3	1			CW13 CW28 CW31		663
1261	NITROMETHANE	3	F1	II	3		LQ4	E2	P001 R001	RR2		MP19					2				CE7	33
1262	OCTANES	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
1263	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound)	3	F1	I	3	163 650	LQ3	E3	P001			MP7 MP17	T11	TP1 TP8 TP27	L4BN		1					33
1263	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (vapour pressure at 50 °C more than 110 kPa)	3	F1	II	3	163 640C 650	LQ6	E2	P001	PP1		MP19	T4	TP1 TP8 TP28	L1.5BN		2				CE7	33
1263	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (vapour pressure at 50 °C not more than 110 kPa)	3	F1	II	3	163 640D 650	LQ6	E2	P001 IBC02 R001	PP1		MP19	T4	TP1 TP8 TP28	LGBF		2				CE7	33
1263	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound)	3	F1	III	3	163 640E 650	LQ7	E1	P001 IBC03 LP01 R001	PP1		MP19	T2	TP1 TP29	LGBF		3				CE4	30

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1263	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)	3	F1	III	3	163 640F 650	LQ7	E1		P001 LP01 R001	PP1	MP19	T2	TP1 TP29	L4BN		3				CE4	33
1263	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C)	3	F1	III	3	163 640G 650	LQ7	E1		P001 LP01 R001	PP1	MP19	T2	TP1 TP29	L1.5BN		3				CE4	33
1263	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)	3	F1	III	3	163 640H 650	LQ7	E1		P001 IBC02 LP01 R001	PP1	MP19	T2	TP1 TP29	LGBF		3				CE4	33
1264	PARALDEHYDE	3	F1	III	3		LQ7	E1		P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
1265	PENTANES, liquid	3	F1	I	3		LQ3	E3		P001		MP7 MP17	T11	TP2	L4BN		1					33
1265	PENTANES, liquid	3	F1	II	3		LQ4	E2		P001 IBC02	B8	MP19	T4	TP1	L1.5BN		2				CE7	33
1266	PERFUMERY PRODUCTS with flammable solvents	3	F1	I	3		LQ3	E3		P001		MP7 MP17			L4BN		1					33

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1266	PERFUMERY PRODUCTS with flammable solvents (vapour pressure at 50 °C more than 110 kPa)	3	F1	II	3	640C	LQ6	E2		P001		MP19	T4	TP1 TP8	L1.5BN		2				CE7	33
1266	PERFUMERY PRODUCTS with flammable solvents (vapour pressure at 50 °C not more than 110 kPa)	3	F1	II	3	640D	LQ6	E2		P001 IBC02 R001		MP19	T4	TP1 TP8	LGBF		2				CE7	33
1266	PERFUMERY PRODUCTS with flammable solvents	3	F1	III	3	640E	LQ7	E1		P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
1266	PERFUMERY PRODUCTS with flammable solvents (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)	3	F1	III	3	640F	LQ7	E1		P001 LP01 R001		MP19	T2	TP1	L4BN		3				CE4	33
1266	PERFUMERY PRODUCTS with flammable solvents (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C)	3	F1	III	3	640G	LQ7	E1		P001 LP01 R001		MP19	T2	TP1	L1.5BN		3				CE4	33
1266	PERFUMERY PRODUCTS with flammable solvents (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)	3	F1	III	3	640H	LQ7	E1		P001 IBC02 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	33
1267	PETROLEUM CRUDE OIL	3	F1	I	3	649	LQ3	E3		P001		MP7 MP17	T11	TP1 TP8	L4BN		1					33
1267	PETROLEUM CRUDE OIL (vapour pressure at 50 °C more than 110 kPa)	3	F1	II	3	640C 649	LQ4	E2		P001		MP19	T4	TP1 TP8	L1.5BN		2				CE7	33
1267	PETROLEUM CRUDE OIL (vapour pressure at 50 °C not more than 110 kPa)	3	F1	II	3	640D 649	LQ4	E2		P001 IBC02 R001		MP19	T4	TP1 TP8	LGBF		2				CE7	33



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1267	PETROLEUM CRUDE OIL	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S.	3	F1	I	3	649	LQ3	E3	P001			MP7 MP17	T11	TP1 TP8	L4BN		1					33
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. (vapour pressure at 50 °C more than 110 kPa)	3	F1	II	3	640C 649	LQ4	E2	P001			MP19	T7	TP1 TP8 TP28	L1.5BN		2				CE7	33
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)	3	F1	II	3	640D 649	LQ4	E2	P001 IBC02 R001			MP19	T7	TP1 TP8 TP28	LGBF		2				CE7	33
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S.	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1 TP29	LGBF		3				CE4	30
1272	PINE OIL	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
1274	n-PROPANOL (PROPYL ALCOHOL, NORMAL)	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
1274	n-PROPANOL (PROPYL ALCOHOL, NORMAL)	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
1275	PROPIONALDEHYDE	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T7	TP1	LGBF		2				CE7	33
1276	n-PROPYL ACETATE	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1277	PROPYLAMINE	3	FC	II	3+8		LQ4 E2	P001 IBC02		MP19	T7	TP1	L4BH		2				CE7	338
1278	1-CHLOROPROPANE	3	F1	II	3		LQ4 E2	P001 IBC02	B8	MP19	T7	TP2	L1.5BN		2				CE7	33
1279	1,2-DICHLOROPROPANE	3	F1	II	3		LQ4 E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
1280	PROPYLENE OXIDE	3	F1	I	3		LQ3 E3	P001		MP7 MP17	T11	TP2 TP7	L4BN		1					33
1281	PROPYL FORMATES	3	F1	II	3		LQ4 E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
1282	PYRIDINE	3	F1	II	3		LQ4 E2	P001 IBC02 R001		MP19	T4	TP2	LGBF		2				CE7	33
1286	ROSIN OIL	3	F1	I	3		LQ3 E3	P001		MP7 MP17			L4BN		1					33
1286	ROSIN OIL (vapour pressure at 50 °C more than 110 kPa)	3	F1	II	3	640C	LQ6 E2	P001		MP19	T4	TP1	L1.5BN		2				CE7	33
1286	ROSIN OIL (vapour pressure at 50 °C not more than 110 kPa)	3	F1	II	3	640D	LQ6 E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
1286	ROSIN OIL	3	F1	III	3	640E	LQ7 E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
1286	ROSIN OIL (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)	3	F1	III	3	640F	LQ7 E1	P001 LP01 R001		MP19	T2	TP1	L4BN		3				CE4	33
1286	ROSIN OIL (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C)	3	F1	III	3	640G	LQ7 E1	P001 LP01 R001		MP19	T2	TP1	L1.5BN		3				CE4	33

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1286	ROSIN OIL (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)	3	F1	III	3	640H	LQ7	E1	P001 IBC02 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	33
1287	RUBBER SOLUTION	3	F1	I	3		LQ3	E3	P001			MP7 MP17			L4BN		1					33
1287	RUBBER SOLUTION (vapour pressure at 50 °C more than 110 kPa)	3	F1	II	3	640C	LQ6	E2	P001			MP19	T4	TP1 TP8	L1.5BN		2				CE7	33
1287	RUBBER SOLUTION (vapour pressure at 50 °C not more than 110 kPa)	3	F1	II	3	640D	LQ6	E2	P001 IBC02 R001			MP19	T4	TP1 TP8	LGBF		2				CE7	33
1287	RUBBER SOLUTION	3	F1	III	3	640E	LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
1287	RUBBER SOLUTION (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)	3	F1	III	3	640F	LQ7	E1	P001 LP01 R001			MP19	T2	TP1	L4BN		3				CE4	33
1287	RUBBER SOLUTION (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C)	3	F1	III	3	640G	LQ7	E1	P001 LP01 R001			MP19	T2	TP1	L1.5BN		3				CE4	33
1287	RUBBER SOLUTION (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)	3	F1	III	3	640H	LQ7	E1	P001 IBC02 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	33
1288	SHALE OIL	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1 TP8	LGBF		2				CE7	33
1288	SHALE OIL	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1289	SODIUM METHYLATE SOLUTION in alcohol	3	FC	II	3+8		LQ4 E2	P001 IBC02		MP19	T7	TP1 TP8	L4BH		2				CE7	338
1289	SODIUM METHYLATE SOLUTION in alcohol	3	FC	III	3+8		LQ7 E1	P001 IBC02 R001		MP19	T4	TP1	L4BN		3				CE4	38
1292	TETRAETHYL SILICATE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
1293	TINCTURES, MEDICINAL	3	F1	II	3	601	LQ4 E2	P001 IBC02 R001		MP19	T4	TP1 TP8	LGBF		2				CE7	33
1293	TINCTURES, MEDICINAL	3	F1	III	3	601	LQ7 E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
1294	TOLUENE	3	F1	II	3		LQ4 E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
1295	TRICHLOROSILANE	4.3	WFC	I	4.3+3+8		LQ0 E0	P401	RR7	MP2	T14	TP2 TP7	L10DH	TU14 TU25 TU38 TE21 TE22 TM3	0	W1		CW23		X338
1296	TRIETHYLAMINE	3	FC	II	3+8		LQ4 E2	P001 IBC02		MP19	T7	TP1	L4BH		2				CE7	338
1297	TRIMETHYLAMINE, AQUEOUS SOLUTION, not more than 50% trimethylamine, by mass	3	FC	I	3+8		LQ3 E0	P001		MP7 MP17	T11	TP1	L10CH	TU14 TU38 TE21 TE22	1					338
1297	TRIMETHYLAMINE, AQUEOUS SOLUTION, not more than 50% trimethylamine, by mass	3	FC	II	3+8		LQ4 E2	P001 IBC02		MP19	T7	TP1	L4BH		2				CE7	338

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1297	TRIMETHYLAMINE, AQUEOUS SOLUTION, not more than 50% trimethylamine, by mass	3	FC	III	3+8		LQ7	E1	P001 IBC03 R001			MP19	T7	TP1	L4BN		3				CE4	38
1298	TRIMETHYLCHLOROSILANE	3	FC	II	3+8		LQ4	E2	P010			MP19	T10	TP2 TP7	L4BH		2				CE7	X338
1299	TURPENTINE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
1300	TURPENTINE SUBSTITUTE	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
1300	TURPENTINE SUBSTITUTE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
1301	VINYL ACETATE, STABILIZED	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	339
1302	VINYL ETHYL ETHER, STABILIZED	3	F1	I	3		LQ3	E3	P001			MP7 MP17	T11	TP2	L4BN		1					339
1303	VINYLDIENE CHLORIDE, STABILIZED	3	F1	I	3		LQ3	E3	P001			MP7 MP17	T12	TP2 TP7	L4BN		1					339
1304	VINYL ISOBUTYL ETHER, STABILIZED	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	339
1305	VINYLTRICHLOROSILANE	3	FC	II	3+8		LQ4	E2	P010			MP19	T10	TP2 TP7	L4BH		2				CE7	X338
1306	WOOD PRESERVATIVES, LIQUID (vapour pressure at 50 °C more than 110 kPa)	3	F1	II	3	640C	LQ6	E2	P001			MP19	T4	TP1 TP8	L1.5BN		2				CE7	33
1306	WOOD PRESERVATIVES, LIQUID (vapour pressure at 50 °C not more than 110 kPa)	3	F1	II	3	640D	LQ6	E2	P001 IBC02 R001			MP19	T4	TP1 TP8	LGBF		2				CE7	33

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1306	WOOD PRESERVATIVES, LIQUID	3	F1	III	3	640E	LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
1306	WOOD PRESERVATIVES, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)	3	F1	III	3	640F	LQ7	E1	P001 LP01 R001			MP19	T2	TP1	L4BN		3				CE4	33
1306	WOOD PRESERVATIVES, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C)	3	F1	III	3	640G	LQ7	E1	P001 LP01 R001			MP19	T2	TP1	L1.5BN		3				CE4	33
1306	WOOD PRESERVATIVES, LIQUID (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)	3	F1	III	3	640H	LQ7	E1	P001 IBC02 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	33
1307	XYLENES	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
1307	XYLENES	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
1308	ZIRCONIUM SUSPENDED IN A FLAMMABLE LIQUID	3	F1	I	3		LQ3	E3	P001	PP33	MP7 MP17				L4BN		1					33
1308	ZIRCONIUM SUSPENDED IN A FLAMMABLE LIQUID (vapour pressure at 50 °C more than 110 kPa)	3	F1	II	3	640C	LQ4	E2	P001 R001	PP33	MP19				L1.5BN		2				CE7	33
1308	ZIRCONIUM SUSPENDED IN A FLAMMABLE LIQUID (vapour pressure at 50 °C not more than 110 kPa)	3	F1	II	3	640D	LQ4	E2	P001 R001	PP33	MP19				LGBF		2				CE7	33
1308	ZIRCONIUM SUSPENDED IN A FLAMMABLE LIQUID	3	F1	III	3		LQ7	E1	P001 R001			MP19			LGBF		3				CE4	30
1309	ALUMINIUM POWDER, COATED	4.1	F3	II	4.1		LQ8	E2	P002 IBC08	PP38 B4	MP11	T3	TP33	SGAN		2	W1				CE10	40

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1309	ALUMINIUM POWDER, COATED	4.1	F3	III	4.1		LQ9	E1	P002 IBC08 LP02 R001	PP11 B3	MP11	T1	TP33	SGAV		3	W1	VW1		CE11	40
1310	AMMONIUM PICRATE, WETTED with not less than 10% water, by mass	4.1	D	I	4.1		LQ0	E0	P406	PP26	MP2					1	W1				40
1312	BORNEOL	4.1	F1	III	4.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV		3	W1	VW1		CE11	40
1313	CALCIUM RESINATE	4.1	F3	III	4.1		LQ9	E1	P002 IBC06 R001		MP11	T1	TP33	SGAV		3	W1 W12	VW1		CE11	40
1314	CALCIUM RESINATE, FUSED	4.1	F3	III	4.1		LQ9	E1	P002 IBC04 R001		MP11	T1	TP33	SGAV		3	W1	VW1		CE11	40
1318	COBALT RESINATE, PRECIPITATED	4.1	F3	III	4.1		LQ9	E1	P002 IBC06 R001		MP11	T1	TP33	SGAV		3	W1 W12	VW1		CE11	40
1320	DINITROPHENOL, WETTED with not less than 15% water, by mass	4.1	DT	I	4.1+6.1		LQ0	E0	P406	PP26	MP2					1	W1		CW28		46
1321	DINITROPHENOLATES, WETTED with not less than 15% water, by mass	4.1	DT	I	4.1+6.1		LQ0	E0	P406	PP26	MP2					1	W1		CW28		46
1322	DINITRORESORCINOL, WETTED with not less than 15% water, by mass	4.1	D	I	4.1		LQ0	E0	P406	PP26	MP2					1	W1				40
1323	FERROCERIUM	4.1	F3	II	4.1	249	LQ8	E2	P002 IBC08	B4	MP11	T3	TP33	SGAN		2	W1			CE10	40
1324	FILMS, NITROCELLULOSE BASE, gelatin coated, except scrap	4.1	F1	III	4.1		LQ9	E1	P002 R001	PP15	MP11					3	W1			CE11	40
1325	FLAMMABLE SOLID, ORGANIC, N.O.S.	4.1	F1	II	4.1	274	LQ8	E2	P002 IBC08	B4	MP10	T3	TP33	SGAN		2	W1			CE10	40

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1325	FLAMMABLE SOLID, ORGANIC, N.O.S.	4.1	F1	III	4.1	274	LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV		3	W1	VW1		CE11	40
1326	HAFNIUM POWDER, WETTED with not less than 25% water	4.1	F3	II	4.1	586	LQ8 E2	P410 IBC06	PP40	MP11	T3	TP33	SGAN		2	W1 W12			CE10	40
1327	Hay, Straw or Bhusa	4.1	F1					NOT SUBJECT TO RID												
1328	HEXAMETHYLENETETRAMINE	4.1	F1	III	4.1		LQ9 E1	P002 IBC08 R001	B3	MP10	T1	TP33	SGAV		3	W1	VW1		CE11	40
1330	MANGANESE RESINATE	4.1	F3	III	4.1		LQ9 E1	P002 IBC06 R001		MP11	T1	TP33	SGAV		3	W1 W12	VW1		CE11	40
1331	MATCHES, 'STRIKE ANYWHERE'	4.1	F1	III	4.1	293	LQ9 E1	P407	PP27	MP12					4	W1			CE11	40
1332	METALDEHYDE	4.1	F1	III	4.1		LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV		3	W1	VW1		CE11	40
1333	CERIUM, slabs, ingots or rods	4.1	F3	II	4.1		LQ8 E2	P002 IBC08	B4	MP11					2	W1			CE10	40
1334	NAPHTHALENE, CRUDE or NAPHTHALENE, REFINED	4.1	F1	III	4.1	501	LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1 BK1 BK2	TP33	SGAV		3	W1	VW2		CE11	40
1336	NITROGUANIDINE (PICRITE), WETTED with not less than 20% water, by mass	4.1	D	I	4.1		LQ0 E0	P406		MP2					1	W1				40
1337	NITROSTARCH, WETTED with not less than 20% water, by mass	4.1	D	I	4.1		LQ0 E0	P406		MP2					1	W1				40
1338	PHOSPHORUS, AMORPHOUS	4.1	F3	III	4.1		LQ9 E1	P410 IBC08 R001	B3	MP11	T1	TP33	SGAV		3	W1	VW1		CE11	40
1339	PHOSPHORUS HEPTASULPHIDE, free from yellow and white phosphorus	4.1	F3	II	4.1	602	LQ8 E2	P410 IBC04		MP11	T3	TP33	SGAN		2	W1			CE10	40
1340	PHOSPHORUS PENTASULPHIDE, free from yellow and white phosphorus	4.3	WF2	II	4.3+4.1	602	LQ11 E2	P410 IBC04		MP14	T3	TP33	SGAN		0	W1		CW23	CE10	423



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1341	PHOSPHORUS SESQUISULPHIDE, free from yellow and white phosphorus	4.1	F3	II	4.1	602	LQ8	E2	P410 IBC04		MP11	T3	TP33	SGAN		2	W1			CE10	40
1343	PHOSPHORUS TRISULPHIDE, free from yellow and white phosphorus	4.1	F3	II	4.1	602	LQ8	E2	P410 IBC04		MP11	T3	TP33	SGAN		2	W1			CE10	40
1344	TRINITROPHENOL (PICRIC ACID), WETTED with not less than 30% water, by mass	4.1	D	I	4.1		LQ0	E0	P406	PP26	MP2					1	W1				40
1345	RUBBER SCRAP or RUBBER SHODDY, powdered or granulated	4.1	F1	II	4.1		LQ8	E2	P002 IBC08	B4	MP11	T3	TP33	SGAN		4	W1			CE10	40
1346	SILICON POWDER, AMORPHOUS	4.1	F3	III	4.1	32	LQ9	E1	P002 IBC08 LP02 R001	B3	MP11	T1	TP33	SGAV		3	W1	VW1		CE11	40
1347	SILVER PICRATE, WETTED with not less than 30% water, by mass	4.1	D	I	4.1		LQ0	E0	P406	PP25 PP26	MP2					1	W1				40
1348	SODIUM DINITRO-o-CRESOLATE, WETTED with not less than 15% water, by mass	4.1	DT	I	4.1+6.1		LQ0	E0	P406	PP26	MP2					1	W1		CW28		46
1349	SODIUM PICRAMATE, WETTED with not less than 20% water, by mass	4.1	D	I	4.1		LQ0	E0	P406	PP26	MP2					1	W1				40
1350	SULPHUR	4.1	F3	III	4.1	242	LQ9	E1	P002 IBC08 LP02 R001	B3	MP11	T1 BK1 BK2	TP33	SGAV		3	W1	VW1		CE11	40
1352	TITANIUM POWDER, WETTED with not less than 25% water	4.1	F3	II	4.1	586	LQ8	E2	P410 IBC06	PP40	MP11	T3	TP33	SGAN		2	W1 W12			CE10	40
1353	FIBRES or FABRICS IMPREGNATED WITH WEAKLY NITRATED NITROCELLULOSE, N.O.S.	4.1	F1	III	4.1	274 502	LQ9	E1	P410 IBC08 R001	B3	MP11					3	W1			CE11	40
1354	TRINITROBENZENE, WETTED with not less than 30% water, by mass	4.1	D	I	4.1		LQ0	E0	P406		MP2					1	W1				40
1355	TRINITROBENZOIC ACID, WETTED with not less than 30% water, by mass	4.1	D	I	4.1		LQ0	E0	P406		MP2					1	W1				40

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instruc-tions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (e)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1356	TRINITROTOLUENE (TNT), WETTED with not less than 30% water, by mass	4.1	D	I	4.1		LQ0	E0	P406		MP2					1	W1				40
1357	UREA NITRATE, WETTED with not less than 20% water, by mass	4.1	D	I	4.1	227	LQ0	E0	P406		MP2					1	W1				40
1358	ZIRCONIUM POWDER, WETTED with not less than 25% water	4.1	F3	II	4.1	586	LQ8	E2	P410 IBC06	PP40	MP11	T3	TP33	SGAN		2	W1 W12			CE10	40
1360	CALCIUM PHOSPHIDE	4.3	WT2	I	4.3+6.1		LQ0	E0	P403		MP2					1	W1		CW23 CW28		X462
1361	CARBON, animal or vegetable origin	4.2	S2	II	4.2		LQ0	E2	P002 IBC06	PP12	MP14	T3	TP33	SGAN	TU11	2	W1 W12 W13			CE10	40
1361	CARBON, animal or vegetable origin	4.2	S2	III	4.2		LQ0	E1	P002 IBC08 LP02 R001	PP12 B3	MP14	T1	TP33	SGAV		4	W1 W13	VW4		CE11	40
1362	CARBON, ACTIVATED	4.2	S2	III	4.2	646	LQ0	E1	P002 IBC08 LP02 R001	PP11 B3	MP14	T1	TP33	SGAV		4	W1	VW4		CE11	40
1363	COPRA	4.2	S2	III	4.2		LQ0	E1	P003 IBC08 LP02 R001	PP20 B3 B6	MP14					3	W1	VW4		CE11	40
1364	COTTON WASTE, OILY	4.2	S2	III	4.2		LQ0	E1	P003 IBC08 LP02 R001	PP19 B3 B6	MP14					3	W1	VW4		CE11	40
1365	COTTON, WET	4.2	S2	III	4.2		LQ0	E1	P003 IBC08 LP02 R001	PP19 B3 B6	MP14					3	W1	VW4		CE11	40
1369	p-NITROSODIMETHYLANILINE	4.2	S2	II	4.2		LQ0	E2	P410 IBC06		MP14	T3	TP33	SGAN		2	W1 W12			CE10	40
1372	Fibres, animal or fibres, vegetable burnt, wet or damp	4.2	S2	NOT SUBJECT TO RID																	

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1373	FIBRES or FABRICS, ANIMAL or VEGETABLE or SYNTHETIC, N.O.S. with oil	4.2	S2	III	4.2	274	LQ0 E1	P410 IBC08 R001	B3	MP14	T1	TP33			3	W1	VW4		CE11	40
1374	FISH MEAL (FISH SCRAP), UNSTABILIZED	4.2	S2	II	4.2	300	LQ0 E2	P410 IBC08	B4	MP14	T3	TP33			2	W1			CE10	40
1376	IRON OXIDE, SPENT or IRON SPONGE, SPENT obtained from coal gas purification	4.2	S4	III	4.2	592	LQ0 E1	P002 IBC08 LP02 R001	B3	MP14	T1 BK2	TP33	SGAV		3	W1	VW4		CE11	40
1378	METAL CATALYST, WETTED with a visible excess of liquid	4.2	S4	II	4.2	274	LQ0 E2	P410 IBC01	PP39	MP14	T3	TP33	SGAN		2	W1			CE10	40
1379	PAPER, UNSATURATED OIL TREATED, incompletely dried (including carbon paper)	4.2	S2	III	4.2		LQ0 E1	P410 IBC08 R001	B3	MP14					3	W1	VW4		CE11	40
1380	PENTABORANE	4.2	ST3	I	4.2+6.1		LQ0 E0	P601		MP2			L21DH	TU14 TU38 TC1 TE21 TE25 TM1	0	W1		CW28		333
1381	PHOSPHORUS, WHITE or YELLOW, UNDER WATER or IN SOLUTION	4.2	ST3	I	4.2+6.1	503	LQ0 E0	P405		MP2	T9 TP31	TP3	L10DH(+)	TU14 TU16 TU21 TU38 TE3 TE21 TE22	0	W1		CW28		46
1381	PHOSPHORUS, WHITE or YELLOW, DRY	4.2	ST4	I	4.2+6.1	503	LQ0 E0	P405		MP2	T9 TP31	TP3	L10DH(+)	TU14 TU16 TU21 TU38 TE3 TE21 TE22	0	W1		CW28		46

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1382	POTASSIUM SULPHIDE, ANHYDROUS or POTASSIUM SULPHIDE with less than 30% water of crystallization	4.2	S4	II	4.2	504	LQ0	E2		P410 IBC06		MP14	T3	TP33	SGAN		2	W1 W12			CE10	40
1383	PYROPHORIC METAL, N.O.S. or PYROPHORIC ALLOY, N.O.S.	4.2	S4	I	4.2	274	LQ0	E0		P404		MP13	T21	TP7 TP33			0	W1				43
1384	SODIUM DITHIONITE (SODIUM HYDROSULPHITE)	4.2	S4	II	4.2		LQ0	E2		P410 IBC06		MP14	T3	TP33	SGAN		2	W1 W12			CE10	40
1385	SODIUM SULPHIDE, ANHYDROUS or SODIUM SULPHIDE with less than 30% water of crystallization	4.2	S4	II	4.2	504	LQ0	E2		P410 IBC06		MP14	T3	TP33	SGAN		2	W1 W12			CE10	40
1386	SEED CAKE with more than 1.5% oil and not more than 11% moisture	4.2	S2	III	4.2		LQ0	E1		P003 IBC08 LP02 R001	PP20 B3 B6	MP14					3	W1	VW4		CE11	40
1387	Wool waste, wet	4.2	S2	NOT SUBJECT TO RID																		
1389	ALKALI METAL AMALGAM, LIQUID	4.3	W1	I	4.3	182 274	LQ0	E0		P402	RR8	MP2			L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X323
1390	ALKALI METAL AMIDES	4.3	W2	II	4.3	182 274 505	LQ11	E2		P410 IBC07		MP14	T3	TP33	SGAN		0	W1 W12		CW23	CE10	423
1391	ALKALI METAL DISPERSION or ALKALINE EARTH METAL DISPERSION having a flash-point above 60 °C	4.3	W1	I	4.3	182 183 274 506	LQ0	E0		P402	RR8	MP2			L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X323
1391	ALKALI METAL DISPERSION or ALKALINE EARTH METAL DISPERSION having a flash-point of not more than 60 °C	4.3	WF1	I	4.3+3	182 183 274 506	LQ0	E0		P402	RR8	MP2			L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X323
1392	ALKALINE EARTH METAL AMALGAM, LIQUID	4.3	W1	I	4.3	183 274 506	LQ0	E0		P402		MP2			L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X323

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1393	ALKALINE EARTH METAL ALLOY, N.O.S.	4.3	W2	II	4.3	183 274 506	LQ11 E2	P410 IBC07		MP14	T3	TP33	SGAN		2	W1 W12		CW23	CE7	423
1394	ALUMINIUM CARBIDE	4.3	W2	II	4.3		LQ11 E2	P410 IBC07		MP14	T3	TP33	SGAN		2	W1 W12	VW5	CW23	CE10	423
1395	ALUMINIUM FERROSILICON POWDER	4.3	WT2	II	4.3+6.1		LQ11 E2	P410 IBC05	PP40	MP14	T3	TP33	SGAN		2	W1		CW23 CW28	CE10	462
1396	ALUMINIUM POWDER, UNCOATED	4.3	W2	II	4.3		LQ12 E2	P410 IBC07	PP40	MP14	T3	TP33	SGAN		2	W1 W12		CW23	CE10	423
1396	ALUMINIUM POWDER, UNCOATED	4.3	W2	III	4.3		LQ12 E1	P410 IBC08 R001	B4	MP14	T1	TP33	SGAN		3	W1	VW5	CW23	CE11	423
1397	ALUMINIUM PHOSPHIDE	4.3	WT2	I	4.3+6.1	507	LQ0 E0	P403		MP2					1	W1		CW23 CW28		X462
1398	ALUMINIUM SILICON POWDER, UNCOATED	4.3	W2	III	4.3	37	LQ12 E1	P410 IBC08 R001	B4	MP14	T1	TP33	SGAN		3	W1	VW5	CW23	CE11	423
1400	BARIUM	4.3	W2	II	4.3		LQ11 E2	P410 IBC07		MP14	T3	TP33	SGAN		2	W1 W12		CW23	CE10	423
1401	CALCIUM	4.3	W2	II	4.3		LQ11 E2	P410 IBC07		MP14	T3	TP33	SGAN		2	W1 W12		CW23	CE10	423
1402	CALCIUM CARBIDE	4.3	W2	I	4.3		LQ0 E0	P403 IBC04		MP2	T9	TP7 TP33			1	W1		CW23		X423
1402	CALCIUM CARBIDE	4.3	W2	II	4.3		LQ11 E2	P410 IBC07		MP14	T3	TP33	SGAN		2	W1 W12	VW5	CW23	CE10	423
1403	CALCIUM CYANAMIDE with more than 0.1% calcium carbide	4.3	W2	III	4.3	38	LQ12 E1	P410 IBC08 R001	B4	MP14	T1	TP33	SGAN		0	W1		CW23	CE11	423
1404	CALCIUM HYDRIDE	4.3	W2	I	4.3		LQ0 E0	P403		MP2					1	W1		CW23		X423
1405	CALCIUM SILICIDE	4.3	W2	II	4.3		LQ11 E2	P410 IBC07		MP14	T3	TP33	SGAN		2	W1 W12	VW7	CW23	CE10	423
1405	CALCIUM SILICIDE	4.3	W2	III	4.3		LQ12 E1	P410 IBC08 R001	B4	MP14	T1	TP33	SGAN		3	W1	VW5 VW7	CW23	CE11	423

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1407	CAESIUM	4.3	W2	I	4.3		LQ0	E0	P403 IBC04			MP2			L10CH(+)	TU2 TU14 TU38 TE5 TE21 TE22 TT3 TM2	1	W1		CW23		X423
1408	FERROSILICON with 30% or more but less than 90% silicon	4.3	WT2	III	4.3+6.1	39	LQ12	E1	P003 IBC08 R001	PP20 B4 B6		MP14	T1 BK2	TP33	SGAN		3	W1	VW1	CW23 CW28	CE11	462
1409	METAL HYDRIDES, WATER-REACTIVE, N.O.S.	4.3	W2	I	4.3	274 508	LQ0	E0	P403			MP2					1	W1		CW23		X423
1409	METAL HYDRIDES, WATER-REACTIVE, N.O.S.	4.3	W2	II	4.3	274 508	LQ11	E2	P410 IBC04			MP14	T3	TP33	SGAN		2	W1		CW23	CE10	423
1410	LITHIUM ALUMINIUM HYDRIDE	4.3	W2	I	4.3		LQ0	E0	P403			MP2					1	W1		CW23		X423
1411	LITHIUM ALUMINIUM HYDRIDE, ETHEREAL	4.3	WF1	I	4.3+3		LQ0	E0	P402	RR8		MP2					1	W1		CW23		X323
1413	LITHIUM BOROHYDRIDE	4.3	W2	I	4.3		LQ0	E0	P403			MP2					1	W1		CW23		X423
1414	LITHIUM HYDRIDE	4.3	W2	I	4.3		LQ0	E0	P403			MP2					1	W1		CW23		X423
1415	LITHIUM	4.3	W2	I	4.3		LQ0	E0	P403 IBC04			MP2			L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X423
1417	LITHIUM SILICON	4.3	W2	II	4.3		LQ11	E2	P410 IBC07			MP14	T3	TP33	SGAN		2	W1 W12		CW23	CE10	423
1418	MAGNESIUM POWDER or MAGNESIUM ALLOYS POWDER	4.3	WS	I	4.3+4.2		LQ0	E0	P403			MP2					1	W1		CW23		X423
1418	MAGNESIUM POWDER or MAGNESIUM ALLOYS POWDER	4.3	WS	II	4.3+4.2		LQ11	E2	P410 IBC05			MP14	T3	TP33	SGAN		2	W1		CW23	CE10	423
1418	MAGNESIUM POWDER or MAGNESIUM ALLOYS POWDER	4.3	WS	III	4.3+4.2		LQ12	E1	P410 IBC08 R001	B4		MP14	T1	TP33	SGAN		3	W1	VW5	CW23	CE11	423
1419	MAGNESIUM ALUMINIUM PHOSPHIDE	4.3	WT2	I	4.3+6.1		LQ0	E0	P403			MP2					1	W1		CW23 CW28		X462

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)			(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1420	POTASSIUM METAL ALLOYS, LIQUID	4.3	W1	I	4.3		LQ0 E0			P402		MP2			L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X323
1421	ALKALI METAL ALLOY, LIQUID, N.O.S.	4.3	W1	I	4.3	182 274	LQ0 E0			P402	RR8	MP2			L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X323
1422	POTASSIUM SODIUM ALLOYS, LIQUID	4.3	W1	I	4.3		LQ0 E0			P402		MP2	T9	TP3 TP7 TP31	L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X323
1423	RUBIDIUM	4.3	W2	I	4.3		LQ0 E0			P403 IBC04		MP2			L10CH(+)	TU2 TU14 TU38 TE5 TE21 TE22 TT3 TM2	1	W1		CW23		X423
1426	SODIUM BOROHYDRIDE	4.3	W2	I	4.3		LQ0 E0			P403		MP2					1	W1		CW23		X423
1427	SODIUM HYDRIDE	4.3	W2	I	4.3		LQ0 E0			P403		MP2					1	W1		CW23		X423
1428	SODIUM	4.3	W2	I	4.3		LQ0 E0			P403 IBC04		MP2	T9	TP7 TP33	L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X423
1431	SODIUM METHYLATE	4.2	SC4	II	4.2+8		LQ0 E2			P410 IBC05		MP14	T3	TP33	SGAN		2	W1			CE10	48
1432	SODIUM PHOSPHIDE	4.3	WT2	I	4.3+6.1		LQ0 E0			P403		MP2					1	W1		CW23 CW28		X462
1433	STANNIC PHOSPHIDES	4.3	WT2	I	4.3+6.1		LQ0 E0			P403		MP2					1	W1		CW23 CW28		X462
1435	ZINC ASHES	4.3	W2	III	4.3		LQ12 E1			P002 IBC08 R001	B4	MP14	T1	TP33	SGAN		3	W1	VW5	CW23	CE11	423
1436	ZINC POWDER or ZINC DUST	4.3	WS	I	4.3+4.2		LQ0 E0			P403		MP2					1	W1		CW23		X423

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1436	ZINC POWDER or ZINC DUST	4.3	WS	II	4.3+4.2		LQ11 E2	P410 IBC07	PP40	MP14	T3	TP33	SGAN		2	W1 W12		CW23	CE10	423
1436	ZINC POWDER or ZINC DUST	4.3	WS	III	4.3+4.2		LQ12 E1	P410 IBC08 R001	B4	MP14	T1	TP33	SGAN		3	W1	VW5	CW23	CE11	423
1437	ZIRCONIUM HYDRIDE	4.1	F3	II	4.1		LQ8 E2	P410 IBC04	PP40	MP11	T3	TP33	SGAN		2	W1			CE10	40
1438	ALUMINIUM NITRATE	5.1	O2	III	5.1		LQ12 E1	P002 IBC08 LP02 R001	B3	MP10	T1 BK1 BK2	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
1439	AMMONIUM DICHROMATE	5.1	O2	II	5.1		LQ11 E2	P002 IBC08	B4	MP2	T3	TP33	SGAN	TU3	2	W11		CW24	CE10	50
1442	AMMONIUM PERCHLORATE	5.1	O2	II	5.1	152	LQ11 E2	P002 IBC06		MP2	T3	TP33			2	W11 W12	VW8	CW24	CE10	50
1444	AMMONIUM PERSULPHATE	5.1	O2	III	5.1		LQ12 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
1445	BARIUM CHLORATE, SOLID	5.1	OT2	II	5.1+6.1		LQ11 E2	P002 IBC06		MP2	T3	TP33	SGAN	TU3	2	W11 W12		CW24 CW28	CE10	56
1446	BARIUM NITRATE	5.1	OT2	II	5.1+6.1		LQ11 E2	P002 IBC08	B4	MP2	T3	TP33	SGAN	TU3	2	W11		CW24 CW28	CE10	56
1447	BARIUM PERCHLORATE, SOLID	5.1	OT2	II	5.1+6.1		LQ11 E2	P002 IBC06		MP2	T3	TP33	SGAN	TU3	2	W11 W12		CW24 CW28	CE10	56
1448	BARIUM PERMANGANATE	5.1	OT2	II	5.1+6.1		LQ11 E2	P002 IBC06		MP2	T3	TP33	SGAN	TU3	2	W11 W12		CW24 CW28	CE10	56
1449	BARIUM PEROXIDE	5.1	OT2	II	5.1+6.1		LQ11 E2	P002 IBC06		MP2	T3	TP33	SGAN	TU3	2	W11 W12		CW24 CW28	CE10	56
1450	BROMATES, INORGANIC, N.O.S.	5.1	O2	II	5.1	274 604	LQ11 E2	P002 IBC08	B4	MP2	T3	TP33	SGAV	TU3	2	W11	VW8	CW24	CE10	50
1451	CAESIUM NITRATE	5.1	O2	III	5.1		LQ12 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV	TU3	3		VW8	CW24	CE11	50



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1452	CALCIUM CHLORATE	5.1	O2	II	5.1		LQ11 E2	P002 IBC08	B4	MP2	T3	TP33	SGAV	TU3	2	W11	VW8	CW24	CE10	50
1453	CALCIUM CHLORITE	5.1	O2	II	5.1		LQ11 E2	P002 IBC08	B4	MP2	T3	TP33	SGAN	TU3	2	W11		CW24	CE10	50
1454	CALCIUM NITRATE	5.1	O2	III	5.1	208	LQ12 E1	P002 IBC08 LP02 R001	B3	MP10	T1 BK1 BK2	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
1455	CALCIUM PERCHLORATE	5.1	O2	II	5.1		LQ11 E2	P002 IBC06		MP2	T3	TP33	SGAV	TU3	2	W11 W12	VW8	CW24	CE10	50
1456	CALCIUM PERMANGANATE	5.1	O2	II	5.1		LQ11 E2	P002 IBC06		MP2	T3	TP33	SGAN	TU3	2	W11 W12		CW24	CE10	50
1457	CALCIUM PEROXIDE	5.1	O2	II	5.1		LQ11 E2	P002 IBC06		MP2	T3	TP33	SGAN	TU3	2	W11 W12		CW24	CE10	50
1458	CHLORATE AND BORATE MIXTURE	5.1	O2	II	5.1		LQ11 E2	P002 IBC08	B4	MP2	T3	TP33	SGAV	TU3	2	W11	VW8	CW24	CE10	50
1458	CHLORATE AND BORATE MIXTURE	5.1	O2	III	5.1		LQ12 E1	P002 IBC08 LP02 R001	B3	MP2	T1	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
1459	CHLORATE AND MAGNESIUM CHLORIDE MIXTURE, SOLID	5.1	O2	II	5.1		LQ11 E2	P002 IBC08	B4	MP2	T3	TP33	SGAV	TU3	2	W11	VW8	CW24	CE10	50
1459	CHLORATE AND MAGNESIUM CHLORIDE MIXTURE, SOLID	5.1	O2	III	5.1		LQ12 E1	P002 IBC08 LP02 R001	B3	MP2	T1	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
1461	CHLORATES, INORGANIC, N.O.S.	5.1	O2	II	5.1	274 605	LQ11 E2	P002 IBC06		MP2	T3	TP33	SGAV	TU3	2	W11 W12	VW8	CW24	CE10	50
1462	CHLORITES, INORGANIC, N.O.S.	5.1	O2	II	5.1	274 509 606	LQ11 E2	P002 IBC06		MP2	T3	TP33	SGAN	TU3	2	W11 W12		CW24	CE10	50
1463	CHROMIUM TRIOXIDE, ANHYDROUS	5.1	OTC	II	5.1+6.1+8	510	LQ11 E2	P002 IBC08	B4	MP2	T3	TP33	SGAN	TU3	2	W11 W12		CW24 CW28	CE10	568

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1465	DIDYMIUM NITRATE	5.1	O2	III	5.1		LQ12 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
1466	FERRIC NITRATE	5.1	O2	III	5.1		LQ12 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
1467	GUANIDINE NITRATE	5.1	O2	III	5.1		LQ12 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
1469	LEAD NITRATE	5.1	OT2	II	5.1+6.1		LQ11 E2	P002 IBC08	B4	MP2	T3	TP33	SGAN	TU3	2	W11		CW24 CW28	CE10	56
1470	LEAD PERCHLORATE, SOLID	5.1	OT2	II	5.1+6.1		LQ11 E2	P002 IBC06		MP2	T3	TP33	SGAN	TU3	2	W11 W12		CW24 CW28	CE10	56
1471	LITHIUM HYPOCHLORITE, DRY or LITHIUM HYPOCHLORITE MIXTURE	5.1	O2	II	5.1		LQ11 E2	P002 IBC08	B4	MP10			SGAN	TU3	2	W11		CW24	CE10	50
1472	LITHIUM PEROXIDE	5.1	O2	II	5.1		LQ11 E2	P002 IBC06		MP2	T3	TP33	SGAN	TU3	2	W11 W12		CW24	CE10	50
1473	MAGNESIUM BROMATE	5.1	O2	II	5.1		LQ11 E2	P002 IBC08	B4	MP2	T3	TP33	SGAV	TU3	2	W11	VW8	CW24	CE10	50
1474	MAGNESIUM NITRATE	5.1	O2	III	5.1	332	LQ12 E1	P002 IBC08 LP02 R001	B3	MP10	T1 BK1 BK2	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
1475	MAGNESIUM PERCHLORATE	5.1	O2	II	5.1		LQ11 E2	P002 IBC06		MP2	T3	TP33	SGAV	TU3	2	W11 W12	VW8	CW24	CE10	50
1476	MAGNESIUM PEROXIDE	5.1	O2	II	5.1		LQ11 E2	P002 IBC06		MP2	T3	TP33	SGAN	TU3	2	W11 W12		CW24	CE10	50
1477	NITRATES, INORGANIC, N.O.S.	5.1	O2	II	5.1	274 511	LQ11 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN	TU3	2	W11		CW24	CE10	50

UN No.	Name and description	Class	Classifi- cation code	Packing group	Labels	Special provi- sions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identi- fication No.
									Packing instructions	Special packing provisions	Mixed packing provi- sions	Instruc- tions	Special provi- sions	Tank code	Special provi- sions		Packages	Bulk	Loading, unloading and handling		
									4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4		1.1.3.1 (c)	7.2.4	7.3.3		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1477	NITRATES, INORGANIC, N.O.S.	5.1	O2	III	5.1	274 511	LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
1479	OXIDIZING SOLID, N.O.S.	5.1	O2	I	5.1	274	LQ0	E0	P503 IBC05		MP2					1	W10		CW24		55
1479	OXIDIZING SOLID, N.O.S.	5.1	O2	II	5.1	274	LQ11	E2	P002 IBC08	B4	MP2	T3	TP33	SGAN	TU3	2	W11		CW24	CE10	50
1479	OXIDIZING SOLID, N.O.S.	5.1	O2	III	5.1	274	LQ12	E1	P002 IBC08 LP02 R001	B3	MP2	T1	TP33	SGAN	TU3	3			CW24	CE11	50
1481	PERCHLORATES, INORGANIC, N.O.S.	5.1	O2	II	5.1	274	LQ11	E2	P002 IBC06		MP2	T3	TP33	SGAV	TU3	2	W11 W12	VW8	CW24	CE10	50
1481	PERCHLORATES, INORGANIC, N.O.S.	5.1	O2	III	5.1	274	LQ12	E1	P002 IBC08 LP02 R001	B3	MP2	T1	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
1482	PERMANGANATES, INORGANIC, N.O.S.	5.1	O2	II	5.1	274 608	LQ11	E2	P002 IBC06		MP2	T3	TP33	SGAN	TU3	2	W11 W12		CW24	CE10	50
1482	PERMANGANATES, INORGANIC, N.O.S.	5.1	O2	III	5.1	274 608	LQ12	E1	P002 IBC08 LP02 R001	B3	MP2	T1	TP33	SGAN	TU3	3			CW24	CE11	50
1483	PEROXIDES, INORGANIC, N.O.S.	5.1	O2	II	5.1	274	LQ11	E2	P002 IBC06		MP2	T3	TP33	SGAN	TU3	2	W11 W12		CW24	CE10	50
1483	PEROXIDES, INORGANIC, N.O.S.	5.1	O2	III	5.1	274	LQ12	E1	P002 IBC08 LP02 R001	B3	MP2	T1	TP33	SGAN	TU3	3			CW24	CE11	50
1484	POTASSIUM BROMATE	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33	SGAV	TU3	2	W11	VW8	CW24	CE10	50
1485	POTASSIUM CHLORATE	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33	SGAV	TU3	2	W11	VW8	CW24	CE10	50

UN No.	Name and description	Class	Classifi- cation code	Packing group	Labels	Special provis- ions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identi- fication No.
									Packing instructions	Special packing provisions	Mixed packing provis- ions	Instruc- tions	Special provis- ions	Tank code	Special provis- ions		Packages	Bulk	Loading, unloading and handling		
3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3	
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1486	POTASSIUM NITRATE	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1 BK1 BK2	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
1487	POTASSIUM NITRATE AND SODIUM NITRITE MIXTURE	5.1	O2	II	5.1	607	LQ11	E2	P002 IBC08	B4	MP10	T3	TP33	SGAV	TU3	2	W11	VW8	CW24	CE10	50
1488	POTASSIUM NITRITE	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP10	T3	TP33	SGAV	TU3	2	W11	VW8	CW24	CE10	50
1489	POTASSIUM PERCHLORATE	5.1	O2	II	5.1		LQ11	E2	P002 IBC06		MP2	T3	TP33	SGAV	TU3	2	W11 W12	VW8	CW24	CE10	50
1490	POTASSIUM PERMANGANATE	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33	SGAN	TU3	2	W11		CW24	CE10	50
1491	POTASSIUM PEROXIDE	5.1	O2	I	5.1		LQ0	E0	P503 IBC06		MP2					1	W10 W12		CW24		55
1492	POTASSIUM PERSULPHATE	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
1493	SILVER NITRATE	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP10	T3	TP33	SGAV	TU3	2	W11	VW8	CW24	CE10	50
1494	SODIUM BROMATE	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33	SGAV	TU3	2	W11	VW8	CW24	CE10	50
1495	SODIUM CHLORATE	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3 BK1 BK2	TP33	SGAV	TU3	2	W11	VW8	CW24	CE10	50
1496	SODIUM CHLORITE	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33	SGAN	TU3	2	W11		CW24	CE10	50
1498	SODIUM NITRATE	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1 BK1 BK2	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
1499	SODIUM NITRATE AND POTASSIUM NITRATE MIXTURE	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1 BK1 BK2	TP33	SGAV	TU3	3		VW8	CW24	CE11	50

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1500	SODIUM NITRITE	5.1	OT2	III	5.1+6.1		LQ12 E1	P002 IBC08 R001	B3	MP10	T1	TP33	SGAN	TU3	3			CW24 CW28	CE11	56
1502	SODIUM PERCHLORATE	5.1	O2	II	5.1		LQ11 E2	P002 IBC06		MP2	T3	TP33	SGAV	TU3	2	W11 W12	VW8	CW24	CE10	50
1503	SODIUM PERMANGANATE	5.1	O2	II	5.1		LQ11 E2	P002 IBC06		MP2	T3	TP33	SGAN	TU3	2	W11 W12		CW24	CE10	50
1504	SODIUM PEROXIDE	5.1	O2	I	5.1		LQ0 E0	P503 IBC05		MP2					1	W10		CW24		55
1505	SODIUM PERSULPHATE	5.1	O2	III	5.1		LQ12 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
1506	STRONTIUM CHLORATE	5.1	O2	II	5.1		LQ11 E2	P002 IBC08	B4	MP2	T3	TP33	SGAV	TU3	2	W11	VW8	CW24	CE10	50
1507	STRONTIUM NITRATE	5.1	O2	III	5.1		LQ12 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
1508	STRONTIUM PERCHLORATE	5.1	O2	II	5.1		LQ11 E2	P002 IBC06		MP2	T3	TP33	SGAV	TU3	2	W11 W12	VW8	CW24	CE10	50
1509	STRONTIUM PEROXIDE	5.1	O2	II	5.1		LQ11 E2	P002 IBC06		MP2	T3	TP33	SGAN	TU3	2	W11 W12		CW24	CE10	50
1510	TETRANITROMETHANE	5.1	OT1	I	5.1+6.1	609	LQ0 E0	P602		MP2			L4BN	TU3 TU28	1	W5		CW24 CW28		559
1511	UREA HYDROGEN PEROXIDE	5.1	OC2	III	5.1+8		LQ12 E1	P002 IBC08 R001	B3	MP2	T1	TP33	SGAN	TU3	3			CW24	CE11	58
1512	ZINC AMMONIUM NITRITE	5.1	O2	II	5.1		LQ11 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN	TU3	2	W11		CW24	CE10	50
1513	ZINC CHLORATE	5.1	O2	II	5.1		LQ11 E2	P002 IBC08	B4	MP2	T3	TP33	SGAV	TU3	2	W11	VW8	CW24	CE10	50
1514	ZINC NITRATE	5.1	O2	II	5.1		LQ11 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN	TU3	2	W11		CW24	CE10	50
1515	ZINC PERMANGANATE	5.1	O2	II	5.1		LQ11 E2	P002 IBC06		MP2	T3	TP33	SGAN	TU3	2	W11 W12		CW24	CE10	50

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1516	ZINC PEROXIDE	5.1	O2	II	5.1		LQ11	E2	P002 IBC06			MP2	T3	TP33	SGAH	TU3	2	W11 W12		CW24	CE10	50
1517	ZIRCONIUM PICRAMATE, WETTED with not less than 20% water, by mass	4.1	D	I	4.1		LQ0	E0	P406	PP26		MP2					1	W1				40
1541	ACETONE CYANOHYDRIN, STABILIZED	6.1	T1	I	6.1		LQ0	E5	P602			MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		669
1544	ALKALOIDS, SOLID, N.O.S. or ALKALOID SALTS, SOLID, N.O.S.	6.1	T2	I	6.1	43 274	LQ0	E5	P002 IBC07			MP18	T6	TP33	S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66
1544	ALKALOIDS, SOLID, N.O.S. or ALKALOID SALTS, SOLID, N.O.S.	6.1	T2	II	6.1	43 274	LQ18	E4	P002 IBC08	B4		MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1544	ALKALOIDS, SOLID, N.O.S. or ALKALOID SALTS, SOLID, N.O.S.	6.1	T2	III	6.1	43 274	LQ9	E1	P002 IBC08 LP02 R001	B3		MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
1545	ALLYL ISOTHIOCYANATE, STABILIZED	6.1	TF1	II	6.1+3		LQ17	E4	P001 IBC02			MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	639
1546	AMMONIUM ARSENATE	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4		MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1547	ANILINE	6.1	T1	II	6.1	279	LQ17	E4	P001 IBC02			MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
1548	ANILINE HYDROCHLORIDE	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3		MP10	T1	TP33	SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1549	ANTIMONY COMPOUND, INORGANIC, SOLID, N.O.S.	6.1	T5	III	6.1	45 274 512	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
1550	ANTIMONY LACTATE	6.1	T5	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
1551	ANTIMONY POTASSIUM TARTRATE	6.1	T5	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
1553	ARSENIC ACID, LIQUID	6.1	T4	I	6.1		LQ0	E5	P001		MP8 MP17	T20	TP2 TP7	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
1554	ARSENIC ACID, SOLID	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1555	ARSENIC BROMIDE	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1556	ARSENIC COMPOUND, LIQUID, N.O.S., inorganic, including: Arsenates, n.o.s., Arsenites, n.o.s.; and Arsenic sulphides, n.o.s.	6.1	T4	I	6.1	43 274	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
1556	ARSENIC COMPOUND, LIQUID, N.O.S., inorganic, including: Arsenates, n.o.s., Arsenites, n.o.s.; and Arsenic sulphides, n.o.s.	6.1	T4	II	6.1	43 274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
1556	ARSENIC COMPOUND, LIQUID, N.O.S., inorganic, including: Arsenates, n.o.s., Arsenites, n.o.s.; and Arsenic sulphides, n.o.s.	6.1	T4	III	6.1	43 274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1557	ARSENIC COMPOUND, SOLID, N.O.S., inorganic, including: Arsenates, n.o.s.; Arsenites, n.o.s.; and Arsenic sulphides, n.o.s.	6.1	T5	I	6.1	43 274	LQ0 E5	P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU15 TU38 TE22	1	W10 W12		CW13 CW28 CW31			66
1557	ARSENIC COMPOUND, SOLID, N.O.S., inorganic, including: Arsenates, n.o.s.; Arsenites, n.o.s.; and Arsenic sulphides, n.o.s.	6.1	T5	II	6.1	43 274	LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9		60
1557	ARSENIC COMPOUND, SOLID, N.O.S., inorganic, including: Arsenates, n.o.s.; Arsenites, n.o.s.; and Arsenic sulphides, n.o.s.	6.1	T5	III	6.1	43 274	LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11		60
1558	ARSENIC	6.1	T5	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9		60
1559	ARSENIC PENTOXIDE	6.1	T5	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9		60
1560	ARSENIC TRICHLORIDE	6.1	T4	I	6.1		LQ0 E5	P602		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31			66
1561	ARSENIC TRIOXIDE	6.1	T5	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9		60
1562	ARSENICAL DUST	6.1	T5	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9		60
1564	BARIUM COMPOUND, N.O.S.	6.1	T5	II	6.1	177 274 513 587	LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9		60



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instrctions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (e)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1564	BARIUM COMPOUND, N.O.S.	6.1	T5	III	6.1	177 274 513 587	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
1565	BARIUM CYANIDE	6.1	T5	I	6.1		LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66
1566	BERYLLIUM COMPOUND, N.O.S.	6.1	T5	II	6.1	274 514	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1566	BERYLLIUM COMPOUND, N.O.S.	6.1	T5	III	6.1	274 514	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
1567	BERYLLIUM POWDER	6.1	TF3	II	6.1+4.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	64
1569	BROMOACETONE	6.1	TF1	II	6.1+3		LQ17	E4	P602		MP15	T20	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	63
1570	BRUCINE	6.1	T2	I	6.1	43	LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66
1571	BARIUM AZIDE, WETTED with not less than 50% water, by mass	4.1	DT	I	4.1+6.1	568	LQ0	E0	P406		MP2					1	W1		CW28		46
1572	CACODYLIC ACID	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1573	CALCIUM ARSENATE	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1574	CALCIUM ARSENATE AND CALCIUM ARSENITE MIXTURE, SOLID	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60

UN No.	Name and description	Class	Classifi- cation code	Packing group	Labels	Special provi- sions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identi- fication No.
									Packing instructions	Special packing provisions	Mixed packing provi- sions	Instruc- tions	Special provi- sions	Tank code	Special provi- sions		Packages	Bulk	Loading, unloading and handling		
									4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4		1.1.3.1 (c)	7.2.4	7.3.3		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1575	CALCIUM CYANIDE	6.1	T5	I	6.1		LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66
1577	CHLORODINITROBENZENES, LIQUID	6.1	T1	II	6.1	279	LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
1578	CHLORONITROBENZENES, SOLID	6.1	T2	II	6.1	279	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1579	4-CHLORO-o-TOLUIDINE HYDROCHLORIDE, SOLID	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
1580	CHLOROPICRIN	6.1	T1	I	6.1		LQ0	E5	P602		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
1581	CHLOROPICRIN AND METHYL BROMIDE MIXTURE with more than 2% chloropicrin	2	2T		2.3 (+13)		LQ0	E0	P200		MP9	T50 (M)		PxBH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		26
1582	CHLOROPICRIN AND METHYL CHLORIDE MIXTURE	2	2T		2.3 (+13)		LQ0	E0	P200		MP9	T50 (M)		PxBH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		26
1583	CHLOROPICRIN MIXTURE, N.O.S.	6.1	T1	I	6.1	274 315 515	LQ0	E5	P602		MP8 MP17			L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1583	CHLOROPICRIN MIXTURE, N.O.S.	6.1	T1	II	6.1	274 515	LQ17	E4	P001 IBC02		MP15			L4BH	TU15	2			CW13 CW28 CW31	CE5	60
1583	CHLOROPICRIN MIXTURE, N.O.S.	6.1	T1	III	6.1	274 515	LQ7	E1	P001 IBC03 LP01 R001		MP19			L4BH	TU15	2			CW13 CW28 CW31	CE8	60
1585	COPPER ACETOARSENITE	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1586	COPPER ARSENITE	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1587	COPPER CYANIDE	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1588	CYANIDES, INORGANIC, SOLID, N.O.S.	6.1	T5	I	6.1	47 274	LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH	TU15	1	W10 W12		CW13 CW28 CW31	CE13	66
1588	CYANIDES, INORGANIC, SOLID, N.O.S.	6.1	T5	II	6.1	47 274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1588	CYANIDES, INORGANIC, SOLID, N.O.S.	6.1	T5	III	6.1	47 274	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
1589	CYANOGEN CHLORIDE, STABILIZED	2	2TC		2.3+8		LQ0	E0	P200		MP9					1			CW9 CW10 CW36		268
1590	DICHLOROANILINES, LIQUID	6.1	T1	II	6.1	279	LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
1591	o-DICHLOROBENZENE	6.1	T1	III	6.1	279	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1593	DICHLOROMETHANE	6.1	T1	III	6.1	516	LQ7	E1	P001 IBC03 LP01 R001	B8	MP19	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
1594	DIETHYL SULPHATE	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
1595	DIMETHYL SULPHATE	6.1	TC1	I	6.1+8		LQ0	E5	P602		MP8 MP17	T20	TP2 TP35	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		668
1596	DINITROANILINES	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1597	DINITROBENZENES, LIQUID	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
1597	DINITROBENZENES, LIQUID	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
1598	DINITRO- <i>o</i> -CRESOL	6.1	T2	II	6.1	43	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1599	DINITROPHENOL SOLUTION	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
1599	DINITROPHENOL SOLUTION	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
1600	DINITROTOLUENES, MOLTEN	6.1	T1	II	6.1		LQ0	E0				T7	TP3	L4BH	TU15	0			CW13 CW31		60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1601	DISINFECTANT, SOLID, TOXIC, N.O.S.	6.1	T2	I	6.1	274	LQ0 E5	P002 IBC07		MP18	T6 TP33	S10AH L10CH	TU15 TU38 TE22	1	W10 W12		CW13 CW28 CW31		66		
1601	DISINFECTANT, SOLID, TOXIC, N.O.S.	6.1	T2	II	6.1	274	LQ18 E4	P002 IBC08	B4	MP10	T3 TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60		
1601	DISINFECTANT, SOLID, TOXIC, N.O.S.	6.1	T2	III	6.1	274	LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1 TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60		
1602	DYE, LIQUID, TOXIC, N.O.S. or DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.	6.1	T1	I	6.1	274	LQ0 E5	P001		MP8 MP17		L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66		
1602	DYE, LIQUID, TOXIC, N.O.S. or DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.	6.1	T1	II	6.1	274	LQ17 E4	P001 IBC02		MP15		L4BH	TU15	2			CW13 CW28 CW31	CE5	60		
1602	DYE, LIQUID, TOXIC, N.O.S. or DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.	6.1	T1	III	6.1	274	LQ7 E1	P001 IBC03 LP01 R001		MP19		L4BH	TU15	2			CW13 CW28 CW31	CE8	60		
1603	ETHYL BROMOACETATE	6.1	TF1	II	6.1+3		LQ17 E4	P001 IBC02		MP15	T7 TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	63		
1604	ETHYLENEDIAMINE	8	CF1	II	8+3		LQ22 E2	P001 IBC02		MP15	T7 TP2	L4BN		2				CE6	83		
1605	ETHYLENE DIBROMIDE	6.1	T1	I	6.1		LQ0 E5	P602		MP8 MP17	T14 TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66		
1606	FERRIC ARSENATE	6.1	T5	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3 TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60		

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1607	FERRIC ARSENITE	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1608	FERROUS ARSENATE	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1611	HEXAETHYL TETRAPHOSPHATE	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
1612	HEXAETHYL TETRAPHOSPHATE AND COMPRESSED GAS MIXTURE	2	1T		2.3 (+13)		LQ0	E0	P200		MP9	(M)		CxBH(M)	TU38 TE22 TE25 TA4 TT9	1			CW9 CW10 CW36		26
1613	HYDROCYANIC ACID, AQUEOUS SOLUTION (HYDROGEN CYANIDE, AQUEOUS SOLUTION) with not more than 20% hydrogen cyanide	6.1	TF1	I	6.1+3	48	LQ0	E5	P601		MP8 MP17	T14	TP2	L15DH(+)	TU14 TU15 TU38 TE21 TE22 TE25	0			CW13 CW28 CW31		663
1614	HYDROGEN CYANIDE, STABILIZED, containing less than 3% water and absorbed in a porous inert material	6.1	TF1	I	6.1+3	603	LQ0	E5	P099 P601	RR10	MP2					0			CW13 CW28 CW31		663
1616	LEAD ACETATE	6.1	T5	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
1617	LEAD ARSENATES	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1618	LEAD ARSENITES	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1620	LEAD CYANIDE	6.1	T5	II	6.1		LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1621	LONDON PURPLE	6.1	T5	II	6.1	43	LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1622	MAGNESIUM ARSENATE	6.1	T5	II	6.1		LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1623	MERCURIC ARSENATE	6.1	T5	II	6.1		LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1624	MERCURIC CHLORIDE	6.1	T5	II	6.1		LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1625	MERCURIC NITRATE	6.1	T5	II	6.1		LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1626	MERCURIC POTASSIUM CYANIDE	6.1	T5	I	6.1		LQ0	E5		P002 IBC07		MP18	T6	TP33	S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66
1627	MERCUROUS NITRATE	6.1	T5	II	6.1		LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1629	MERCURY ACETATE	6.1	T5	II	6.1		LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1630	MERCURY AMMONIUM CHLORIDE	6.1	T5	II	6.1		LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1631	MERCURY BENZOATE	6.1	T5	II	6.1		LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1634	MERCURY BROMIDES	6.1	T5	II	6.1		LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1636	MERCURY CYANIDE	6.1	T5	II	6.1		LQ18 E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1637	MERCURY GLUCONATE	6.1	T5	II	6.1		LQ18 E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1638	MERCURY IODIDE	6.1	T5	II	6.1		LQ18 E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1639	MERCURY NUCLEATE	6.1	T5	II	6.1		LQ18 E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1640	MERCURY OLEATE	6.1	T5	II	6.1		LQ18 E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1641	MERCURY OXIDE	6.1	T5	II	6.1		LQ18 E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1642	MERCURY OXYCYANIDE, DESENSITIZED	6.1	T5	II	6.1		LQ18 E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1643	MERCURY POTASSIUM IODIDE	6.1	T5	II	6.1		LQ18 E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1644	MERCURY SALICYLATE	6.1	T5	II	6.1		LQ18 E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1645	MERCURY SULPHATE	6.1	T5	II	6.1		LQ18 E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1646	MERCURY THIOCYANATE	6.1	T5	II	6.1		LQ18 E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1647	METHYL BROMIDE AND ETHYLENE DIBROMIDE MIXTURE, LIQUID	6.1	T1	I	6.1		LQ0	E5		P602		MP8 MP17	T20	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
1648	ACETONITRILE	3	F1	II	3		LQ4	E2		P001 IBC02 R001		MP19	T7	TP2	LGBF		2				CE7	33
1649	MOTOR FUEL ANTI-KNOCK MIXTURE having a flash-point above 60 °C	6.1	T3	I	6.1		LQ0	E5		P602		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22 TT6	1			CW13 CW28 CW31		66
1649	MOTOR FUEL ANTI-KNOCK MIXTURE having a flash-point of not more than 60 °C	6.1	TF1	I	6.1+3		LQ0	E5		P602		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22 TT6	1			CW13 CW28 CW31		663
1650	beta-NAPHTHYLAMINE, SOLID	6.1	T2	II	6.1		LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1651	NAPHTHYLTHIOUREA	6.1	T2	II	6.1	43	LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1652	NAPHTHYLUREA	6.1	T2	II	6.1		LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1653	NICKEL CYANIDE	6.1	T5	II	6.1		LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1654	NICOTINE	6.1	T1	II	6.1		LQ17	E4		P001 IBC02		MP15			L4BH	TU15	2			CW13 CW28 CW31	CE5	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1655	NICOTINE COMPOUND, SOLID, N.O.S. or NICOTINE PREPARATION, SOLID, N.O.S.	6.1	T2	I	6.1	43 274	LQ0 E5	P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU15 TU38 TE22	1	W10 W12		CW13 CW28 CW31		66
1655	NICOTINE COMPOUND, SOLID, N.O.S. or NICOTINE PREPARATION, SOLID, N.O.S.	6.1	T2	II	6.1	43 274	LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1655	NICOTINE COMPOUND, SOLID, N.O.S. or NICOTINE PREPARATION, SOLID, N.O.S.	6.1	T2	III	6.1	43 274	LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
1656	NICOTINE HYDROCHLORIDE, LIQUID or SOLUTION	6.1	T1	II	6.1	43	LQ17 E4	P001 IBC02		MP15			L4BH	TU15	2			CW13 CW28 CW31	CE5	60
1656	NICOTINE HYDROCHLORIDE, LIQUID or SOLUTION	6.1	T1	III	6.1	43	LQ7 E1	P001 IBC03 LP01 R001		MP19			L4BH	TU15	2			CW13 CW28 CW31	CE8	60
1657	NICOTINE SALICYLATE	6.1	T2	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1658	NICOTINE SULPHATE, SOLUTION	6.1	T1	II	6.1		LQ17 E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
1658	NICOTINE SULPHATE, SOLUTION	6.1	T1	III	6.1		LQ7 E1	P001 IBC03 LP01 R001		MP19	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
1659	NICOTINE TARTRATE	6.1	T2	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1660	NITRIC OXIDE, COMPRESSED	2	1TOC		2.3+5.1+8		LQ0 E0	P200		MP9					1			CW9 CW10 CW36		265
1661	NITROANILINES (o-, m-, p-)	6.1	T2	II	6.1	279	LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1662	NITROBENZENE	6.1	T1	II	6.1	279	LQ17 E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
1663	NITROPHENOLS (o-, m-, p-)	6.1	T2	III	6.1	279	LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
1664	NITROTOLUENES, LIQUID	6.1	T1	II	6.1		LQ17 E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
1665	NITROXYLENES, LIQUID	6.1	T1	II	6.1		LQ17 E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
1669	PENTACHLOROETHANE	6.1	T1	II	6.1		LQ17 E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
1670	PERCHLOROMETHYL MERCAPTAN	6.1	T1	I	6.1		LQ0 E5	P602		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
1671	PHENOL, SOLID	6.1	T2	II	6.1	279	LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1672	PHENYLCARBYLAMINE CHLORIDE	6.1	T1	I	6.1		LQ0 E5	P602		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
1673	PHENYLENEDIAMINES (o-, m-, p-)	6.1	T2	III	6.1	279	LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
1674	PHENYLMERCURIC ACETATE	6.1	T3	II	6.1	43	LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60

UN No.	Name and description	Class	Classifi- cation code	Packing group	Labels	Special provi- sions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identi- fication No.
									Packing instructions	Special packing provisions	Mixed packing provi- sions	Instruc- tions	Special provi- sions	Tank code	Special provi- sions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2									1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1677	POTASSIUM ARSENATE	6.1	T5	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	
1678	POTASSIUM ARSENITE	6.1	T5	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	
1679	POTASSIUM CUPROCYANIDE	6.1	T5	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	
1680	POTASSIUM CYANIDE, SOLID	6.1	T5	I	6.1		LQ0 E5	P002 IBC07		MP18	T6	TP33	S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66	
1683	SILVER ARSENITE	6.1	T5	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	
1684	SILVER CYANIDE	6.1	T5	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	
1685	SODIUM ARSENATE	6.1	T5	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	
1686	SODIUM ARSENITE, AQUEOUS SOLUTION	6.1	T4	II	6.1	43	LQ17 E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60	
1686	SODIUM ARSENITE, AQUEOUS SOLUTION	6.1	T4	III	6.1	43	LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE8	60	
1687	SODIUM AZIDE	6.1	T5	II	6.1		LQ18 E4	P002 IBC08	B4	MP10					2	W11		CW13 CW28 CW31	CE9	60	
1688	SODIUM CACODYLATE	6.1	T5	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
1689	SODIUM CYANIDE, SOLID	6.1	T5	I	6.1		LQ0 E5	P002 IBC07		MP18		MP18	T6	TP33	S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66
1690	SODIUM FLUORIDE, SOLID	6.1	T5	III	6.1		LQ9 E1	P002 IBC08 LP02 R001	B3	MP10		MP10	T1	TP33	SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
1691	STRONTIUM ARSENITE	6.1	T5	II	6.1		LQ18 E4	P002 IBC08	B4	MP10		MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1692	STRYCHNINE or STRYCHNINE SALTS	6.1	T2	I	6.1		LQ0 E5	P002 IBC07		MP18		MP18	T6	TP33	S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66
1693	TEAR GAS SUBSTANCE, LIQUID, N.O.S.	6.1	T1	I	6.1	274	LQ0 E5	P001		MP8 MP17		MP8 MP17			L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
1693	TEAR GAS SUBSTANCE, LIQUID, N.O.S.	6.1	T1	II	6.1	274	LQ17 E4	P001 IBC02		MP15		MP15			L4BH	TU15	2			CW13 CW28 CW31	CE5	60
1694	BROMOBENZYL CYANIDES, LIQUID	6.1	T1	I	6.1	138	LQ0 E5	P001		MP8 MP17		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
1695	CHLOROACETONE, STABILIZED	6.1	TFC	I	6.1+3+8		LQ0 E5	P001		MP8 MP17		MP8 MP17	T20	TP2 TP35	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
1697	CHLOROACETOPHENONE, SOLID	6.1	T2	II	6.1		LQ18 E4	P002 IBC08	B4	MP10		MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (o)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1698	DIPHENYLAMINE CHLOROARSINE	6.1	T3	I	6.1		LQ0 E5		P002		MP18	T6	TP33	S10AH	TU15	1			CW13 CW28 CW31		66
1699	DIPHENYLCHLOROARSINE, LIQUID	6.1	T3	I	6.1		LQ0 E5		P001		MP8 MP17			L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
1700	TEAR GAS CANDLES	6.1	TF3	II	6.1+4.1		LQ18 E0		P600							2			CW13 CW28 CW31		64
1701	XYLYL BROMIDE, LIQUID	6.1	T1	II	6.1		LQ17 E4		P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
1702	1,1,2,2-TETRACHLOROETHANE	6.1	T1	II	6.1		LQ17 E4		P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
1704	TETRAETHYL DITHIOPYROPHOSPHATE	6.1	T2	II	6.1	43	LQ18 E4		P001 IBC02		MP10	T7	TP2	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1707	THALLIUM COMPOUND, N.O.S.	6.1	T5	II	6.1	43 274	LQ18 E4		P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1708	TOLUIDINES, LIQUID	6.1	T1	II	6.1	279	LQ17 E4		P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
1709	2,4-TOLUYLENEDIAMINE, SOLID	6.1	T2	III	6.1		LQ9 E1		P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
1710	TRICHLOROETHYLENE	6.1	T1	III	6.1		LQ7 E1		P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1711	XYLIDINES, LIQUID	6.1	T1	II	6.1		LQ17 E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
1712	ZINC ARSENATE, ZINC ARSENITE or ZINC ARSENATE AND ZINC ARSENITE MIXTURE	6.1	T5	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1713	ZINC CYANIDE	6.1	T5	I	6.1		LQ0 E5	P002 IBC07		MP18	T6	TP33	S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66
1714	ZINC PHOSPHIDE	4.3	WT2	I	4.3+6.1		LQ0 E0	P403		MP2					1	W1		CW23 CW28		X462
1715	ACETIC ANHYDRIDE	8	CF1	II	8+3		LQ22 E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	83
1716	ACETYL BROMIDE	8	C3	II	8		LQ22 E2	P001 IBC02		MP15	T8	TP2	L4BN		2				CE6	80
1717	ACETYL CHLORIDE	3	FC	II	3+8		LQ4 E2	P001 IBC02		MP19	T8	TP2	L4BH		2				CE7	X338
1718	BUTYL ACID PHOSPHATE	8	C3	III	8		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BN		3				CE8	80
1719	CAUSTIC ALKALI LIQUID, N.O.S.	8	C5	II	8	274	LQ22 E2	P001 IBC02		MP15	T11	TP2 TP27	L4BN		2				CE6	80
1719	CAUSTIC ALKALI LIQUID, N.O.S.	8	C5	III	8	274	LQ7 E1	P001 IBC03 R001		MP19	T7	TP1 TP28	L4BN		3				CE8	80
1722	ALLYL CHLOROFORMATE	6.1	TFC	I	6.1+3+8		LQ0 E5	P001		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		668
1723	ALLYL IODIDE	3	FC	II	3+8		LQ4 E2	P001 IBC02		MP19	T7	TP2	L4BH		2				CE7	338
1724	ALLYLTRICHLOROSILANE, STABILIZED	8	CF1	II	8+3		LQ22 E2	P010		MP15	T10	TP2 TP7	L4BN		2				CE6	X839

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instruc-tions	Special provi-sions	Tank code	Special provi-sions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1725	ALUMINIUM BROMIDE, ANHYDROUS	8	C2	II	8	588	LQ23 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN		2	W11			CE10	80
1726	ALUMINIUM CHLORIDE, ANHYDROUS	8	C2	II	8	588	LQ23 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN		2	W11			CE10	80
1727	AMMONIUM HYDROGENDIFLUORIDE, SOLID	8	C2	II	8		LQ23 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN		2	W11			CE10	80
1728	AMYLTRICHLOROSILANE	8	C3	II	8		LQ22 E2	P010		MP15	T10	TP2 TP7	L4BN		2				CE6	X80
1729	ANISOYL CHLORIDE	8	C4	II	8		LQ23 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN L4BN		2	W11			CE10	80
1730	ANTIMONY PENTACHLORIDE, LIQUID	8	C1	II	8		LQ22 E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	X80
1731	ANTIMONY PENTACHLORIDE SOLUTION	8	C1	II	8		LQ22 E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	80
1731	ANTIMONY PENTACHLORIDE SOLUTION	8	C1	III	8		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BN		3				CE8	80
1732	ANTIMONY PENTAFLUORIDE	8	CT1	II	8+6.1		LQ22 E2	P001 IBC02		MP15	T7	TP2	L4BN		2			CW13 CW28	CE6	86
1733	ANTIMONY TRICHLORIDE	8	C2	II	8		LQ23 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN L4BN		2	W11			CE10	80
1736	BENZOYL CHLORIDE	8	C3	II	8		LQ22 E2	P001 IBC02		MP15	T8	TP2	L4BN		2				CE6	80
1737	BENZYL BROMIDE	6.1	TC1	II	6.1+8		LQ17 E4	P001 IBC02		MP15	T8	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	68
1738	BENZYL CHLORIDE	6.1	TC1	II	6.1+8		LQ17 E4	P001 IBC02		MP15	T8	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	68
1739	BENZYL CHLOROFORMATE	8	C9	I	8		LQ0 E0	P001		MP8 MP17	T10	TP2	L10BH	TU38 TE22	1					88
1740	HYDROGENDIFLUORIDES, SOLID, N.O.S.	8	C2	II	8	274 517	LQ23 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN		2	W11			CE10	80



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1740	HYDROGENDIFLUORIDES, SOLID, N.O.S.	8	C2	III	8	274 517	LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV			3		VW9		CE11	80
1741	BORON TRICHLORIDE	2	2TC		2.3+8		LQ0	E0	P200		MP9	(M)					1			CW9 CW10 CW36		268
1742	BORON TRIFLUORIDE ACETIC ACID COMPLEX, LIQUID	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T8	TP2	L4BN			2				CE6	80
1743	BORON TRIFLUORIDE PROPIONIC ACID COMPLEX, LIQUID	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T8	TP2	L4BN			2				CE6	80
1744	BROMINE or BROMINE SOLUTION	8	CT1	I	8+6.1		LQ0	E0	P804		MP2	T22	TP2 TP10	L21DH(+)	TU14 TU33 TU38 TC5 TE21 TE22 TE25 TT2 TM3 TM5		1			CW13 CW28		886
1745	BROMINE PENTAFLUORIDE	5.1	OTC	I	5.1+6.1+8		LQ0	E0	P200		MP2	T22	TP2	L10DH	TU3 TU38 TE16 TE22		1			CW24 CW28		568
1746	BROMINE TRIFLUORIDE	5.1	OTC	I	5.1+6.1+8		LQ0	E0	P200		MP2	T22	TP2	L10DH	TU3 TU38 TE16 TE22		1			CW24 CW28		568
1747	BUTYLTRICHLOROSILANE	8	CF1	II	8+3		LQ22	E2	P010		MP15	T10	TP2 TP7	L4BN			2				CE6	X83
1748	CALCIUM HYPOCHLORITE, DRY or CALCIUM HYPOCHLORITE MIXTURE, DRY with more than 39% available chlorine (8.8% available oxygen)	5.1	O2	II	5.1	313 314 589	LQ11	E2	P002 IBC08	B4 B13	MP10			SGAN	TU3		2	W11		CW24 CW35	CE10	50

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
1748	CALCIUM HYPOCHLORITE, DRY or CALCIUM HYPOCHLORITE MIXTURE, DRY with more than 39% available chlorine (8.8% available oxygen)	5.1	O2	III	5.1	316 589	LQ12 E1			P002 IBC08 R001	B4	MP10			SGAV	TU3	3			CW24 CW35	CE11	50
1749	CHLORINE TRIFLUORIDE	2	2TOC		2.3+5.1+8 (+13)	LQ0	E0			P200		MP9	(M)		PxBH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW16 CW36		265
1750	CHLOROACETIC ACID SOLUTION	6.1	TC1	II	6.1+8		LQ17 E4			P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	68
1751	CHLOROACETIC ACID, SOLID	6.1	TC2	II	6.1+8		LQ18 E4			P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	68
1752	CHLOROACETYL CHLORIDE	6.1	TC1	I	6.1+8		LQ0 E5			P001		MP8 MP17	T20	TP2 TP35	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		668
1753	CHLOROPHENYLTRICHLOROSILANE	8	C3	II	8		LQ22 E2			P010		MP15	T10	TP2 TP7	L4BN		2				CE6	X80
1754	CHLOROSULPHONIC ACID (with or without sulphur trioxide)	8	C1	I	8		LQ0 E0			P001		MP8 MP17	T20	TP2	L10BH	TU38 TE22	1					X88
1755	CHROMIC ACID SOLUTION	8	C1	II	8	518	LQ22 E2			P001 IBC02		MP15	T8	TP2	L4BN		2				CE6	80
1755	CHROMIC ACID SOLUTION	8	C1	III	8	518	LQ7 E1			P001 IBC02 LP01 R001		MP19	T4	TP1	L4BN		3				CE8	80
1756	CHROMIC FLUORIDE, SOLID	8	C2	II	8		LQ23 E2			P002 IBC08	B4	MP10	T3	TP33	SGAN		2	W11			CE10	80
1757	CHROMIC FLUORIDE SOLUTION	8	C1	II	8		LQ22 E2			P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	80

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1757	CHROMIC FLUORIDE SOLUTION	8	C1	III	8		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BN		3				CE8	80
1758	CHROMIUM OXYCHLORIDE	8	C1	I	8		LQ0	E0	P001			MP8 MP17	T10	TP2	L10BH	TU38 TE22	1					X88
1759	CORROSIVE SOLID, N.O.S.	8	C10	I	8	274	LQ0	E0	P002 IBC07			MP18	T6	TP33	S10AN L10BH	TU38 TE22	1	W10 W12				88
1759	CORROSIVE SOLID, N.O.S.	8	C10	II	8	274	LQ23	E2	P002 IBC08	B4		MP10	T3	TP33	SGAN L4BN		2	W11			CE10	80
1759	CORROSIVE SOLID, N.O.S.	8	C10	III	8	274	LQ24	E1	P002 IBC08 LP02 R001	B3		MP10	T1	TP33	SGAV L4BN		3		VW9		CE11	80
1760	CORROSIVE LIQUID, N.O.S.	8	C9	I	8	274	LQ0	E0	P001			MP8 MP17	T14	TP2 TP27	L10BH	TU38 TE22	1					88
1760	CORROSIVE LIQUID, N.O.S.	8	C9	II	8	274	LQ22	E2	P001 IBC02			MP15	T11	TP2 TP27	L4BN		2				CE6	80
1760	CORROSIVE LIQUID, N.O.S.	8	C9	III	8	274	LQ7	E1	P001 IBC03 LP01 R001			MP19	T7	TP1 TP28	L4BN		3				CE8	80
1761	CUPRIETHYLENEDIAMINE SOLUTION	8	CT1	II	8+6.1		LQ22	E2	P001 IBC02			MP15	T7	TP2	L4BN		2			CW13 CW28	CE6	86
1761	CUPRIETHYLENEDIAMINE SOLUTION	8	CT1	III	8+6.1		LQ7	E1	P001 IBC03 R001			MP19	T7	TP1 TP28	L4BN		3			CW13 CW28	CE8	86
1762	CYCLOHEXYLTRICHLOROSILANE	8	C3	II	8		LQ22	E2	P010			MP15	T10	TP2 TP7	L4BN		2				CE6	X80
1763	CYCLOHEXYLTRICHLOROSILANE	8	C3	II	8		LQ22	E2	P010			MP15	T10	TP2 TP7	L4BN		2				CE6	X80
1764	DICHLOROACETIC ACID	8	C3	II	8		LQ22	E2	P001 IBC02			MP15	T8	TP2	L4BN		2				CE6	80
1765	DICHLOROACETYL CHLORIDE	8	C3	II	8		LQ22	E2	P001 IBC02			MP15	T7	TP2	L4BN		2				CE6	X80

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1766	DICHLOROPHENYLTRICHLOROSILANE	8	C3	II	8		LQ22 E2	P010		MP15	T10	TP2 TP7	L4BN		2				CE6	X80
1767	DIETHYLDICHLOROSILANE	8	CF1	II	8+3		LQ22 E2	P010		MP15	T10	TP2 TP7	L4BN		2				CE6	X83
1768	DIFLUOROPHOSPHORIC ACID, ANHYDROUS	8	C1	II	8		LQ22 E2	P001 IBC02		MP15	T8	TP2	L4BN		2				CE6	80
1769	DIPHENYLDICHLOROSILANE	8	C3	II	8		LQ22 E2	P010		MP15	T10	TP2 TP7	L4BN		2				CE6	X80
1770	DIPHENYLMETHYL BROMIDE	8	C10	II	8		LQ23 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN L4BN		2	W11			CE10	80
1771	DODECYLTRICHLOROSILANE	8	C3	II	8		LQ22 E2	P010		MP15	T10	TP2 TP7	L4BN		2				CE6	X80
1773	FERRIC CHLORIDE, ANHYDROUS	8	C2	III	8	590	LQ24 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV		3		VW9		CE11	80
1774	FIRE EXTINGUISHER CHARGES, corrosive liquid	8	C11	II	8		LQ22 E0	P001	PP4						2				CE6	80
1775	FLUOROBORIC ACID	8	C1	II	8		LQ22 E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	80
1776	FLUOROPHOSPHORIC ACID, ANHYDROUS	8	C1	II	8		LQ22 E2	P001 IBC02		MP15	T8	TP2	L4BN		2				CE6	80
1777	FLUOROSULPHONIC ACID	8	C1	I	8		LQ0 E0	P001		MP8 MP17	T10	TP2	L10BH	TU38 TE22	1					88
1778	FLUOROSILICIC ACID	8	C1	II	8		LQ22 E2	P001 IBC02		MP15	T8	TP2	L4BN		2				CE6	80
1779	FORMIC ACID with more than 85% acid by mass	8	CF1	II	8+3		LQ22 E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	83
1780	FUMARYL CHLORIDE	8	C3	II	8		LQ22 E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	80
1781	HEXADECYLTRICHLOROSILANE	8	C3	II	8		LQ22 E2	P010		MP15	T10	TP2 TP7	L4BN		2				CE6	X80
1782	HEXAFLUOROPHOSPHORIC ACID	8	C1	II	8		LQ22 E2	P001 IBC02		MP15	T8	TP2	L4BN		2				CE6	80
1783	HEXAMETHYLENEDIAMINE SOLUTION	8	C7	II	8		LQ22 E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	80

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1783	HEXAMETHYLENEDIAMINE SOLUTION	8	C7	III	8		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BN		3				CE8	80
1784	HEXYLTRICHLOROSILANE	8	C3	II	8		LQ22	E2	P010			MP15	T10	TP2 TP7	L4BN		2				CE6	X80
1786	HYDROFLUORIC ACID AND SULPHURIC ACID MIXTURE	8	CT1	I	8+6.1		LQ0	E0	P001			MP8 MP17	T10	TP2	L10DH	TU14 TU38 TE21 TE22 TT4	1			CW13 CW28		886
1787	HYDRIODIC ACID	8	C1	II	8		LQ22	E2	P001 IBC02			MP15	T7	TP2	L4BN		2				CE6	80
1787	HYDRIODIC ACID	8	C1	III	8		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BN		3				CE8	80
1788	HYDROBROMIC ACID	8	C1	II	8	519	LQ22	E2	P001 IBC02			MP15	T7	TP2	L4BN		2				CE6	80
1788	HYDROBROMIC ACID	8	C1	III	8	519	LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BN		3				CE8	80
1789	HYDROCHLORIC ACID	8	C1	II	8	520	LQ22	E2	P001 IBC02			MP15	T8	TP2	L4BN		2				CE6	80
1789	HYDROCHLORIC ACID	8	C1	III	8	520	LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BN		3				CE8	80

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1790	HYDROFLUORIC ACID with more than 85% hydrogen fluoride	8	CT1	I	8+6.1	640I	LQ0	E0	P802		MP2	T10	TP2	L21DH(+)	TU14 TU34 TU38 TC1 TE17 TE21 TE22 TE25 TA4 TT4 TT9 TM3	1			CW13 CW28		886
1790	HYDROFLUORIC ACID with more than 60% but not more than 85% hydrogen fluoride	8	CT1	I	8+6.1	640J	LQ0	E0	P001	PP81	MP8 MP17	T10	TP2	L10DH	TU14 TU38 TE21 TE22 TT4	1			CW13 CW28		886
1790	HYDROFLUORIC ACID with not more than 60% hydrogen fluoride	8	CT1	II	8+6.1		LQ22	E2	P001 IBC02		MP15	T8	TP2	L4DH	TU14 TE17 TE21 TT4	2			CW13 CW28	CE6	86
1791	HYPOCHLORITE SOLUTION	8	C9	II	8	521	LQ22	E2	P001 IBC02	PP10 B5	MP15	T7	TP2 TP24	L4BV(+)	TE11	2				CE6	80
1791	HYPOCHLORITE SOLUTION	8	C9	III	8	521	LQ7	E1	P001 IBC02 LP01 R001	B5	MP19	T4	TP2 TP24	L4BV(+)	TE11	3				CE8	80
1792	IODINE MONOCHLORIDE	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE10	80
1793	ISOPROPYL ACID PHOSPHATE	8	C3	III	8		LQ7	E1	P001 IBC02 LP01 R001		MP19	T4	TP1	L4BN		3				CE8	80
1794	LEAD SULPHATE with more than 3% free acid	8	C2	II	8	591	LQ23	E2	P002 IBC08	B4	MP10	T3	TP33	SGAN		2	W11	VW9		CE10	80

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1796	NITRATING ACID MIXTURE with more than 50% nitric acid	8	CO1	I	8+5.1		LQ0	E0	P001			MP8 MP17	T10	TP2	L10BH	TU38 TC6 TE22 TT1	1			CW24		885
1796	NITRATING ACID MIXTURE with not more than 50% nitric acid	8	C1	II	8		LQ22	E2	P001 IBC02			MP15	T8	TP2	L4BN		2			CW24	CE6	80
1798	NITROHYDROCHLORIC ACID	8	COT						CARRIAGE PROHIBITED													
1799	NONYLTRICHLOROSILANE	8	C3	II	8		LQ22	E2	P010			MP15	T10	TP2 TP7	L4BN		2				CE6	X80
1800	OCTADECYLTRICHLOROSILANE	8	C3	II	8		LQ22	E2	P010			MP15	T10	TP2 TP7	L4BN		2				CE6	X80
1801	OCTYLTRICHLOROSILANE	8	C3	II	8		LQ22	E2	P010			MP15	T10	TP2 TP7	L4BN		2				CE6	X80
1802	PERCHLORIC ACID with not more than 50% acid, by mass	8	CO1	II	8+5.1	522	LQ22	E2	P001 IBC02			MP3	T7	TP2	L4BN		2			CW24	CE6	85
1803	PHENOLSULPHONIC ACID, LIQUID	8	C3	II	8		LQ22	E2	P001 IBC02			MP15	T7	TP2	L4BN		2				CE6	80
1804	PHENYLTRICHLOROSILANE	8	C3	II	8		LQ22	E2	P010			MP15	T10	TP2 TP7	L4BN		2				CE6	X80
1805	PHOSPHORIC ACID, SOLUTION	8	C1	III	8		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BN		3				CE8	80
1806	PHOSPHORUS PENTACHLORIDE	8	C2	II	8		LQ23	E2	P002 IBC08	B4		MP10	T3	TP33	SGAN		2	W11			CE10	80
1807	PHOSPHORUS PENTOXIDE	8	C2	II	8		LQ23	E2	P002 IBC08	B4		MP10	T3	TP33	SGAN		2	W11			CE10	80
1808	PHOSPHORUS TRIBROMIDE	8	C1	II	8		LQ22	E2	P001 IBC02			MP15	T7	TP2	L4BN		2				CE6	X80
1809	PHOSPHORUS TRICHLORIDE	6.1	TC3	I	6.1+8		LQ0	E5	P001			MP8 MP17	T20	TP2 TP35	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		668
1810	PHOSPHORUS OXYCHLORIDE	8	C1	II	8		LQ22	E2	P001			MP15	T7	TP2	L4BN		2				CE6	X80

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1811	POTASSIUM HYDROGENDIFLUORIDE, SOLID	8	CT2	II	8+6.1		LQ23 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN		2	W11		CW13 CW28	CE10	86
1812	POTASSIUM FLUORIDE, SOLID	6.1	T5	III	6.1		LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
1813	POTASSIUM HYDROXIDE, SOLID	8	C6	II	8		LQ23 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN		2	W11			CE10	80
1814	POTASSIUM HYDROXIDE SOLUTION	8	C5	II	8		LQ22 E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	80
1814	POTASSIUM HYDROXIDE SOLUTION	8	C5	III	8		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BN		3				CE8	80
1815	PROPIONYL CHLORIDE	3	FC	II	3+8		LQ4 E2	P001 IBC02		MP19	T7	TP1	L4BH		2				CE7	338
1816	PROPYLTRICHLOROSILANE	8	CF1	II	8+3		LQ22 E2	P010		MP15	T10	TP2 TP7	L4BN		2				CE6	X83
1817	PYROSULPHURYL CHLORIDE	8	C1	II	8		LQ22 E2	P001 IBC02		MP15	T8	TP2	L4BN		2				CE6	X80
1818	SILICON TETRACHLORIDE	8	C1	II	8		LQ0 E2	P010		MP15	T10	TP2 TP7	L4BN		2				CE6	X80
1819	SODIUM ALUMINATE SOLUTION	8	C5	II	8		LQ22 E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	80
1819	SODIUM ALUMINATE SOLUTION	8	C5	III	8		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BN		3				CE8	80
1823	SODIUM HYDROXIDE, SOLID	8	C6	II	8		LQ23 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN		2	W11			CE10	80
1824	SODIUM HYDROXIDE SOLUTION	8	C5	II	8		LQ22 E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	80
1824	SODIUM HYDROXIDE SOLUTION	8	C5	III	8		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BN		3				CE8	80



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1825	SODIUM MONOXIDE	8	C6	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33	SGAN		2	W11				CE10	80
1826	NITRATING ACID MIXTURE, SPENT, with more than 50% nitric acid	8	CO1	I	8+5.1	113	LQ0	E0	P001		MP8 MP17	T10	TP2	L10BH	TU38 TE22	1				CW24		885
1826	NITRATING ACID MIXTURE, SPENT, with not more than 50% nitric acid	8	C1	II	8	113	LQ22	E2	P001 IBC02		MP15	T8	TP2	L4BN		2				CW24	CE6	80
1827	STANNIC CHLORIDE, ANHYDROUS	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2	L4BN		2					CE6	X80
1828	SULPHUR CHLORIDES	8	C1	I	8		LQ0	E0	P602		MP8 MP17	T20	TP2	L10BH	TU38 TE22	1						X88
1829	SULPHUR TRIOXIDE, STABILIZED	8	C1	I	8	623	LQ0	E0	P001		MP8 MP17	T20	TP4 TP26	L10BH	TU32 TU38 TE13 TE22 TT5 TM3	1						X88
1830	SULPHURIC ACID with more than 51% acid	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T8	TP2	L4BN		2					CE6	80
1831	SULPHURIC ACID, FUMING	8	CT1	I	8+6.1		LQ0	E0	P602		MP8 MP17	T20	TP2	L10BH	TU38 TE22	1				CW13 CW28		X886
1832	SULPHURIC ACID, SPENT	8	C1	II	8	113	LQ22	E2	P001 IBC02		MP15	T8	TP2	L4BN		2					CE6	80
1833	SULPHUROUS ACID	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2	L4BN		2					CE6	80
1834	SULPHURYL CHLORIDE	8	C1	I	8		LQ0	E0	P602		MP8 MP17	T20	TP2	L10BH	TU38 TE22	1						X88
1835	TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION	8	C7	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2	L4BN		2					CE6	80
1835	TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION	8	C7	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2	L4BN		3					CE8	80
1836	THIONYL CHLORIDE	8	C1	I	8		LQ0	E0	P802		MP8 MP17	T10	TP2	L10BH	TU38 TE22	1						X88
1837	THIOPHOSPHORYL CHLORIDE	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2	L4BN		2					CE6	X80

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1838	TITANIUM TETRACHLORIDE	8	C1	II	8		LQ22 E2	P001 IBC02		MP15	T10	TP2	L4BN		2				CE6	X80
1839	TRICHLOROACETIC ACID	8	C4	II	8		LQ23 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN L4BN		2	W11			CE10	80
1840	ZINC CHLORIDE SOLUTION	8	C1	III	8		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BN		3				CE8	80
1841	ACETALDEHYDE AMMONIA	9	M11	III	9		LQ27 E1	P002 IBC08 LP02 R001	B3 B6	MP10	T1	TP33	SGAV		3		VW9	CW31	CE11	90
1843	AMMONIUM DINITRO-o-CRESOLATE, SOLID	6.1	T2	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1845	Carbon dioxide, solid (Dry ice)	9	M11					NOT SUBJECT TO RID												
1846	CARBON TETRACHLORIDE	6.1	T1	II	6.1		LQ17 E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
1847	POTASSIUM SULPHIDE, HYDRATED with not less than 30% water of	8	C6	II	8	523	LQ23 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN L4BN		2	W11			CE10	80
1848	PROPIONIC ACID with not less than 10% and less than 90% acid by mass	8	C3	III	8		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BN		3				CE8	80
1849	SODIUM SULPHIDE, HYDRATED with not less than 30% water	8	C6	II	8	523	LQ23 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN L4BN		2	W11			CE10	80
1851	MEDICINE, LIQUID, TOXIC, N.O.S.	6.1	T1	II	6.1	221 274 601	LQ17 E4	P001		MP15			L4BH	TU15	2			CW13 CW28 CW31	CE5	60
1851	MEDICINE, LIQUID, TOXIC, N.O.S.	6.1	T1	III	6.1	221 274 601	LQ7 E1	P001 LP01 R001		MP19			L4BH	TU15	2			CW13 CW28 CW31	CE8	60
1854	BARIUM ALLOYS, PYROPHORIC	4.2	S4	I	4.2		LQ0 E0	P404		MP13	T21	TP7 TP33			0	W1				43

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1855	CALCIUM, PYROPHORIC or CALCIUM ALLOYS, PYROPHORIC	4.2	S4	I	4.2		LQ0	E0	P404			MP13					0	W1				43
1856	Rags, oily	4.2	S2						NOT SUBJECT TO RID													
1857	Textile waste, wet	4.2	S2						NOT SUBJECT TO RID													
1858	HEXAFLUOROPROPYLENE (REFRIGERANT GAS R 1216)	2	2A		2.2 (+13)		LQ1	E1	P200			MP9	T50 (M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
1859	SILICON TETRAFLUORIDE	2	2TC		2.3+8 (+13)		LQ0	E0	P200			MP9	(M)		PxBH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		268
1860	VINYL FLUORIDE, STABILIZED	2	2F		2.1 (+13)		LQ0	E0	P200			MP9	(M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	239
1862	ETHYL CROTONATE	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP2	LGBF		2				CE7	33
1863	FUEL, AVIATION, TURBINE ENGINE	3	F1	I	3		LQ3	E3	P001			MP7 MP17	T11	TP1 TP8 TP28	L4BN		1					33
1863	FUEL, AVIATION, TURBINE ENGINE (vapour pressure at 50 °C more than 110 kPa)	3	F1	II	3	640C	LQ4	E2	P001			MP19	T4	TP1 TP8	L1.5BN		2				CE7	33
1863	FUEL, AVIATION, TURBINE ENGINE (vapour pressure at 50 °C not more than 110 kPa)	3	F1	II	3	640D	LQ4	E2	P001 IBC02 R001			MP19	T4	TP1 TP8	LGBF		2				CE7	33
1863	FUEL, AVIATION, TURBINE ENGINE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1865	n-PROPYL NITRATE	3	F1	II	3		LQ4	E2		P001 IBC02 R001	B7	MP19					2				CE7	33
1866	RESIN SOLUTION, flammable	3	F1	I	3		LQ3	E3		P001		MP7 MP17	T11	TP1 TP8 TP28	L4BN		1					33
1866	RESIN SOLUTION, flammable (vapour pressure at 50 °C more than 110 kPa)	3	F1	II	3	640C	LQ6	E2		P001	PP1	MP19	T4	TP1 TP8	L1.5BN		2				CE7	33
1866	RESIN SOLUTION, flammable (vapour pressure at 50 °C not more than 110 kPa)	3	F1	II	3	640D	LQ6	E2		P001 IBC02 R001	PP1	MP19	T4	TP1 TP8	LGBF		2				CE7	33
1866	RESIN SOLUTION, flammable	3	F1	III	3	640E	LQ7	E1		P001 IBC03 LP01 R001	PP1	MP19	T2	TP1	LGBF		3				CE4	30
1866	RESIN SOLUTION, flammable (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)	3	F1	III	3	640F	LQ7	E1		P001 LP01 R001	PP1	MP19	T2	TP1	L4BN		3				CE4	33
1866	RESIN SOLUTION, flammable (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C)	3	F1	III	3	640G	LQ7	E1		P001 LP01 R001	PP1	MP19	T2	TP1	L1.5BN		3				CE4	33
1866	RESIN SOLUTION, flammable (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)	3	F1	III	3	640H	LQ7	E1		P001 IBC02 LP01 R001	PP1	MP19	T2	TP1	LGBF		3				CE4	33
1868	DECABORANE	4.1	FT2	II	4.1+6.1		LQ0	E2		P002 IBC06		MP10	T3	TP33	SGAN		2	W1 W12		CW28	CE10	46
1869	MAGNESIUM or MAGNESIUM ALLOYS with more than 50% magnesium in pellets, turnings or ribbons	4.1	F3	III	4.1	59	LQ9	E1		P002 IBC08 LP02 R001	B3	MP11	T1	TP33	SGAV		3	W1	VW1		CE11	40
1870	POTASSIUM BOROHYDRIDE	4.3	W2	I	4.3		LQ0	E0		P403		MP2					1	W1		CW23		X423

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								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1871	TITANIUM HYDRIDE	4.1	F3	II	4.1		LQ8 E2	P410 IBC04	PP40	MP11	T3	TP33	SGAN		2	W1			CE10	40
1872	LEAD DIOXIDE	5.1	OT2	III	5.1+6.1		LQ12 E1	P002 IBC08 LP02 R001	B3	MP2	T1	TP33	SGAN	TU3	3			CW24 CW28	CE11	56
1873	PERCHLORIC ACID with more than 50% but not more than 72% acid, by mass	5.1	OC1	I	5.1+8	60	LQ0 E0	P502	PP28	MP3	T10	TP1	L4DN(+)	TU3 TU28 TE16	1			CW24		558
1884	BARIUM OXIDE	6.1	T5	III	6.1		LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
1885	BENZIDINE	6.1	T2	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1886	BENZYLIDENE CHLORIDE	6.1	T1	II	6.1		LQ17 E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
1887	BROMOCHLOROMETHANE	6.1	T1	III	6.1		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
1888	CHLOROFORM	6.1	T1	III	6.1		LQ7 E1	P001 IBC03 LP01 R001		MP19	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
1889	CYANOGEN BROMIDE	6.1	TC2	I	6.1+8		LQ0 E5	P002		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		668
1891	ETHYL BROMIDE	6.1	T1	II	6.1		LQ17 E4	P001 IBC02	B8	MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1892	ETHYLDICHLOROARSINE	6.1	T3	I	6.1		LQ0	E5	P602			MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
1894	PHENYLMERCURIC HYDROXIDE	6.1	T3	II	6.1		LQ18	E4	P002 IBC08	B4		MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1895	PHENYLMERCURIC NITRATE	6.1	T3	II	6.1		LQ18	E4	P002 IBC08	B4		MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
1897	TETRACHLOROETHYLENE	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
1898	ACETYL IODIDE	8	C3	II	8		LQ22	E2	P001 IBC02			MP15	T7	TP2	L4BN		2				CE6	80
1902	DIISOCTYL ACID PHOSPHATE	8	C3	III	8		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BN		3				CE8	80
1903	DISINFECTANT, LIQUID, CORROSIVE, N.O.S.	8	C9	I	8	274	LQ0	E0	P001			MP8 MP17			L10BH	TU38 TE22	1					88
1903	DISINFECTANT, LIQUID, CORROSIVE, N.O.S.	8	C9	II	8	274	LQ22	E2	P001 IBC02			MP15			L4BN		2				CE6	80
1903	DISINFECTANT, LIQUID, CORROSIVE, N.O.S.	8	C9	III	8	274	LQ7	E1	P001 IBC03 LP01 R001			MP19			L4BN		3				CE8	80
1905	SELENIC ACID	8	C2	I	8		LQ0	E0	P002 IBC07			MP18	T6	TP33	S10AN		1	W10 W12				88
1906	SLUDGE ACID	8	C1	II	8		LQ22	E2	P001 IBC02			MP15	T8	TP2 TP28	L4BN		2				CE6	80

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1907	SODA LIME with more than 4% sodium hydroxide	8	C6	III	8	62	LQ24 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV		3		VW9		CE11	80
1908	CHLORITE SOLUTION	8	C9	II	8	521	LQ22 E2	P001 IBC02		MP15	T7	TP2 TP24	L4BV(+)	TE11	2				CE6	80
1908	CHLORITE SOLUTION	8	C9	III	8	521	LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP2 TP24	L4BV(+)	TE11	3				CE8	80
1910	Calcium oxide	8	C6					NOT SUBJECT TO RID												
1911	DIBORANE	2	2TF		2.3+2.1		LQ0 E0	P200		MP9					1			CW9 CW10 CW36		263
1912	METHYL CHLORIDE AND METHYLENE CHLORIDE MIXTURE	2	2F		2.1 (+13)	228	LQ0 E0	P200		MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23
1913	NEON, REFRIGERATED LIQUID	2	3A		2.2 (+13)	593	LQ1 E1	P203		MP9	T75	TP5	RxBN	TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	22
1914	BUTYL PROPIONATES	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
1915	CYCLOHEXANONE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
1916	2,2'-DICHLORODIETHYL ETHER	6.1	TF1	II	6.1+3		LQ17 E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	63

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1917	ETHYL ACRYLATE, STABILIZED	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	339
1918	ISOPROPYLBENZENE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
1919	METHYL ACRYLATE, STABILIZED	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	339
1920	NONANES	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
1921	PROPYLENEIMINE, STABILIZED	3	FT1	I	3+6.1		LQ0	E0	P001			MP2	T14	TP2	L15CH	TU14 TU15 TU38 TE21 TE22 TE25	1			CW13 CW28		336
1922	PYRROLIDINE	3	FC	II	3+8		LQ4	E2	P001 IBC02			MP19	T7	TP1	L4BH		2				CE7	338
1923	CALCIUM DITHIONITE (CALCIUM HYDROSULPHITE)	4.2	S4	II	4.2		LQ0	E2	P410 IBC06			MP14	T3	TP33	SGAN		2	W1 W12			CE10	40
1928	METHYL MAGNESIUM BROMIDE IN ETHYL ETHER	4.3	WF1	I	4.3+3		LQ0	E0	P402	RR8		MP2			L10DH	TU4 TU14 TU22 TU38 TE21 TE22 TM2	0	W1		CW23		X323
1929	POTASSIUM DITHIONITE (POTASSIUM HYDROSULPHITE)	4.2	S4	II	4.2		LQ0	E2	P410 IBC06			MP14	T3	TP33	SGAN		2	W1 W12			CE10	40



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1931	ZINC DITHIONITE (ZINC HYDROSULPHITE)	9	M11	III	9		LQ27	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV			3		VW9	CW31	CE11	90
1932	ZIRCONIUM SCRAP	4.2	S4	III	4.2	524 592	LQ0	E1	P002 IBC08 LP02 R001	B3	MP14	T1	TP33	SGAN			3	W1	VW4		CE11	40
1935	CYANIDE SOLUTION, N.O.S.	6.1	T4	I	6.1	274 525	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22		1			CW13 CW28 CW31		66
1935	CYANIDE SOLUTION, N.O.S.	6.1	T4	II	6.1	274 525	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15		2			CW13 CW28 CW31	CE5	60
1935	CYANIDE SOLUTION, N.O.S.	6.1	T4	III	6.1	274 525	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28	L4BH	TU15		2			CW13 CW28 CW31	CE8	60
1938	BROMOACETIC ACID SOLUTION	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2	L4BN			2				CE6	80
1938	BROMOACETIC ACID SOLUTION	8	C3	III	8		LQ7	E1	P001 IBC02 LP01 R001		MP19	T7	TP2	L4BN			3				CE8	80
1939	PHOSPHORUS OXYBROMIDE	8	C2	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33	SGAN			2	W11			CE10	80
1940	THIOGLYCOLIC ACID	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2	L4BN			2				CE6	80
1941	DIBROMODIFLUOROMETHANE	9	M11	III	9		LQ28	E1	P001 LP01 R001		MP15	T11	TP2	L4BN			3			CW31	CE8	90

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1942	AMMONIUM NITRATE with not more than 0.2% total combustible material, including any organic substance calculated as carbon, to the exclusion of any other added substance	5.1	O2	III	5.1	306 611	LQ12	E1		P002 IBC08 LP02 R001	B3	MP10	T1 BK1 BK2	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
1944	MATCHES, SAFETY (book, card or strike on box)	4.1	F1	III	4.1	293	LQ9	E1		P407 R001		MP11					4	W1			CE11	40
1945	MATCHES, WAX 'VESTA'	4.1	F1	III	4.1	293	LQ9	E1		P407 R001		MP11					4	W1			CE11	40
1950	AEROSOLS, asphyxiant	2	5A		2.2	190 327 625	LQ2	E0		P003  LP02	PP17 PP87 RR6 L2	MP9					3	W14		CW9 CW12	CE2	20
1950	AEROSOLS, corrosive	2	5C		2.2+8	190 327 625	LQ2	E0		P003  LP02	PP17 PP87 RR6 L2	MP9					1	W14		CW9 CW12	CE2	28
1950	AEROSOLS, corrosive, oxidizing	2	5CO		2.2+ 5.1+8	190 327 625	LQ2	E0		P003  LP02	PP17 PP87 RR6 L2	MP9					1	W14		CW9 CW12	CE2	285
1950	AEROSOLS, flammable	2	5F		2.1	190 327 625	LQ2	E0		P003  LP02	PP17 PP87 RR6 L2	MP9					2	W14		CW9 CW12	CE2	23
1950	AEROSOLS, flammable, corrosive	2	5FC		2.1+8	190 327 625	LQ2	E0		P003  LP02	PP17 PP87 RR6 L2	MP9					1	W14		CW9 CW12	CE2	238
1950	AEROSOLS, oxidizing	2	5O		2.2+5.1	190 327 625	LQ2	E0		P003  LP02	PP17 PP87 RR6 L2	MP9					3	W14		CW9 CW12	CE2	25

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1950	AEROSOLS, toxic	2	5T		2.2+ 6.1	190 327 625	LQ1	E0		P003	PP17 PP87 RR6 L2	MP9					1	W14		CW9 CW12 CW28		26
1950	AEROSOLS, toxic, corrosive	2	5TC		2.2+ 6.1+8	190 327 625	LQ1	E0		P003	PP17 PP87 RR6 L2	MP9					1	W14		CW9 CW12 CW28		268
1950	AEROSOLS, toxic, flammable	2	5TF		2.1+ 6.1	190 327 625	LQ1	E0		P003	PP17 PP87 RR6 L2	MP9					1	W14		CW9 CW12 CW28		263
1950	AEROSOLS, toxic, flammable, corrosive	2	5TFC		2.1+ 6.1+8	190 327 625	LQ1	E0		P003	PP17 PP87 RR6 L2	MP9					1	W14		CW9 CW12 CW28		263
1950	AEROSOLS, toxic, oxidizing	2	5TO		2.2+ 5.1+ 6.1	190 327 625	LQ1	E0		P003	PP17 PP87 RR6 L2	MP9					1	W14		CW9 CW12 CW28		265
1950	AEROSOLS, toxic, oxidizing, corrosive	2	5TOC		2.2+ 5.1+ 6.1+8	190 327 625	LQ1	E0		P003	PP17 PP87 RR6 L2	MP9					1	W14		CW9 CW12 CW28		265
1951	ARGON, REFRIGERATED LIQUID	2	3A		2.2 (+13)	593	LQ1	E1		P203		MP9	T75	TP5	RxBN	TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	22
1952	ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with not more than 9% ethylene oxide	2	2A		2.2 (+13)		LQ1	E1		P200		MP9	(M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
1953	COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S.	2	1TF		2.3+2.1 (+13)	274	LQ0 E0			P200		MP9	(M)		CxBH(M)	TU6 TU38 TE22 TE25 TA4 TT9	1			CW9 CW10 CW36		263
1954	COMPRESSED GAS, FLAMMABLE, N.O.S.	2	1F		2.1 (+13)	274	LQ0 E0			P200		MP9	(M)		CxBN(M)	TU38 TE22 TA4 TT9	2			CW9 CW10 CW36	CE3	23
1955	COMPRESSED GAS, TOXIC, N.O.S.	2	1T		2.3 (+13)	274	LQ0 E0			P200		MP9	(M)		CxBH(M)	TU6 TU38 TE22 TE25 TA4 TT9	1			CW9 CW10 CW36		26
1956	COMPRESSED GAS, N.O.S.	2	1A		2.2 (+13)	274 292 567	LQ1 E1			P200		MP9	(M)		CxBN(M)	TA4 TT9	3			CW9 CW10 CW36	CE3	20
1957	DEUTERIUM, COMPRESSED	2	1F		2.1 (+13)		LQ0 E0			P200		MP9	(M)		CxBN(M)	TU38 TE22 TA4 TT9	2			CW9 CW10 CW36	CE3	23
1958	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE (REFRIGERANT GAS R 114)	2	2A		2.2 (+13)		LQ1 E1			P200		MP9	T50 (M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
1959	1,1-DIFLUOROETHYLENE (REFRIGERANT GAS R 1132a)	2	2F		2.1 (+13)		LQ0 E0			P200		MP9	(M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	239

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1961	ETHANE, REFRIGERATED LIQUID	2	3F		2.1 (+13)		LQ0 E0	P203		MP9	T75	TP5	RxBN	TU18 TU38 TE22 TA4 TT9 TM6	2	W5		CW9 CW11 CW30 CW36	CE2	223
1962	ETHYLENE	2	2F		2.1 (+13)		LQ0 E0	P200		MP9	(M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23
1963	HELIUM, REFRIGERATED LIQUID	2	3A		2.2 (+13)	593	LQ1 E1	P203		MP9	T75	TP5 TP34	RxBN	TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	22
1964	HYDROCARBON GAS MIXTURE, COMPRESSED, N.O.S.	2	1F		2.1 (+13)	274	LQ0 E0	P200		MP9	(M)		CxBN(M)	TU38 TE22 TA4 TT9	2			CW9 CW10 CW36	CE3	23
1965	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. such as mixtures A, A01, A02, A0, A1, B1, B2, B or C	2	2F		2.1 (+13)	274 583	LQ0 E0	P200		MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9	2			CW9 CW10 CW36	CE3	23
1966	HYDROGEN, REFRIGERATED LIQUID	2	3F		2.1 (+13)		LQ0 E0	P203		MP9	T75	TP5 TP23 TP34	RxBN	TU18 TU38 TE22 TA4 TT9 TM6	2	W5		CW9 CW11 CW30 CW36	CE2	223
1967	INSECTICIDE GAS, TOXIC, N.O.S.	2	2T		2.3 (+13)	274	LQ0 E0	P200		MP9	(M)		PxBH(M)	TU6 TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		26

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
1968	INSECTICIDE GAS, N.O.S.	2	2A		2.2 (+13)	274	LQ1 E1	P200		MP9		(M)			PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
1969	ISOBUTANE	2	2F		2.1 (+13)		LQ0 E0	P200		MP9		T50 (M)			PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23
1970	KRYPTON, REFRIGERATED LIQUID	2	3A		2.2 (+13)	593	LQ1 E1	P203		MP9		T75	TP5		RxBN	TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	22
1971	METHANE, COMPRESSED or NATURAL GAS, COMPRESSED with high methane content	2	1F		2.1 (+13)		LQ0 E0	P200		MP9		(M)			CxBN(M)	TU38 TE22 TA4 TT9	2			CW9 CW10 CW36	CE3	23
1972	METHANE, REFRIGERATED LIQUID or NATURAL GAS, REFRIGERATED LIQUID with high methane content	2	3F		2.1 (+13)		LQ0 E0	P203		MP9		T75	TP5		RxBN	TU18 TU38 TE22 TA4 TT9 TM6	2	W5		CW9 CW11 CW30 CW36	CE2	223
1973	CHLORODIFLUOROMETHANE AND CHLOROPENTAFLUOROETHANE MIXTURE with fixed boiling point, with approximately 49% chlorodifluoromethane (REFRIGERANT GAS R 502)	2	2A		2.2 (+13)		LQ1 E1	P200		MP9		T50 (M)			PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
1974	CHLORODIFLUOROBROMOMETHANE (REFRIGERANT GAS R 12B1)	2	2A		2.2 (+13)		LQ1 E1	P200		MP9		T50 (M)			PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
1975	NITRIC OXIDE AND DINITROGEN TETROXIDE MIXTURE (NITRIC OXIDE AND NITROGEN DIOXIDE MIXTURE)	2	2TOC		2.3+5.1+8		LQ0 E0	P200		MP9							1			CW9 CW10 CW36		265
1976	OCTAFLUOROCYCLOBUTANE (REFRIGERANT GAS RC 318)	2	2A		2.2 (+13)		LQ1 E1	P200		MP9		T50 (M)			PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1977	NITROGEN, REFRIGERATED LIQUID	2	3A		2.2 (+13)	593	LQ1	E1	P203			MP9	T75	TP5	RxBN	TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	22
1978	PROPANE	2	2F		2.1 (+13)		LQ0	E0	P200			MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23
1982	TETRAFLUOROMETHANE (REFRIGERANT GAS R 14)	2	2A		2.2 (+13)		LQ1	E1	P200			MP9	(M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
1983	1-CHLORO-2,2,2-TRIFLUOROETHANE (REFRIGERANT GAS R 133a)	2	2A		2.2 (+13)		LQ1	E1	P200			MP9	T50 (M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
1984	TRIFLUOROMETHANE (REFRIGERANT GAS R 23)	2	2A		2.2 (+13)		LQ1	E1	P200			MP9	(M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
1986	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.	3	FT1	I	3+6.1	274	LQ0	E0	P001			MP7 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336
1986	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.	3	FT1	II	3+6.1	274	LQ0	E2	P001 IBC02			MP19	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28	CE7	336
1986	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.	3	FT1	III	3+6.1	274	LQ7	E1	P001 IBC03 R001			MP19	T7	TP1 TP28	L4BH	TU15	3			CW13 CW28	CE4	36
1987	ALCOHOLS, N.O.S. (vapour pressure at 50 °C more than 110 kPa)	3	F1	II	3	274 601 640C	LQ4	E2	P001			MP19	T7	TP1 TP8 TP28	L1.5BN		2				CE7	33
1987	ALCOHOLS, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)	3	F1	II	3	274 601 640D	LQ4	E2	P001 IBC02 R001			MP19	T7	TP1 TP8 TP28	LGBF		2				CE7	33

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1987	ALCOHOLS, N.O.S.	3	F1	III	3	274 601	LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1 TP29	LGBF		3				CE4	30
1988	ALDEHYDES, FLAMMABLE, TOXIC, N.O.S.	3	FT1	I	3+6.1	274	LQ0	E0	P001			MP7 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336
1988	ALDEHYDES, FLAMMABLE, TOXIC, N.O.S.	3	FT1	II	3+6.1	274	LQ0	E2	P001 IBC02			MP19	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28	CE7	336
1988	ALDEHYDES, FLAMMABLE, TOXIC, N.O.S.	3	FT1	III	3+6.1	274	LQ7	E1	P001 IBC03 R001			MP19	T7	TP1 TP28	L4BH	TU15	3			CW13 CW28	CE4	36
1989	ALDEHYDES, N.O.S.	3	F1	I	3	274	LQ3	E3	P001			MP7 MP17	T11	TP1 TP27	L4BN		1					33
1989	ALDEHYDES, N.O.S. (vapour pressure at 50 °C more than 110 kPa)	3	F1	II	3	274 640C	LQ4	E2	P001			MP19	T7	TP1 TP8 TP28	L1.5BN		2				CE7	33
1989	ALDEHYDES, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)	3	F1	II	3	274 640D	LQ4	E2	P001 IBC02 R001			MP19	T7	TP1 TP8 TP28	LGBF		2				CE7	33
1989	ALDEHYDES, N.O.S.	3	F1	III	3	274	LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1 TP29	LGBF		3				CE4	30
1990	BENZALDEHYDE	9	M11	III	9		LQ28	E1	P001 IBC03 LP01 R001			MP15	T2	TP1	LGBV		3			CW31	CE8	90
1991	CHLOROPRENE, STABILIZED	3	FT1	I	3+6.1		LQ0	E0	P001			MP7 MP17	T14	TP2 TP6	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1992	FLAMMABLE LIQUID, TOXIC, N.O.S.	3	FT1	I	3+6.1	274	LQ0	E0	P001			MP7 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336
1992	FLAMMABLE LIQUID, TOXIC, N.O.S.	3	FT1	II	3+6.1	274	LQ0	E2	P001 IBC02			MP19	T7	TP2	L4BH	TU15	2			CW13 CW28	CE7	336
1992	FLAMMABLE LIQUID, TOXIC, N.O.S.	3	FT1	III	3+6.1	274	LQ7	E1	P001 IBC03 R001			MP19	T7	TP1 TP28	L4BH	TU15	3			CW13 CW28	CE4	36
1993	FLAMMABLE LIQUID, N.O.S.	3	F1	I	3	274	LQ3	E3	P001			MP7 MP17	T11	TP1 TP27	L4BN		1					33
1993	FLAMMABLE LIQUID, N.O.S. (vapour pressure at 50 °C more than 110 kPa)	3	F1	II	3	274 601 640C	LQ4	E2	P001			MP19	T7	TP1 TP8 TP28	L1.5BN		2				CE7	33
1993	FLAMMABLE LIQUID, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)	3	F1	II	3	274 601 640D	LQ4	E2	P001 IBC02 R001			MP19	T7	TP1 TP8 TP28	LGBF		2				CE7	33
1993	FLAMMABLE LIQUID, N.O.S.	3	F1	III	3	274 601 640E	LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1 TP29	LGBF		3				CE4	30
1993	FLAMMABLE LIQUID, N.O.S. (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)	3	F1	III	3	274 601 640F	LQ7	E1	P001 LP01 R001			MP19	T4	TP1 TP29	L4BN		3				CE4	33
1993	FLAMMABLE LIQUID, N.O.S. (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C)	3	F1	III	3	274 601 640G	LQ7	E1	P001 LP01 R001			MP19	T4	TP1 TP29	L1.5BN		3				CE4	33

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1993	FLAMMABLE LIQUID, N.O.S. (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)	3	F1	III	3	274 601 640H	LQ7	E1	P001 IBC02 LP01 R001		MP19	T4	TP1 TP29	LGBF		3				CE4	33
1994	IRON PENTACARBONYL	6.1	TF1	I	6.1+3		LQ0	E5	P601		MP2	T22	TP2	L15CH	TU14 TU15 TU31 TU38 TE21 TE22 TE25 TM3	1			CW13 CW28 CW31		663
1999	TARS, LIQUID, including road asphalt and oils, bitumen and cut backs (vapour pressure at 50 °C more than 110 kPa)	3	F1	II	3	640C	LQ6	E2	P001		MP19	T3	TP3 TP29	L1.5BN		2				CE7	33
1999	TARS, LIQUID, including road asphalt and oils, bitumen and cut backs (vapour pressure at 50 °C not more than 110 kPa)	3	F1	II	3	640D	LQ6	E2	P001 IBC02 R001		MP19	T3	TP3 TP29	LGBF		2				CE7	33
1999	TARS, LIQUID, including road asphalt and oils, bitumen and cut backs	3	F1	III	3	640E	LQ7	E1	P001 IBC03 LP01 R001		MP19	T1	TP3	LGBF		3				CE4	30
1999	TARS, LIQUID, including road asphalt and oils, bitumen and cut backs (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (boiling point not more than 35 °C)	3	F1	III	3	640F	LQ7	E1	P001 LP01 R001		MP19	T1	TP3	L4BN		3				CE4	33
1999	TARS, LIQUID, including road asphalt and oils, bitumen and cut backs (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C)	3	F1	III	3	640G	LQ7	E1	P001 LP01 R001		MP19	T1	TP3	L1.5BN		3				CE4	33

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
1999	TARS, LIQUID, including road asphalt and oils, bitumen and cut backs (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C not more than 110 kPa)	3	F1	III	3	640H	LQ7	E1	P001 IBC02 LP01 R001			MP19	T1	TP3	LGBF		3				CE4	33
2000	CELLULOID in block, rods, rolls, sheets, tubes, etc., except scrap	4.1	F1	III	4.1	502	LQ9	E1	P002 LP02 R001	PP7		MP11					3	W1			CE11	40
2001	COBALT NAPHTHENATES, POWDER	4.1	F3	III	4.1		LQ9	E1	P002 IBC08 LP02 R001	B3		MP11	T1	TP33	SGAV		3	W1	VW1		CE11	40
2002	CELLULOID, SCRAP	4.2	S2	III	4.2	526 592	LQ0	E1	P002 IBC08 LP02 R001	PP8 B3		MP14					3	W1			CE11	40
2004	MAGNESIUM DIAMIDE	4.2	S4	II	4.2		LQ0	E2	P410 IBC06			MP14	T3	TP33	SGAN		2	W1 W12			CE10	40
2006	PLASTICS, NITROCELLULOSE-BASED, SELF-HEATING, N.O.S.	4.2	S2	III	4.2	274 528	LQ0	E1	P002 R001			MP14					3	W1			CE11	40
2008	ZIRCONIUM POWDER, DRY	4.2	S4	I	4.2	524 540	LQ0	E0	P404			MP13	T21	TP7 TP33			0	W1				43
2008	ZIRCONIUM POWDER, DRY	4.2	S4	II	4.2	524 540	LQ0	E2	P410 IBC06			MP14	T3	TP33	SGAN		2	W1 W12			CE10	40
2008	ZIRCONIUM POWDER, DRY	4.2	S4	III	4.2	524 540	LQ0	E1	P002 IBC08 LP02 R001	B3		MP14	T1	TP33	SGAN		3	W1	VW4		CE11	40
2009	ZIRCONIUM, DRY, finished sheets, strip or coiled wire	4.2	S4	III	4.2	524 592	LQ0	E1	P002 LP02 R001			MP14					3	W1	VW4		CE11	40
2010	MAGNESIUM HYDRIDE	4.3	W2	I	4.3		LQ0	E0	P403			MP2					1	W1		CW23		X423
2011	MAGNESIUM PHOSPHIDE	4.3	WT2	I	4.3+6.1		LQ0	E0	P403			MP2					1	W1		CW23 CW28		X462
2012	POTASSIUM PHOSPHIDE	4.3	WT2	I	4.3+6.1		LQ0	E0	P403			MP2					1	W1		CW23 CW28		X462

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2013	STRONTIUM PHOSPHIDE	4.3	WT2	I	4.3+6.1		LQ0	E0		P403		MP2					1	W1		CW23 CW28		X462
2014	HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 20% but not more than 60% hydrogen peroxide (stabilized as necessary)	5.1	OC1	II	5.1+8		LQ10	E2		P504 IBC02	PP10 B5	MP15	T7	TP2 TP6 TP24	L4BV(+)	TU3 TC2 TE8 TE11 TT1	2			CW24	CE6	58
2015	HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED with more than 70% hydrogen peroxide	5.1	OC1	I	5.1+8	640N	LQ0	E0		P501		MP2	T9	TP2 TP6 TP24	L4DV(+)	TU3 TU28 TC2 TE8 TE9 TE16 TT1	1	W5		CW24		559
2015	HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED with more than 60% hydrogen peroxide and not more than 70% hydrogen peroxide	5.1	OC1	I	5.1+8	640O	LQ0	E0		P501		MP2	T9	TP2 TP6 TP24	L4BV(+)	TU3 TU28 TC7 TE8 TE9 TE16 TT1	1	W5		CW24		559
2016	AMMUNITION, TOXIC, NON-EXPLOSIVE without burster or expelling charge, non-fuzed	6.1	T2	II	6.1		LQ0	E0		P600		MP10					2			CW13 CW28 CW31	CE9	60
2017	AMMUNITION, TEAR-PRODUCING, NON-EXPLOSIVE without burster or expelling charge, non-fuzed	6.1	TC2	II	6.1+8		LQ0	E0		P600							2			CW13 CW28 CW31		68
2018	CHLOROANILINES, SOLID	6.1	T2	II	6.1		LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
2019	CHLOROANILINES, LIQUID	6.1	T1	II	6.1		LQ17	E4		P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60

UN No.	Name and description	Class	Classifi- cation code	Packing group	Labels	Special provi- sions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identi- fication No.
									Packing instructions	Special packing provisions	Mixed packing provi- sions	Instruc- tions	Special provi- sions	Tank code	Special provi- sions		Packages	Bulk	Loading, unloading and handling		
									4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4		1.1.3.1 (c)	7.2.4	7.3.3		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2020	CHLOROPHENOLS, SOLID	6.1	T2	III	6.1	205	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2021	CHLOROPHENOLS, LIQUID	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2022	CRESYLIC ACID	6.1	TC1	II	6.1+8		LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	68
2023	EPICHLOROHYDRIN	6.1	TF1	II	6.1+3	279	LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	63
2024	MERCURY COMPOUND, LIQUID, N.O.S.	6.1	T4	I	6.1	43 274	LQ0	E5	P001		MP8 MP17			L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
2024	MERCURY COMPOUND, LIQUID, N.O.S.	6.1	T4	II	6.1	43 274	LQ17	E4	P001 IBC02		MP15			L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2024	MERCURY COMPOUND, LIQUID, N.O.S.	6.1	T4	III	6.1	43 274	LQ7	E1	P001 IBC03 LP01 R001		MP19			L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2025	MERCURY COMPOUND, SOLID, N.O.S.	6.1	T5	I	6.1	43 274 529 585	LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66
2025	MERCURY COMPOUND, SOLID, N.O.S.	6.1	T5	II	6.1	43 274 529 585	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2025	MERCURY COMPOUND, SOLID, N.O.S.	6.1	T5	III	6.1	43 274 529 585	LQ9	E1		P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2026	PHENYLMERCURIC COMPOUND, N.O.S.	6.1	T3	I	6.1	43 274	LQ0	E5		P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66
2026	PHENYLMERCURIC COMPOUND, N.O.S.	6.1	T3	II	6.1	43 274	LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
2026	PHENYLMERCURIC COMPOUND, N.O.S.	6.1	T3	III	6.1	43 274	LQ9	E1		P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2027	SODIUM ARSENITE, SOLID	6.1	T5	II	6.1	43	LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
2028	BOMBS, SMOKE, NON-EXPLOSIVE with corrosive liquid, without initiating device	8	C11	II	8		LQ0	E0		P803							2					80
2029	HYDRAZINE, ANHYDROUS	8	CFT	I	8+3+6.1		LQ0	E0		P001		MP8 MP17					1			CW13 CW28		886
2030	HYDRAZINE AQUEOUS SOLUTION, with more than 37% hydrazine by mass, having a flash-point above 60 °C	8	CT1	I	8+6.1	530	LQ0	E0		P001		MP8 MP17	T10	TP2	L10BH	TU38 TE22	1			CW13 CW28		886
2030	HYDRAZINE AQUEOUS SOLUTION, with more than 37% hydrazine by mass	8	CFT	I	8+3+6.1	530	LQ0	E0		P001		MP8 MP17	T10	TP2	L10BH	TU38 TE22	1			CW13 CW28		886
2030	HYDRAZINE AQUEOUS SOLUTION, with more than 37% hydrazine by mass	8	CT1	II	8+6.1	530	LQ22	E2		P001 IBC02		MP15	T7	TP2	L4BN		2			CW13 CW28	CE6	86
2030	HYDRAZINE AQUEOUS SOLUTION, with more than 37% hydrazine by mass	8	CT1	III	8+6.1	530	LQ7	E1		P001 IBC03 LP01 R001		MP19	T4	TP1	L4BN		3			CW13 CW28	CE6	86

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2031	NITRIC ACID, other than red fuming, with more than 70% nitric acid	8	CO1	I	8+5.1		LQ0 E0	P001	PP81	MP8 MP17	T10	TP2	L10BH	TU38 TC6 TE22 TT1	1			CW24		885
2031	NITRIC ACID, other than red fuming, with at least 65%, but not more than 70% nitric acid	8	CO1	II	8+5.1		LQ22 E2	P001 IBC02	PP81 B15	MP15	T8	TP2	L4BN		2				CE6	85
2031	NITRIC ACID, other than red fuming, with less than 65% nitric acid	8	C1	II	8		LQ22 E2	P001 IBC02	PP81 B15	MP15	T8	TP2	L4BN		2				CE6	80
2032	NITRIC ACID, RED FUMING	8	COT	I	8+5.1+6.1		LQ0 E0	P602		MP8 MP17	T20	TP2	L10BH	TU38 TC6 TE22 TT1	1			CW13 CW24 CW28		856
2033	POTASSIUM MONOXIDE	8	C6	II	8		LQ23 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN		2	W11			CE10	80
2034	HYDROGEN AND METHANE MIXTURE, COMPRESSED	2	1F		2.1 (+13)		LQ0 E0	P200		MP9	(M)		CxBN(M)	TU38 TE22 TA4 TT9	2			CW9 CW10 CW36	CE3	23
2035	1,1,1-TRIFLUOROETHANE (REFRIGERANT GAS R 143a)	2	2F		2.1 (+13)		LQ0 E0	P200		MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23
2036	XENON	2	2A		2.2 (+13)		LQ1 E1	P200		MP9	(M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
2037	RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable	2	5A		2.2	191 303	LQ2 E0	P003	PP17 RR6	MP9					3			CW9 CW12	CE2	20
2037	RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable	2	5F		2.1	191 303	LQ2 E0	P003	PP17 RR6	MP9					2			CW9 CW12	CE2	23
2037	RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable	2	5O		2.2+5.1	191 303	LQ2 E0	P003	PP17 RR6	MP9					3			CW9 CW12	CE2	25

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2037	RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable	2	5T		2.3	303	LQ1	E0	P003	PP17 RR6	MP9					1			CW9 CW12		26
2037	RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable	2	5TC		2.3+8	303	LQ1	E0	P003	PP17 RR6	MP9					1			CW9 CW12		268
2037	RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable	2	5TF		2.3+2.1	303	LQ1	E0	P003	PP17 RR6	MP9					1			CW9 CW12		263
2037	RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable	2	5TFC		2.3+2.1+8	303	LQ1	E0	P003	PP17 RR6	MP9					1			CW9 CW12		263
2037	RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable	2	5TO		2.3+5.1	303	LQ1	E0	P003	PP17 RR6	MP9					1			CW9 CW12		265
2037	RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable	2	5TOC		2.3+5.1+8	303	LQ1	E0	P003	PP17 RR6	MP9					1			CW9 CW12		265
2038	DINITROTOLUENES, LIQUID	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2044	2,2-DIMETHYLPROPANE	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	(M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23
2045	ISOBUTYRALDEHYDE (ISOBUTYL ALDEHYDE)	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
2046	CYMENES	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2047	DICHLOROPROPENES	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2047	DICHLOROPROPENES	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2048	DICYCLOPENTADIENE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2049	DIETHYLBENZENE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2050	DIISOBUTYLENE, ISOMERIC COMPOUNDS	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
2051	2-DIMETHYLAMINOETHANOL	8	CF1	II	8+3		LQ22	E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	83
2052	DIPENTENE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2053	METHYL ISOBUTYL CARBINOL	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2054	MORPHOLINE	8	CF1	I	8+3		LQ0	E0	P001		MP8 MP17	T10	TP2	L10BH	TU38 TE22	1					883
2055	STYRENE MONOMER, STABILIZED	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	39
2056	TETRAHYDROFURAN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2057	TRIPROPYLENE	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2057	TRIPROPYLENE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2058	VALERALDEHYDE	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2059	NITROCELLULOSE SOLUTION, FLAMMABLE with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose	3	D	I	3	198 531	LQ3	E0	P001			MP7 MP17	T11	TP1 TP8 TP27	L4BN		1					33
2059	NITROCELLULOSE SOLUTION, FLAMMABLE with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose (vapour pressure at 50 °C more than 110 kPa)	3	D	II	3	198 531 640C	LQ4	E0	P001 IBC02			MP19	T4	TP1 TP8	L1.5BN		2				CE7	33
2059	NITROCELLULOSE SOLUTION, FLAMMABLE with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose (vapour pressure at 50 °C not more than 110 kPa)	3	D	II	3	198 531 640D	LQ4	E0	P001 IBC02 R001			MP19	T4	TP1 TP8	LGBF		2				CE7	33
2059	NITROCELLULOSE SOLUTION, FLAMMABLE with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose	3	D	III	3	198 531	LQ7	E0	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2067	AMMONIUM NITRATE BASED FERTILIZER	5.1	O2	III	5.1	186 306 307	LQ12	E1	P002 IBC08 LP02 R001	B3		MP10	T1 BK1 BK2	TP33	SGAV	TU3	3		VW8	CW24	CE11	50

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2071	Ammonium nitrate based fertilizer, uniform mixtures of the nitrogen/phosphate, nitrogen/potash or nitrogen/phosphate/potash type, containing not more than 70% ammonium nitrate and not more than 0.4% total combustible/organic material calculated as carbon or with not more than 45% ammonium nitrate and unrestricted combustible material	9	M11	NOT SUBJECT TO RID																	
2073	AMMONIA SOLUTION, relative density less than 0.880 at 15 °C in water, with more than 35% but not more than 50% ammonia	2	4A		2.2 (+13)	532	LQ1	E1	P200		MP9	(M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10	CE2	20
2074	ACRYLAMIDE, SOLID	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2075	CHLORAL, ANHYDROUS, STABILIZED	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	69
2076	CRESOLS, LIQUID	6.1	TC1	II	6.1+8		LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	68
2077	alpha-NAPHTHYLAMINE	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2078	TOLUENE DIISOCYANATE	6.1	T1	II	6.1	279	LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2079	DIETHYLENETRIAMINE	8	C7	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	80
2186	HYDROGEN CHLORIDE, REFRIGERATED LIQUID	2	3TC	CARRIAGE PROHIBITED																	

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2187	CARBON DIOXIDE, REFRIGERATED LIQUID	2	3A		2.2 (+13)	593	LQ1	E1		P203		MP9	T75	TP5	RxBN	TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	22
2188	ARSINE	2	2TF		2.3+2.1		LQ0	E0		P200		MP9					1			CW9 CW10 CW36		263
2189	DICHLOROSILANE	2	2TFC		2.3+2.1+8 (+13)		LQ0	E0		P200		MP9	(M)		PxBH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		263
2190	OXYGEN DIFLUORIDE, COMPRESSED	2	1TOC		2.3+5.1+8		LQ0	E0		P200		MP9					1			CW9 CW10 CW36		265
2191	SULPHURYL FLUORIDE	2	2T		2.3 (+13)		LQ0	E0		P200		MP9	(M)		PxBH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		26
2192	GERMANE	2	2TF		2.3+2.1	632	LQ0	E0		P200		MP9	(M)				1			CW9 CW10 CW36		263
2193	HEXAFLUOROETHANE (REFRIGERANT GAS R 116)	2	2A		2.2 (+13)		LQ1	E1		P200		MP9	(M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
2194	SELENIUM HEXAFLUORIDE	2	2TC		2.3+8		LQ0	E0		P200		MP9					1			CW9 CW10 CW36		268
2195	TELLURIUM HEXAFLUORIDE	2	2TC		2.3+8		LQ0	E0		P200		MP9					1			CW9 CW10 CW36		268

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2196	TUNGSTEN HEXAFLUORIDE	2	2TC		2.3+8		LQ0	E0		P200		MP9					1			CW9 CW10 CW36		268
2197	HYDROGEN IODIDE, ANHYDROUS	2	2TC		2.3+8 (+13)		LQ0	E0		P200		MP9	(M)		PxBH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		268
2198	PHOSPHORUS PENTAFLUORIDE	2	2TC		2.3+8		LQ0	E0		P200		MP9					1			CW9 CW10 CW36		268
2199	PHOSPHINE	2	2TF		2.3+2.1	632	LQ0	E0		P200		MP9					1			CW9 CW10 CW36		263
2200	PROPADIENE, STABILIZED	2	2F		2.1 (+13)		LQ0	E0		P200		MP9	(M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	239
2201	NITROUS OXIDE, REFRIGERATED LIQUID	2	3O		2.2+5.1 (+13)		LQ0	E0		P203		MP9	T75	TP5 TP22	RxBN	TU7 TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	225
2202	HYDROGEN SELENIDE, ANHYDROUS	2	2TF		2.3+2.1		LQ0	E0		P200		MP9					1			CW9 CW10 CW36		263
2203	SILANE	2	2F		2.1 (+13)	632	LQ0	E0		P200		MP9	(M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36		23

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
																		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions						
										4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2204	CARBONYL SULPHIDE	2	2TF		2.3+2.1 (+13)		LQ0	E0		P200		MP9	(M)		PxBH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		263
2205	ADIPONITRILE	6.1	T1	III	6.1		LQ7	E1		P001 IBC03 LP01 R001		MP19	T3	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2206	ISOCYANATES, TOXIC, N.O.S. or ISOCYANATE SOLUTION, TOXIC, N.O.S.	6.1	T1	II	6.1	274 551	LQ17	E4		P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2206	ISOCYANATES, TOXIC, N.O.S. or ISOCYANATE SOLUTION, TOXIC, N.O.S.	6.1	T1	III	6.1	274 551	LQ7	E1		P001 IBC03 LP01 R001		MP19	T7	TP1 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2208	CALCIUM HYPOCHLORITE MIXTURE, DRY with more than 10% but not more than 39% available chlorine	5.1	O2	III	5.1	313 314	LQ12	E1		P002 IBC08 LP02 R001	B3 B13	MP10			SGAN	TU3	3			CW24 CW35	CE11	50
2209	FORMALDEHYDE SOLUTION with not less than 25% formaldehyde	8	C9	III	8	533	LQ7	E1		P001 IBC03 LP01 R001		MP19	T4	TP1	L4BN		3				CE8	80
2210	MANEB or MANEB PREPARATION with not less than 60% maneb	4.2	SW	III	4.2+4.3	273	LQ0	E1		P002 IBC06 R001		MP14	T1	TP33	SGAN		3	W1 W12	VW4		CE11	40
2211	POLYMERIC BEADS, EXPANDABLE, evolving flammable vapour	9	M3	III	None	207 633	LQ27	E1		P002 IBC08 R001	PP14 B3 B6	MP10	T1	TP33	SGAN	TE20	3		VW3	CW31	CE11	90
2212	BLUE ASBESTOS (crocidolite) or BROWN ASBESTOS (amosite, mysorite)	9	M1	II	9	168	LQ25	E2		P002 IBC08	PP37 B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	90

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2213	PARAFORMALDEHYDE	4.1	F1	III	4.1		LQ9 E1	P002 IBC08 LP02 R001	PP12 B3	MP10	T1 BK1 BK2	TP33	SGAV		3	W1 W13	VW1			CE11	40
2214	PHTHALIC ANHYDRIDE with more than 0.05% of maleic anhydride	8	C4	III	8	169	LQ24 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV L4BN		3		VW9			CE11	80
2215	MALEIC ANHYDRIDE, MOLTEN	8	C3	III	8		LQ0 E0				T4	TP3	L4BN		0					CE8	80
2215	MALEIC ANHYDRIDE	8	C4	III	8		LQ24 E1	P002 IBC08 R001	B3	MP10	T1	TP33	SGAV		3		VW9			CE11	80
2216	Fish meal (Fish scrap), stabilized	9	M11					NOT SUBJECT TO RID													
2217	SEED CAKE with not more than 1.5% oil and not more than 11% moisture	4.2	S2	III	4.2	142	LQ0 E1	P002 IBC08 LP02 R001	PP20 B3 B6	MP14					3	W1	VW4			CE11	40
2218	ACRYLIC ACID, STABILIZED	8	CF1	II	8+3		LQ22 E2	P001 IBC02		MP15	T7	TP2	L4BN		2					CE6	839
2219	ALLYL GLYCIDYL ETHER	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3					CE4	30
2222	ANISOLE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3					CE4	30
2224	BENZONITRILE	6.1	T1	II	6.1		LQ17 E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31		CE5	60
2225	BENZENESULPHONYL CHLORIDE	8	C3	III	8		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BN		3					CE8	80
2226	BENZOTRICHLORIDE	8	C9	II	8		LQ22 E2	P001 IBC02		MP15	T7	TP2	L4BN		2					CE6	80

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2227	n-BUTYL METHACRYLATE, STABILIZED	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	39
2232	2-CHLOROETHANAL	6.1	T1	I	6.1		LQ0 E5	P001			MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
2233	CHLOROANISIDINES	6.1	T2	III	6.1		LQ9 E1	P002 IBC08 LP02 R001	B3		MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2234	CHLOROBENZOTRIFLUORIDES	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2235	CHLOROBENZYL CHLORIDES, LIQUID	6.1	T1	III	6.1		LQ7 E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2236	3-CHLORO-4-METHYLPHENYL ISOCYANATE, LIQUID	6.1	T1	II	6.1		LQ17 E4	P001 IBC02			MP15			L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2237	CHLORONITROANILINES	6.1	T2	III	6.1		LQ9 E1	P002 IBC08 LP02 R001	B3		MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2238	CHLOROTOLUENES	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2239	CHLOROTOLUIDINES, SOLID	6.1	T2	III	6.1		LQ9 E1	P002 IBC08 LP02 R001	B3		MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2240	CHROMOSULPHURIC ACID	8	C1	I	8		LQ0 E0	P001		MP8 MP17	T10	TP2	L10BH	TU38 TE22	1					88
2241	CYCLOHEPTANE	3	F1	II	3		LQ4 E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
2242	CYCLOHEPTENE	3	F1	II	3		LQ4 E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
2243	CYCLOHEXYL ACETATE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2244	CYCLOPENTANOL	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2245	CYCLOPENTANONE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2246	CYCLOPENTENE	3	F1	II	3		LQ4 E2	P001 IBC02	B8	MP19	T7	TP2	L1.5BN		2				CE7	33
2247	n-DECANE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2248	DI-n-BUTYLAMINE	8	CF1	II	8+3		LQ22 E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	83
2249	DICHLORODIMETHYL ETHER,	6.1	TF1					CARRIAGE PROHIBITED												
2250	DICHLOROPHENYL ISOCYANATES	6.1	T2	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
2251	BICYCLO[2.2.1]HEPTA-2,5-DIENE, STABILIZED (2,5-NORBORNADIENE, STABILIZED)	3	F1	II	3		LQ4 E2	P001 IBC02 R001		MP19	T7	TP2	LGBF		2				CE7	339

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2252	1,2-DIMETHOXYETHANE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2253	N,N-DIMETHYLANILINE	6.1	T1	II	6.1		LQ17 E4	P001 IBC02			MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2254	MATCHES, FUSEE	4.1	F1	III	4.1	293	LQ9 E1	P407 R001			MP11					4	W1			CE11	40
2256	CYCLOHEXENE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2257	POTASSIUM	4.3	W2	I	4.3		LQ0 E0	P403 IBC04			MP2	T9	TP7 TP33	L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X423
2258	1,2-PROPYLENEDIAMINE	8	CF1	II	8+3		LQ22 E2	P001 IBC02			MP15	T7	TP2	L4BN		2				CE6	83
2259	TRIETHYLENETETRAMINE	8	C7	II	8		LQ22 E2	P001 IBC02			MP15	T7	TP2	L4BN		2				CE6	80
2260	TRIPROPYLAMINE	3	FC	III	3+8		LQ7 E1	P001 IBC03 R001			MP19	T4	TP1	L4BN		3				CE4	38
2261	XYLENOLS, SOLID	6.1	T2	II	6.1		LQ18 E4	P002 IBC08	B4		MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
2262	DIMETHYLCARBAMOYL CHLORIDE	8	C3	II	8		LQ22 E2	P001 IBC02			MP15	T7	TP2	L4BN		2				CE6	80
2263	DIMETHYLCYCLOHEXANES	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2264	N,N-DIMETHYLCYCLOHEXYLAMINE	8	CF1	II	8+3		LQ22 E2	P001 IBC02			MP15	T7	TP2	L4BN		2				CE6	83
2265	N,N-DIMETHYLFORMAMIDE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP2	LGBF		3				CE4	30

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2266	DIMETHYL-N-PROPYLAMINE	3	FC	II	3+8		LQ4	E2	P001 IBC02			MP19	T7	TP2	L4BH		2				CE7	338
2267	DIMETHYL THIOPHOSPHORYL CHLORIDE	6.1	TC1	II	6.1+8		LQ17	E4	P001 IBC02			MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	68
2269	3,3'-IMINODIPROPYLAMINE	8	C7	III	8		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP2	L4BN		3				CE8	80
2270	ETHYLAMINE, AQUEOUS SOLUTION with not less than 50% but not more than 70% ethylamine	3	FC	II	3+8		LQ4	E2	P001 IBC02			MP19	T7	TP1	L4BH		2				CE7	338
2271	ETHYL AMYL KETONE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2272	N-ETHYLANILINE	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2273	2-ETHYLANILINE	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2274	N-ETHYL-N-BENZYLANILINE	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2275	2-ETHYLBUTANOL	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2276	2-ETHYLHEXYLAMINE	3	FC	III	3+8		LQ7	E1	P001 IBC03 R001			MP19	T4	TP1	L4BN		3				CE4	38

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2277	ETHYL METHACRYLATE, STABILIZED	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	339
2278	n-HEPTENE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2279	HEXACHLOROBUTADIENE	6.1	T1	III	6.1		LQ7 E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2280	HEXAMETHYLENEDIAMINE, SOLID	8	C8	III	8		LQ24 E1	P002 IBC08 LP02 R001	B3		MP10	T1	TP33	SGAV L4BN		3		VW9		CE11	80
2281	HEXAMETHYLENE DIISOCYANATE	6.1	T1	II	6.1		LQ17 E4	P001 IBC02			MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2282	HEXANOLS	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2283	ISOBUTYL METHACRYLATE, STABILIZED	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	39
2284	ISOBUTYRONITRILE	3	FT1	II	3+6.1		LQ0 E2	P001 IBC02			MP19	T7	TP2	L4BH	TU15	2			CW13 CW28	CE7	336
2285	ISOCYANATOBENZOTRIFLUORIDES	6.1	TF1	II	6.1+3		LQ17 E4	P001 IBC02			MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	63
2286	PENTAMETHYLHEPTANE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2287	ISOHEPTENE	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
2288	ISOHEXENE	3	F1	II	3		LQ4	E2	P001 IBC02 R001	B8	MP19	T11	TP1	LGBF		2				CE7	33
2289	ISOPHORONEDIAMINE	8	C7	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BN		3				CE8	80
2290	ISOPHORONE DIISOCYANATE	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2291	LEAD COMPOUND, SOLUBLE, N.O.S.	6.1	T5	III	6.1	199 274 535	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2293	4-METHOXY-4-METHYLPENTAN-2-ONE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2294	N-METHYLANILINE	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2295	METHYL CHLOROACETATE	6.1	TF1	I	6.1+3		LQ0	E5	P001		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
2296	METHYLCYCLOHEXANE	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
2297	METHYLCYCLOHEXANONE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2298	METHYLCYCLOPENTANE	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2299	METHYL DICHLOROACETATE	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2300	2-METHYL-5-ETHYLPYRIDINE	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2301	2-METHYLFURAN	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2302	5-METHYLHEXAN-2-ONE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2303	ISOPROPENYLBENZENE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2304	NAPHTHALENE, MOLTEN	4.1	F2	III	4.1	536	LQ0	E0					T1	TP3	LGBV	TU27 TE4 TE6	3					44
2305	NITROBENZENESULPHONIC ACID	8	C4	II	8		LQ23	E2	P002 IBC08	B4		MP10	T3	TP33	SGAN L4BN		2	W11			CE10	80
2306	NITROBENZOTRIFLUORIDES, LIQUID	6.1	T1	II	6.1		LQ17	E4	P001 IBC02			MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2307	3-NITRO-4-CHLORO-BENZOTRIFLUORIDE	6.1	T1	II	6.1		LQ17 E4	P001 IBC02		MP10	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE9	60
2308	NITROSULPHURIC ACID, LIQUID	8	C1	II	8		LQ22 E2	P001 IBC02		MP15	T8	TP2	L4BN		2				CE6	X80
2309	OCTADIENES	3	F1	II	3		LQ4 E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
2310	PENTANE-2,4-DIONE	3	FT1	III	3+6.1		LQ7 E1	P001 IBC03 R001		MP19	T4	TP1	L4BH	TU15	3			CW13 CW28	CE4	36
2311	PHENETIDINES	6.1	T1	III	6.1	279	LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2312	PHENOL, MOLTEN	6.1	T1	II	6.1		LQ0 E0				T7	TP3	L4BH	TU15	0			CW13 CW31		60
2313	PICOLINES	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	LGBF		3				CE4	30
2315	POLYCHLORINATED BIPHENYLS, LIQUID	9	M2	II	9	305	LQ26 E2	P906 IBC02		MP15	T4	TP1	L4BH	TU15	0		VW15	CW13 CW28 CW31	CE5	90
2316	SODIUM CUPROCYANIDE, SOLID	6.1	T5	I	6.1		LQ0 E5	P002 IBC07		MP18	T6	TP33	S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66
2317	SODIUM CUPROCYANIDE SOLUTION	6.1	T4	I	6.1		LQ0 E5	P001		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
2318	SODIUM HYDROSULPHIDE with less than 25% water of crystallization	4.2	S4	II	4.2	504	LQ0 E2	P410 IBC06		MP14	T3	TP33	SGAN		2	W1 W12			CE10	40

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
2319	TERPENE HYDROCARBONS, N.O.S.	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1 TP29	LGBF		3				CE4	30
2320	TETRAETHYLENEPENTAMINE	8	C7	III	8		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BN		3				CE8	80
2321	TRICHLOROBENZENES, LIQUID	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2322	TRICHLOROBUTENE	6.1	T1	II	6.1		LQ17	E4	P001 IBC02			MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2323	TRIETHYL PHOSPHITE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2324	TRIIISOBUTYLENE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	LGBF		3				CE4	30
2325	1,3,5-TRIMETHYLBENZENE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2326	TRIMETHYLCYCLO-HEXYLAMINE	8	C7	III	8		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BN		3				CE8	80
2327	TRIMETHYLHEXAMETHYLENE-DIAMINES	8	C7	III	8		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BN		3				CE8	80



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2328	TRIMETHYLHEXAMETHYLENE DIISOCYANATE	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2329	TRIMETHYL PHOSPHITE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2330	UNDECANE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2331	ZINC CHLORIDE, ANHYDROUS	8	C2	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3		MP10	T1	TP33	SGAV		3		VW9		CE11	80
2332	ACETALDEHYDE OXIME	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	LGBF		3				CE4	30
2333	ALLYL ACETATE	3	FT1	II	3+6.1		LQ0	E2	P001 IBC02			MP19	T7	TP1	L4BH	TU15	2			CW13 CW28	CE7	336
2334	ALLYLAMINE	6.1	TF1	I	6.1+3		LQ0	E5	P602			MP8 MP17	T20	TP2 TP35	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
2335	ALLYL ETHYL ETHER	3	FT1	II	3+6.1		LQ0	E2	P001 IBC02			MP19	T7	TP1	L4BH	TU15	2			CW13 CW28	CE7	336
2336	ALLYL FORMATE	3	FT1	I	3+6.1		LQ0	E0	P001			MP7 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2337	PHENYL MERCAPTAN	6.1	TF1	I	6.1+3		LQ0 E5	P001			MP8 MP17	T20	TP2 TP35	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
2338	BENZOTRIFLUORIDE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2339	2-BROMOBUTANE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2340	2-BROMOETHYL ETHYL ETHER	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2341	1-BROMO-3-METHYLBUTANE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2342	BROMOMETHYLPROPANES	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2343	2-BROMOPENTANE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2344	BROMOPROPANES	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2344	BROMOPROPANES	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2345	3-BROMOPROPYNE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2346	BUTANEDIONE	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
2347	BUTYL MERCAPTAN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
2348	BUTYL ACRYLATES, STABILIZED	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	39
2350	BUTYL METHYL ETHER	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
2351	BUTYL NITRITES	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
2351	BUTYL NITRITES	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2352	BUTYL VINYL ETHER, STABILIZED	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	339
2353	BUTYRYL CHLORIDE	3	FC	II	3+8		LQ4	E2	P001 IBC02		MP19	T8	TP2	L4BH		2				CE7	338
2354	CHLOROMETHYL ETHYL ETHER	3	FT1	II	3+6.1		LQ0	E2	P001 IBC02		MP19	T7	TP1	L4BH	TU15	2			CW13 CW28	CE7	336
2356	2-CHLOROPROPANE	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP2	L4BN		1					33
2357	CYCLOHEXYLAMINE	8	CF1	II	8+3		LQ22	E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	83
2358	CYCLOOCTATETRAENE	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
2359	DIALLYLAMINE	3	FTC	II	3+6.1+8		LQ0	E2	P001 IBC02		MP19	T7	TP1	L4BH	TU15	2			CW13 CW28	CE7	338

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2360	DIALLYL ETHER	3	FT1	II	3+6.1		LQ0 E2	P001 IBC02			MP19	T7	TP1	L4BH	TU15	2			CW13 CW28	CE7	336
2361	DIISOBUTYLAMINE	3	FC	III	3+8		LQ7 E1	P001 IBC03 R001			MP19	T4	TP1	L4BN		3				CE4	38
2362	1,1-DICHLOROETHANE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2363	ETHYL MERCAPTAN	3	F1	I	3		LQ3 E3	P001			MP7 MP17	T11	TP2	L4BN		1					33
2364	n-PROPYLBENZENE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2366	DIETHYL CARBONATE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2367	alpha-METHYLVALERALDEHYDE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2368	alpha-PINENE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2370	1-HEXENE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2371	ISOPENTENES	3	F1	I	3		LQ3 E3	P001			MP7 MP17	T11	TP2	L4BN		1					33
2372	1,2-DI-(DIMETHYLAMINO) ETHANE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2373	DIETHOXYMETHANE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2374	3,3-DIETHOXYPROPENE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2375	DIETHYL SULPHIDE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T7	TP1	LGBF		2				CE7	33
2376	2,3-DIHYDROPYRAN	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2377	1,1-DIMETHOXYETHANE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T7	TP1	LGBF		2				CE7	33
2378	2-DIMETHYLAMINOACETONITRILE	3	FT1	II	3+6.1		LQ0 E2	P001 IBC02			MP19	T7	TP1	L4BH	TU15	2			CW13 CW28	CE7	336
2379	1,3-DIMETHYLBUTYLAMINE	3	FC	II	3+8		LQ4 E2	P001 IBC02			MP19	T7	TP1	L4BH		2				CE7	338
2380	DIMETHYLDIETHOXSILANE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2381	DIMETHYL DISULPHIDE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2382	DIMETHYLHYDRAZINE, SYMMETRICAL	6.1	TF1	I	6.1+3		LQ0 E5	P001			MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
2383	DIPROPYLAMINE	3	FC	II	3+8		LQ4 E2	P001 IBC02			MP19	T7	TP1	L4BH		2				CE7	338
2384	DI-n-PROPYL ETHER	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2385	ETHYL ISOBUTYRATE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2386	1-ETHYLPIPERIDINE	3	FC	II	3+8		LQ4	E2	P001 IBC02		MP19	T7	TP1	L4BH		2				CE7	338
2387	FLUOROBENZENE	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
2388	FLUOROTOLUENES	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
2389	FURAN	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T12	TP2	L4BN		1					33
2390	2-IODOBUTANE	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
2391	IODOMETHYLPROPANES	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
2392	IODOPROPANES	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2393	ISOBUTYL FORMATE	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
2394	ISOBUTYL PROPIONATE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2395	ISOBUTYRYL CHLORIDE	3	FC	II	3+8		LQ4	E2	P001 IBC02		MP19	T7	TP2	L4BH		2				CE7	338
2396	METHACRYLALDEHYDE, STABILIZED	3	FT1	II	3+6.1		LQ0	E2	P001 IBC02		MP19	T7	TP1	L4BH	TU15	2			CW13 CW28	CE7	336
2397	3-METHYLBUTAN-2-ONE	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2398	METHYL tert-BUTYL ETHER	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T7	TP1	LGBF		2				CE7	33
2399	1-METHYLPYRROLIDINE	3	FC	II	3+8		LQ4 E2	P001 IBC02			MP19	T7	TP1	L4BH		2				CE7	338
2400	METHYL ISOVALERATE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2401	PIPERIDINE	8	CF1	I	8+3		LQ0 E0	P001			MP8 MP17	T10	TP2	L10BH	TU38 TE22	1					883
2402	PROPANETHIOLS	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2403	ISOPROPENYL ACETATE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2404	PROPIONITRILE	3	FT1	II	3+6.1		LQ0 E2	P001 IBC02			MP19	T7	TP1	L4BH	TU15	2			CW13 CW28	CE7	336
2405	ISOPROPYL BUTYRATE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2406	ISOPROPYL ISOBUTYRATE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2407	ISOPROPYL CHLOROFORMATE	6.1	TFC	I	6.1+3+8		LQ0 E5	P602			MP8 MP17					1			CW13 CW28 CW31		663
2409	ISOPROPYL PROPIONATE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2410	1,2,3,6-TETRAHYDROPYRIDINE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2411	BUTYRONITRILE	3	FT1	II	3+6.1		LQ0 E2	P001 IBC02			MP19	T7	TP1	L4BH	TU15	2			CW13 CW28	CE7	336

[illegible]



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
2422	OCTAFLUOROBUT-2-ENE (REFRIGERANT GAS R 1318)	2	2A		2.2 (+13)		LQ1	E1	P200			MP9	(M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
2424	OCTAFLUOROPROPANE (REFRIGERANT GAS R 218)	2	2A		2.2 (+13)		LQ1	E1	P200			MP9	T50 (M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
2426	AMMONIUM NITRATE, LIQUID, hot concentrated solution, in a concentration of more than 80% but not more than 93%	5.1	O1		5.1	252 644	LQ0	E0					T7	TP1 TP16 TP17	L4BV(+)	TU3 TU12 TU29 TC3 TE9 TE10 TA1	0					59
2427	POTASSIUM CHLORATE, AQUEOUS SOLUTION	5.1	O1	II	5.1		LQ10	E2	P504 IBC02			MP2	T4	TP1	L4BN	TU3	2			CW24	CE6	50
2427	POTASSIUM CHLORATE, AQUEOUS SOLUTION	5.1	O1	III	5.1		LQ13	E1	P504 IBC02 R001			MP2	T4	TP1	LGBV	TU3	3			CW24	CE8	50
2428	SODIUM CHLORATE, AQUEOUS SOLUTION	5.1	O1	II	5.1		LQ10	E2	P504 IBC02			MP2	T4	TP1	L4BN	TU3	2			CW24	CE6	50
2428	SODIUM CHLORATE, AQUEOUS SOLUTION	5.1	O1	III	5.1		LQ13	E1	P504 IBC02 R001			MP2	T4	TP1	LGBV	TU3	3			CW24	CE8	50
2429	CALCIUM CHLORATE, AQUEOUS SOLUTION	5.1	O1	II	5.1		LQ10	E2	P504 IBC02			MP2	T4	TP1	L4BN	TU3	2			CW24	CE6	50
2429	CALCIUM CHLORATE, AQUEOUS SOLUTION	5.1	O1	III	5.1		LQ13	E1	P504 IBC02 R001			MP2	T4	TP1	LGBV	TU3	3			CW24	CE8	50
2430	ALKYLPHENOLS, SOLID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues)	8	C4	I	8	274	LQ0	E0	P002 IBC07			MP18	T6	TP33	S10AN L10BH	TU38 TE22	1	W10 W12				88
2430	ALKYLPHENOLS, SOLID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues)	8	C4	II	8	274	LQ23	E2	P002 IBC08	B4		MP10	T3	TP33	SGAN L4BN		2	W11			CE10	80
2430	ALKYLPHENOLS, SOLID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues)	8	C4	III	8	274	LQ24	E1	P002 IBC08 LP02 R001	B3		MP10	T1	TP33	SGAV L4BN		3		VW9		CE11	80

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2431	ANISIDINES	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2432	N,N-DIETHYLANILINE	6.1	T1	III	6.1	279	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2433	CHLORONITROTOLUENES, LIQUID	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2434	DIBENZYLDICHLOROSILANE	8	C3	II	8		LQ22	E2	P010		MP15	T10	TP2 TP7	L4BN		2				CE6	X80
2435	ETHYLPHENYLDICHLOROSILANE	8	C3	II	8		LQ22	E2	P010		MP15	T10	TP2 TP7	L4BN		2				CE6	X80
2436	THIOACETIC ACID	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
2437	METHYLPHENYLDICHLOROSILANE	8	C3	II	8		LQ22	E2	P010		MP15	T10	TP2 TP7	L4BN		2				CE6	X80
2438	TRIMETHYLACETYL CHLORIDE	6.1	TFC	I	6.1+3+8		LQ0	E5	P001		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
2439	SODIUM HYDROGENDIFLUORIDE	8	C2	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33	SGAN		2	W11			CE10	80
2440	STANNIC CHLORIDE PENTAHYDRATE	8	C2	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV		3		VW9		CE11	80
2441	TITANIUM TRICHLORIDE, PYROPHORIC or TITANIUM TRICHLORIDE MIXTURE, PYROPHORIC	4.2	SC4	I	4.2+8	537	LQ0	E0	P404		MP13					0	W1				48

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2442	TRICHLOROACETYL CHLORIDE	8	C3	II	8		LQ22 E2		P001		MP15	T7	TP2	L4BN		2				CE6	X80
2443	VANADIUM OXYTRICHLORIDE	8	C1	II	8		LQ22 E2		P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	80
2444	VANADIUM TETRACHLORIDE	8	C1	I	8		LQ0 E0		P802		MP8 MP17	T10	TP2	L10BH	TU38 TE22	1					X88
2446	NITROCRESOLS, SOLID	6.1	T2	III	6.1		LQ9 E1		P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2447	PHOSPHORUS, WHITE, MOLTEN	4.2	ST3	I	4.2+6.1		LQ0 E0					T21	TP3 TP7 TP26	L10DH(+)	TU14 TU16 TU21 TU38 TE3 TE21 TE22	0					446
2448	SULPHUR, MOLTEN	4.1	F3	III	4.1	538	LQ0 E0					T1	TP3	LGBV(+)	TU27 TE4 TE6	3					44
2451	NITROGEN TRIFLUORIDE	2	2O		2.2+5.1 (+13)		LQ0 E0		P200		MP9	(M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	25
2452	ETHYLACETYLENE, STABILIZED	2	2F		2.1 (+13)		LQ0 E0		P200		MP9	(M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	239
2453	ETHYL FLUORIDE (REFRIGERANT GAS R 161)	2	2F		2.1 (+13)		LQ0 E0		P200		MP9	(M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2454	METHYL FLUORIDE (REFRIGERANT GAS R 41)	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	(M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23
2455	METHYL NITRITE	2	2A	CARRIAGE PROHIBITED																	
2456	2-CHLOROPROPENE	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP2	L4BN		1					33
2457	2,3-DIMETHYLBUTANE	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T7	TP1	LGBF		2				CE7	33
2458	HEXADIENES	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
2459	2-METHYL-1-BUTENE	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP2	L4BN		1					33
2460	2-METHYL-2-BUTENE	3	F1	II	3		LQ4	E2	P001 IBC02	B8	MP19	T7	TP1	L1.5BN		2				CE7	33
2461	METHYLPENTADIENE	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
2463	ALUMINIUM HYDRIDE	4.3	W2	I	4.3		LQ0	E0	P403		MP2					1	W1		CW23		X423
2464	BERYLLIUM NITRATE	5.1	OT2	II	5.1+6.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33	SGAN	TU3	2	W11		CW24 CW28	CE10	56
2465	DICHLOROISOCYANURIC ACID, DRY or DICHLOROISOCYANURIC ACID SALTS	5.1	O2	II	5.1	135	LQ11	E2	P002 IBC08	B4	MP10	T3	TP33	SGAN	TU3	2	W11		CW24	CE10	50
2466	POTASSIUM SUPEROXIDE	5.1	O2	I	5.1		LQ0	E0	P503 IBC06		MP2					1	W10 W12		CW24		55
2468	TRICHLOROISOCYANURIC ACID, DRY	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP10	T3	TP33	SGAN	TU3	2	W11		CW24	CE10	50
2469	ZINC BROMATE	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV	TU3	3		VW8	CW24	CE11	50

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
2470	PHENYLACETONITRILE, LIQUID	6.1	T1	III	6.1		LQ7 E1	P001 IBC03 LP01 R001		MP19		T4	TP1	L4BH	TU15	2				CW13 CW28 CW31	CE8	60
2471	OSMIUM TETROXIDE	6.1	T5	I	6.1		LQ0 E5	P002 IBC07	PP30	MP18	T6	TP33	S10AH	TU15	1	W10 W12				CW13 CW28 CW31		66
2473	SODIUM ARSANILATE	6.1	T3	III	6.1		LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9			CW13 CW28 CW31	CE11	60
2474	THIOPHOSGENE	6.1	T1	II	6.1	279	LQ17 E4	P001		MP15	T7	TP2	L4BH	TU15	2					CW13 CW28 CW31	CE5	60
2475	VANADIUM TRICHLORIDE	8	C2	III	8		LQ24 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV		3		VW9				CE11	80
2477	METHYL ISOTHIOCYANATE	6.1	TF1	I	6.1+3		LQ0 E5	P001		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1					CW13 CW28 CW31		663
2478	ISOCYANATES, FLAMMABLE, TOXIC, N.O.S. or ISOCYANATE SOLUTION, FLAMMABLE, TOXIC, N.O.S.	3	FT1	II	3+6.1	274 539	LQ0 E2	P001 IBC02		MP19	T11	TP2 TP27	L4BH	TU15	2					CW13 CW28	CE7	336
2478	ISOCYANATES, FLAMMABLE, TOXIC, N.O.S. or ISOCYANATE SOLUTION, FLAMMABLE, TOXIC, N.O.S.	3	FT1	III	3+6.1	274	LQ7 E1	P001 IBC03 R001		MP19	T7	TP1 TP28	L4BH	TU15	3					CW13 CW28	CE4	36
2480	METHYL ISOCYANATE	6.1	TF1	I	6.1+3		LQ0 E5	P601		MP2	T22	TP2	L15CH	TU14 TU15 TU38 TE21 TE22 TE25	1					CW13 CW28 CW31		663

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
									4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4		1.1.3.1 (c)	7.2.4	7.3.3		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2481	ETHYL ISOCYANATE	3	FT1	I	3+6.1		LQ0	E0	P601		MP2	T14	TP2	L15CH	TU14 TU15 TU38 TE21 TE22 TE25	1			CW13 CW28		336
2482	n-PROPYL ISOCYANATE	6.1	TF1	I	6.1+3		LQ0	E5	P001		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
2483	ISOPROPYL ISOCYANATE	3	FT1	I	3+6.1		LQ0	E0	P001		MP7 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336
2484	tert-BUTYL ISOCYANATE	6.1	TF1	I	6.1+3		LQ0	E5	P001		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
2485	n-BUTYL ISOCYANATE	6.1	TF1	I	6.1+3		LQ0	E5	P001		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
2486	ISOBUTYL ISOCYANATE	3	FT1	II	3+6.1		LQ0	E2	P001		MP19	T8	TP2	L4BH	TU15	2			CW13 CW28	CE7	336
2487	PHENYL ISOCYANATE	6.1	TF1	I	6.1+3		LQ0	E5	P001		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instruc-tions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2488	CYCLOHEXYL ISOCYANATE	6.1	TF1	I	6.1+3		LQ0	E5	P001		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
2490	DICHLOROISOPROPYL ETHER	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2491	ETHANOLAMINE or ETHANOLAMINE SOLUTION	8	C7	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BN		3				CE8	80
2493	HEXAMETHYLENEIMINE	3	FC	II	3+8		LQ4	E2	P001 IBC02		MP19	T7	TP1	L4BH		2				CE7	338
2495	IODINE PENTAFLUORIDE	5.1	OTC	I	5.1+6.1+8		LQ0	E0	P200		MP2			L10DH	TU3 TU38 TE16 TE22	1			CW24 CW28		568
2496	PROPIONIC ANHYDRIDE	8	C3	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BN		3				CE8	80
2498	1,2,3,6-TETRAHYDRO-BENZALDEHYDE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2501	TRIS-(1-AZIRIDINYL) PHOSPHINE OXIDE SOLUTION	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2501	TRIS-(1-AZIRIDINYL) PHOSPHINE OXIDE SOLUTION	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2502	VALERYL CHLORIDE	8	CF1	II	8+3		LQ22	E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	83

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2503	ZIRCONIUM TETRACHLORIDE	8	C2	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV		3			VW9		CE11	80
2504	TETRABROMOETHANE	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2				CW13 CW28 CW31	CE8	60
2505	AMMONIUM FLUORIDE	6.1	T5	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH	TU15	2			VW9	CW13 CW28 CW31	CE11	60
2506	AMMONIUM HYDROGEN SULPHATE	8	C2	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33	SGAV		2	W11	VW9			CE10	80
2507	CHLOROPLATINIC ACID, SOLID	8	C2	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV		3			VW9		CE11	80
2508	MOLYBDENUM PENTACHLORIDE	8	C2	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV		3			VW9		CE11	80
2509	POTASSIUM HYDROGEN SULPHATE	8	C2	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33	SGAV		2	W11	VW9			CE10	80
2511	2-CHLOROPROPIONIC ACID	8	C3	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP2	L4BN		3					CE8	80
2512	AMINOPHENOLS (o-, m-, p-)	6.1	T2	III	6.1	279	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2			VW9	CW13 CW28 CW31	CE11	60
2513	BROMOACETYL BROMIDE	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T8	TP2	L4BN		2					CE6	X80



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	
2514	BROMOBENZENE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30	
2515	BROMOFORM	6.1	T1	III	6.1		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60	
2516	CARBON TETRABROMIDE	6.1	T2	III	6.1		LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	
2517	1-CHLORO-1,1-DIFLUOROETHANE (REFRIGERANT GAS R 142b)	2	2F		2.1 (+13)		LQ0 E0	P200		MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	
2518	1,5,9-CYCLODODECATRIENE	6.1	T1	III	6.1		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60	
2520	CYCLOOCTADIENES	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30	
2521	DIKETENE, STABILIZED	6.1	TF1	I	6.1+3		LQ0 E5	P001		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	
2522	2-DIMETHYLAMINOETHYL METHACRYLATE	6.1	T1	II	6.1		LQ17 E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	69	

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2524	ETHYL ORTHOFORMATE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2525	ETHYL OXALATE	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2526	FURFURYLAMINE	3	FC	III	3+8		LQ7	E1	P001 IBC03 R001			MP19	T4	TP1	L4BN		3				CE4	38
2527	ISOBUTYL ACRYLATE, STABILIZED	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	39
2528	ISOBUTYL ISOBUTYRATE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2529	ISOBUTYRIC ACID	3	FC	III	3+8		LQ7	E1	P001 IBC03 R001			MP19	T4	TP1	L4BN		3				CE4	38
2531	METHACRYLIC ACID, STABILIZED	8	C3	II	8		LQ22	E2	P001 IBC02 LP01			MP15	T7	TP2 TP18 TP30	L4BN		2				CE8	89
2533	METHYL TRICHLOROACETATE	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2534	METHYLCHLOROSILANE	2	2TFC		2.3+2.1+8		LQ0	E0	P200			MP9	(M)				1			CW9 CW10 CW36		263
2535	4-METHYLMORPHOLINE (N-METHYLMORPHOLINE)	3	FC	II	3+8		LQ4	E2	P001 IBC02			MP19	T7	TP1	L4BH		2				CE7	338

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2536	METHYLTETRAHYDROFURAN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
2538	NITRONAPHTHALENE	4.1	F1	III	4.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV		3	W1	VW1		CE11	40
2541	TERPINOLENE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2542	TRIBUTYLAMINE	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2545	HAFNIUM POWDER, DRY	4.2	S4	I	4.2	540	LQ0	E0	P404		MP13					0	W1				43
2545	HAFNIUM POWDER, DRY	4.2	S4	II	4.2	540	LQ0	E2	P410 IBC06		MP14	T3	TP33	SGAN		2	W1 W12			CE10	40
2545	HAFNIUM POWDER, DRY	4.2	S4	III	4.2	540	LQ0	E1	P002 IBC08 LP02 R001	B3	MP14	T1	TP33	SGAN		3	W1	VW4		CE11	40
2546	TITANIUM POWDER, DRY	4.2	S4	I	4.2	540	LQ0	E0	P404		MP13					0	W1				43
2546	TITANIUM POWDER, DRY	4.2	S4	II	4.2	540	LQ0	E2	P410 IBC06		MP14	T3	TP33	SGAN		2	W1 W12			CE10	40
2546	TITANIUM POWDER, DRY	4.2	S4	III	4.2	540	LQ0	E1	P002 IBC08 LP02 R001	B3	MP14	T1	TP33	SGAN		3	W1	VW4		CE11	40
2547	SODIUM SUPEROXIDE	5.1	O2	I	5.1		LQ0	E0	P503 IBC06		MP2					1	W10 W12		CW24		55
2548	CHLORINE PENTAFLUORIDE	2	2TOC		2.3+5.1+8		LQ0	E0	P200		MP9					1			CW9 CW10 CW36		265
2552	HEXAFLUOROACETONE HYDRATE, LIQUID	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2554	METHYLALLYL CHLORIDE	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2555	NITROCELLULOSE WITH WATER (not less than 25% water, by mass)	4.1	D	II	4.1	541	LQ0	E0	P406			MP2					2	W1			CE10	40
2556	NITROCELLULOSE WITH ALCOHOL (not less than 25% alcohol, by mass, and not more than 12.6% nitrogen, by dry)	4.1	D	II	4.1	541	LQ0	E0	P406			MP2					2	W1			CE10	40
2557	NITROCELLULOSE, with not more than 12.6% nitrogen, by dry mass, MIXTURE WITH or WITHOUT PLASTICIZER, WITH or WITHOUT PIGMENT	4.1	D	II	4.1	241 541	LQ0	E0	P406			MP2					2	W1			CE10	40
2558	EPIBROMOHYDRIN	6.1	TF1	I	6.1+3		LQ0	E5	P001			MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
2560	2-METHYLPENTAN-2-OL	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2561	3-METHYL-1-BUTENE	3	F1	I	3		LQ3	E3	P001			MP7 MP17	T11	TP2	L4BN		1					33
2564	TRICHLOROACETIC ACID SOLUTION	8	C3	II	8		LQ22	E2	P001 IBC02			MP15	T7	TP2	L4BN		2				CE6	80
2564	TRICHLOROACETIC ACID SOLUTION	8	C3	III	8		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BN		3				CE8	80
2565	DICYCLOHEXYLAMINE	8	C7	III	8		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BN		3				CE8	80
2567	SODIUM PENTACHLOROPHENATE	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4		MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2570	CADMIUM COMPOUND	6.1	T5	I	6.1	274 596	LQ0	E5		P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66
2570	CADMIUM COMPOUND	6.1	T5	II	6.1	274 596	LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
2570	CADMIUM COMPOUND	6.1	T5	III	6.1	274 596	LQ9	E1		P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2571	ALKYLSULPHURIC ACIDS	8	C3	II	8		LQ22	E2		P001 IBC02		MP15	T8	TP28	L4BN		2				CE6	80
2572	PHENYLHYDRAZINE	6.1	T1	II	6.1		LQ17	E4		P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2573	THALLIUM CHLORATE	5.1	OT2	II	5.1+6.1		LQ11	E2		P002 IBC06		MP2	T3	TP33	SGAN	TU3	2	W11 W12		CW24 CW28	CE10	56
2574	TRICRESYL PHOSPHATE with more than 3% ortho isomer	6.1	T1	II	6.1		LQ17	E4		P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2576	PHOSPHORUS OXYBROMIDE, MOLTEN	8	C1	II	8		LQ0	E0					T7	TP3	L4BN		2					80
2577	PHENYLACETYL CHLORIDE	8	C3	II	8		LQ22	E2		P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	80
2578	PHOSPHORUS TRIOXIDE	8	C2	III	8		LQ24	E1		P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV		3		VW9		CE11	80
2579	PIPERAZINE	8	C8	III	8		LQ24	E1		P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV L4BN		3		VW9		CE11	80

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2580	ALUMINIUM BROMIDE SOLUTION	8	C1	III	8		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BN		3				CE8	80
2581	ALUMINIUM CHLORIDE SOLUTION	8	C1	III	8		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BN		3				CE8	80
2582	FERRIC CHLORIDE SOLUTION	8	C1	III	8		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BN		3				CE8	80
2583	ALKYLSULPHONIC ACIDS, SOLID or ARYLSULPHONIC ACIDS, SOLID with more than 5% free sulphuric acid	8	C2	II	8	274	LQ23	E2	P002 IBC08	B4		MP10	T3	TP33	SGAN L4BN		2	W11			CE10	80
2584	ALKYLSULPHONIC ACIDS, LIQUID or ARYLSULPHONIC ACIDS, LIQUID with more than 5% free sulphuric acid	8	C1	II	8	274	LQ22	E2	P001 IBC02			MP15	T8	TP2	L4BN		2				CE6	80
2585	ALKYLSULPHONIC ACIDS, SOLID or ARYLSULPHONIC ACIDS, SOLID with not more than 5% free sulphuric acid	8	C4	III	8	274	LQ24	E1	P002 IBC08 LP02 R001	B3		MP10	T1	TP33	SGAV		3		VW9		CE11	80
2586	ALKYLSULPHONIC ACIDS, LIQUID or ARYLSULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid	8	C3	III	8	274	LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BN		3				CE8	80
2587	BENZOQUINONE	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4		MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
2588	PESTICIDE, SOLID, TOXIC, N.O.S.	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC02			MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2588	PESTICIDE, SOLID, TOXIC, N.O.S.	6.1	T7	II	6.1	61 274 648	LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60
2588	PESTICIDE, SOLID, TOXIC, N.O.S.	6.1	T7	III	6.1	61 274 648	LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60
2589	VINYL CHLOROACETATE	6.1	TF1	II	6.1+3		LQ17 E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	63
2590	WHITE ASBESTOS (chrysotile, actinolite, anthophyllite, tremolite)	9	M1	III	9	168 542	LQ27 E1	P002 IBC08 R001	PP37 B4	MP10	T1	TP33	SGAH	TU15	3	W11		CW13 CW28 CW31	CE11	90
2591	XENON, REFRIGERATED LIQUID	2	3A		2.2 (+13)	593	LQ1 E1	P203		MP9	T75	TP5	RxBN	TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	22
2599	CHLOROTRIFLUOROMETHANE AND TRIFLUOROMETHANE AZEOTROPIC MIXTURE with approximately 60% chlorotrifluoromethane (REFRIGERANT GAS R 503)	2	2A		2.2 (+13)		LQ1 E1	P200		MP9	(M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
2601	CYCLOBUTANE	2	2F		2.1 (+13)		LQ0 E0	P200		MP9	(M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23
2602	DICHLORODIFLUOROMETHANE AND 1,1-DIFLUOROETHANE AZEOTROPIC MIXTURE with approximately 74% dichlorodifluoromethane (REFRIGERANT GAS R 500)	2	2A		2.2 (+13)		LQ1 E1	P200		MP9	T50 (M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
2603	CYCLOHEPTATRIENE	3	FT1	II	3+6.1		LQ0 E2	P001 IBC02		MP19	T7	TP1	L4BH	TU15	2			CW13 CW28	CE7	336
2604	BORON TRIFLUORIDE DIETHYL ETHERATE	8	CF1	I	8+3		LQ0 E0	P001		MP8 MP17	T10	TP2	L10BH	TU38 TE22	1					883

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2605	METHOXYMETHYL ISOCYANATE	3	FT1	I	3+6.1		LQ0	E0	P001		MP7 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336
2606	METHYL ORTHOSILICATE	6.1	TF1	I	6.1+3		LQ0	E5	P001		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
2607	ACROLEIN DIMER, STABILIZED	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	39
2608	NITROPROPANES	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2609	TRIALLYL BORATE	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19			L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2610	TRIALLYLAMINE	3	FC	III	3+8		LQ7	E1	P001 IBC03 R001		MP19	T4	TP1	L4BN		3				CE4	38
2611	PROPYLENE CHLOROHYDRIN	6.1	TF1	II	6.1+3		LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	63
2612	METHYL PROPYL ETHER	3	F1	II	3		LQ4	E2	P001 IBC02	B8	MP19	T7	TP2	L1.5BN		2				CE7	33
2614	METHALLYL ALCOHOL	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2615	ETHYL PROPYL ETHER	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2616	TRIISOPROPYL BORATE	3	F1	II	3		LQ4 E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
2616	TRIISOPROPYL BORATE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2617	METHYLCYCLOHEXANOLS, flammable	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2618	VINYLTOLUENES, STABILIZED	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	39
2619	BENZYLDIMETHYLAMINE	8	CF1	II	8+3		LQ22 E2	P001 IBC02			MP15	T7	TP2	L4BN		2				CE6	83
2620	AMYL BUTYRATES	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2621	ACETYL METHYL CARBINOL	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2622	GLYCIDALDEHYDE	3	FT1	II	3+6.1		LQ0 E2	P001 IBC02		B8	MP19	T7	TP1	L4BH	TU15	2			CW13 CW28	CE7	336
2623	FIRELIGHTERS, SOLID with flammable liquid	4.1	F1	III	4.1		LQ9 E1	P002 LP02 R001	PP15		MP11					4	W1			CE11	40
2624	MAGNESIUM SILICIDE	4.3	W2	II	4.3		LQ11 E2	P410 IBC07			MP14	T3	TP33	SGAN		2	W1 W12		CW23	CE10	423

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2626	CHLORIC ACID, AQUEOUS SOLUTION with not more than 10% chloric acid	5.1	O1	II	5.1	613	LQ10 E2	P504 IBC02		MP2	T4	TP1	L4BN	TU3	2			CW24	CE6	50
2627	NITRITES, INORGANIC, N.O.S.	5.1	O2	II	5.1	103 274	LQ11 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN	TU3	2	W11		CW24	CE10	50
2628	POTASSIUM FLUOROACETATE	6.1	T2	I	6.1		LQ0 E5	P002 IBC07		MP18	T6	TP33	S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66
2629	SODIUM FLUOROACETATE	6.1	T2	I	6.1		LQ0 E5	P002 IBC07		MP18	T6	TP33	S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66
2630	SELENATES or SELENITES	6.1	T5	I	6.1	274	LQ0 E5	P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66
2642	FLUOROACETIC ACID	6.1	T2	I	6.1		LQ0 E5	P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66
2643	METHYL BROMOACETATE	6.1	T1	II	6.1		LQ17 E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2644	METHYL IODIDE	6.1	T1	I	6.1		LQ0 E5	P001		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
2645	PHENACYL BROMIDE	6.1	T2	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
2646	HEXACHLOROCYCLOPENTADIENE	6.1	T1	I	6.1		LQ0 E5	P001		MP8 MP17	T20	TP2 TP35	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2647	MALONONITRILE	6.1	T2	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
2648	1,2-DIBROMOBUTAN-3-ONE	6.1	T1	II	6.1		LQ17 E4	P001 IBC02		MP15			L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2649	1,3-DICHLOROACETONE	6.1	T2	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
2650	1,1-DICHLORO-1-NITROETHANE	6.1	T1	II	6.1		LQ17 E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2651	4,4'-DIAMINODIPHENYLMETHANE	6.1	T2	III	6.1		LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2653	BENZYL IODIDE	6.1	T1	II	6.1		LQ17 E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2655	POTASSIUM FLUOROSILICATE	6.1	T5	III	6.1		LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2656	QUINOLINE	6.1	T1	III	6.1		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2657	SELENIUM DISULPHIDE	6.1	T5	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
2659	SODIUM CHLOROACETATE	6.1	T2	III	6.1		LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2660	NITROTOLUIDINES (MONO)	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2661	HEXACHLOROACETONE	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2664	DIBROMOMETHANE	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2667	BUTYLTOLUENES	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2668	CHLOROACETONITRILE	6.1	TF1	II	6.1+3		LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	63
2669	CHLOROCRESOLS SOLUTION	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2669	CHLOROCRESOLS SOLUTION	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2670	CYANURIC CHLORIDE	8	C4	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33	SGAN L4BN		2	W11			CE10	80
2671	AMINOPYRIDINES (o-, m-, p-)	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
2672	AMMONIA SOLUTION, relative density between 0.880 and 0.957 at 15 °C in water, with more than 10% but not more than 35% ammonia	8	C5	III	8	543	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1	L4BN		3				CE8	80

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2673	2-AMINO-4-CHLOROPHENOL	6.1	T2	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
2674	SODIUM FLUOROSILICATE	6.1	T5	III	6.1		LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2676	STIBINE	2	2TF		2.3+2.1		LQ0 E0	P200		MP9					1			CW9 CW10 CW36		263
2677	RUBIDIUM HYDROXIDE SOLUTION	8	C5	II	8		LQ22 E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	80
2677	RUBIDIUM HYDROXIDE SOLUTION	8	C5	III	8		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BN		3				CE8	80
2678	RUBIDIUM HYDROXIDE	8	C6	II	8		LQ23 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN		2	W11			CE10	80
2679	LITHIUM HYDROXIDE SOLUTION	8	C5	II	8		LQ22 E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	80
2679	LITHIUM HYDROXIDE SOLUTION	8	C5	III	8		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP2	L4BN		3				CE8	80
2680	LITHIUM HYDROXIDE	8	C6	II	8		LQ23 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN		2	W11			CE10	80
2681	CAESIUM HYDROXIDE SOLUTION	8	C5	II	8		LQ22 E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	80
2681	CAESIUM HYDROXIDE SOLUTION	8	C5	III	8		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BN		3				CE8	80
2682	CAESIUM HYDROXIDE	8	C6	II	8		LQ23 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN		2	W11			CE10	80
2683	AMMONIUM SULPHIDE SOLUTION	8	CFT	II	8+3+6.1		LQ22 E2	P001 IBC01		MP15	T7	TP2	L4BN		2			CW13 CW28	CE6	86

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2684	3-DIETHYLAMINOPROPYLAMINE	3	FC	III	3+8		LQ7 E1	P001 IBC03 R001		MP19	T4	TP1	L4BN		3				CE4	38
2685	N,N-DIETHYLETHYLENEDIAMINE	8	CF1	II	8+3		LQ22 E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	83
2686	2-DIETHYLAMINOETHANOL	8	CF1	II	8+3		LQ22 E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	83
2687	DICYCLOHEXYLAMMONIUM NITRITE	4.1	F3	III	4.1		LQ9 E1	P002 IBC08 LP02 R001	B3	MP11	T1	TP33	SGAV		3	W1	VW1		CE11	40
2688	1-BROMO-3-CHLOROPROPANE	6.1	T1	III	6.1		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2689	GLYCEROL alpha-MONOCHLOROHYDRIN	6.1	T1	III	6.1		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2690	N,n-BUTYLIMIDAZOLE	6.1	T1	II	6.1		LQ17 E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2691	PHOSPHORUS PENTABROMIDE	8	C2	II	8		LQ23 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN		2	W11			CE10	80
2692	BORON TRIBROMIDE	8	C1	I	8		LQ0 E0	P602		MP8 MP17	T20	TP2	L10BH	TU38 TE22	1					X88
2693	BISULPHITES, AQUEOUS SOLUTION, N.O.S.	8	C1	III	8	274	LQ7 E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28	L4BN		3				CE8	80
2698	TETRAHYDROPHthalic ANHYDRIDES with more than 0.05% of maleic anhydride	8	C4	III	8	169	LQ24 E1	P002 IBC08 LP02 R001	PP14 B3	MP10	T1	TP33	SGAV L4BN		3		VW9		CE11	80
2699	TRIFLUOROACETIC ACID	8	C3	I	8		LQ0 E0	P001		MP8 MP17	T10	TP2	L10BH	TU38 TE22	1					88

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2705	1-PENTOL	8	C9	II	8		LQ22 E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	80
2707	DIMETHYLDIOXANES	3	F1	II	3		LQ4 E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	33
2707	DIMETHYLDIOXANES	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2709	BUTYLBENZENES	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2710	DIPROPYL KETONE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2713	ACRIDINE	6.1	T2	III	6.1		LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2714	ZINC RESINATE	4.1	F3	III	4.1		LQ9 E1	P002 IBC06 R001		MP11	T1	TP33	SGAV		3	W1 W12	VW1		CE11	40
2715	ALUMINIUM RESINATE	4.1	F3	III	4.1		LQ9 E1	P002 IBC06 R001		MP11	T1	TP33	SGAV		3	W1 W12	VW1		CE11	40
2716	1,4-BUTYNEDIOL	6.1	T2	III	6.1		LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2717	CAMPHOR, synthetic	4.1	F1	III	4.1		LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV		3	W1	VW1		CE11	40

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2719	BARIUM BROMATE	5.1	OT2	II	5.1+6.1		LQ11 E2	P002 IBC08	B4	MP2	T3	TP33	SGAN	TU3	2	W11		CW24 CW28	CE10	56
2720	CHROMIUM NITRATE	5.1	O2	III	5.1		LQ12 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
2721	COPPER CHLORATE	5.1	O2	II	5.1		LQ11 E2	P002 IBC08	B4	MP2	T3	TP33	SGAV	TU3	2	W11	VW8	CW24	CE10	50
2722	LITHIUM NITRATE	5.1	O2	III	5.1		LQ12 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
2723	MAGNESIUM CHLORATE	5.1	O2	II	5.1		LQ11 E2	P002 IBC08	B4	MP2	T3	TP33	SGAV	TU3	2	W11	VW8	CW24	CE10	50
2724	MANGANESE NITRATE	5.1	O2	III	5.1		LQ12 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
2725	NICKEL NITRATE	5.1	O2	III	5.1		LQ12 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
2726	NICKEL NITRITE	5.1	O2	III	5.1		LQ12 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
2727	THALLIUM NITRATE	6.1	TO2	II	6.1+5.1		LQ18 E4	P002 IBC06		MP10	T3	TP33	SGAH	TU15	2	W11 W12		CW13 CW28 CW31	CE9	65
2728	ZIRCONIUM NITRATE	5.1	O2	III	5.1		LQ12 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV	TU3	3		VW8	CW24	CE11	50



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2729	HEXACHLOROBENZENE	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2730	NITROANISOLES, LIQUID	6.1	T1	III	6.1	279	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2732	NITROBROMOBENZENES, LIQUID	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2733	AMINES, FLAMMABLE, CORROSIVE, N.O.S. or POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S.	3	FC	I	3+8	274 544	LQ3	E0	P001		MP7 MP17	T14	TP1 TP27	L10CH	TU14 TU38 TE21 TE22	1					338
2733	AMINES, FLAMMABLE, CORROSIVE, N.O.S. or POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S.	3	FC	II	3+8	274 544	LQ4	E2	P001 IBC02		MP19	T11	TP1 TP27	L4BH		2				CE7	338
2733	AMINES, FLAMMABLE, CORROSIVE, N.O.S. or POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S.	3	FC	III	3+8	274 544	LQ7	E1	P001 IBC03 R001		MP19	T7	TP1 TP28	L4BN		3				CE4	38
2734	AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.	8	CF1	I	8+3	274	LQ0	E0	P001		MP8 MP17	T14	TP2 TP27	L10BH	TU38 TE22	1					883
2734	AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.	8	CF1	II	8+3	274	LQ22	E2	P001 IBC02		MP15	T11	TP2 TP27	L4BN		2				CE6	83
2735	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.	8	C7	I	8	274	LQ0	E0	P001		MP8 MP17	T14	TP2 TP27	L10BH	TU38 TE22	1					88
2735	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.	8	C7	II	8	274	LQ22	E2	P001 IBC02		MP15	T11	TP1 TP27	L4BN		2				CE6	80

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
2735	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.	8	C7	III	8	274	LQ7	E1	P001 IBC03 LP01 R001			MP19	T7	TP1 TP28	L4BN		3				CE8	80
2738	N-BUTYLANILINE	6.1	T1	II	6.1		LQ17	E4	P001 IBC02			MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2739	BUTYRIC ANHYDRIDE	8	C3	III	8		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BN		3				CE8	80
2740	n-PROPYL CHLOROFORMATE	6.1	TFC	I	6.1+3+8		LQ0	E5	P602			MP8 MP17	T20	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		668
2741	BARIUM HYPOCHLORITE with more than 22% available chlorine	5.1	OT2	II	5.1+6.1		LQ11	E2	P002 IBC08	B4		MP2	T3	TP33	SGAN	TU3	2	W11		CW24 CW28	CE10	56
2742	CHLOROFORMATES, TOXIC, CORROSIVE, FLAMMABLE, N.O.S.	6.1	TFC	II	6.1+3+8	274 561	LQ17	E4	P001 IBC01			MP15			L4BH	TU15	2			CW13 CW28 CW31	CE5	638
2743	n-BUTYL CHLOROFORMATE	6.1	TFC	II	6.1+3+8		LQ17	E4	P001			MP15	T20	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	638
2744	CYCLOBUTYL CHLOROFORMATE	6.1	TFC	II	6.1+3+8		LQ17	E4	P001 IBC01			MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	638
2745	CHLOROMETHYL CHLOROFORMATE	6.1	TC1	II	6.1+8		LQ17	E4	P001 IBC02			MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	68
2746	PHENYL CHLOROFORMATE	6.1	TC1	II	6.1+8		LQ17	E4	P001 IBC02			MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	68

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
									4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4		1.1.3.1 (c)	7.2.4	7.3.3		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2747	tert-BUTYLCYCLOHEXYL CHLOROFORMATE	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2748	2-ETHYLHEXYL CHLOROFORMATE	6.1	TC1	II	6.1+8		LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	68
2749	TETRAMETHYLSILANE	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T14	TP2	L4BN		1					33
2750	1,3-DICHLOROPROPANOL-2	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2751	DIETHYLTHIOPHOSPHORYL CHLORIDE	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	80
2752	1,2-EPOXY-3-ETHOXYPROPANE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2753	N-ETHYLBENZYL TOLUIDINES, LIQUID	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2754	N-ETHYLTOLUIDINES	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2757	CARBAMATE PESTICIDE, SOLID, TOXIC	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66
2757	CARBAMATE PESTICIDE, SOLID, TOXIC	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instruc-tions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2757	CARBAMATE PESTICIDE, SOLID, TOXIC	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60
2758	CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	I	3+6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336
2758	CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	II	3+6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28	CE7	336
2759	ARSENICAL PESTICIDE, SOLID, TOXIC	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66
2759	ARSENICAL PESTICIDE, SOLID, TOXIC	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60
2759	ARSENICAL PESTICIDE, SOLID, TOXIC	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60
2760	ARSENICAL PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	I	3+6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336
2760	ARSENICAL PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	II	3+6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28	CE7	336

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2761	ORGANOCHLORINE PESTICIDE, SOLID, TOXIC	6.1	T7	I	6.1	61 274 648	LQ0	E5		P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66
2761	ORGANOCHLORINE PESTICIDE, SOLID, TOXIC	6.1	T7	II	6.1	61 274 648	LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60
2761	ORGANOCHLORINE PESTICIDE, SOLID, TOXIC	6.1	T7	III	6.1	61 274 648	LQ9	E1		P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60
2762	ORGANOCHLORINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	I	3+6.1	61 274	LQ3	E0		P001		MP7 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336
2762	ORGANOCHLORINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	II	3+6.1	61 274	LQ4	E2		P001 IBC02 R001		MP19	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28	CE7	336
2763	TRIAZINE PESTICIDE, SOLID, TOXIC	6.1	T7	I	6.1	61 274 648	LQ0	E5		P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66
2763	TRIAZINE PESTICIDE, SOLID, TOXIC	6.1	T7	II	6.1	61 274 648	LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60
2763	TRIAZINE PESTICIDE, SOLID, TOXIC	6.1	T7	III	6.1	61 274 648	LQ9	E1		P002 IBC08 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60
2764	TRIAZINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	I	3+6.1	61 274	LQ3	E0		P001		MP7 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2764	TRIAZINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	II	3+6.1	61 274	LQ4	E2	P001 IBC02 R001			MP19	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28	CE7	336
2771	THIOCARBAMATE PESTICIDE, SOLID, TOXIC	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07			MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66
2771	THIOCARBAMATE PESTICIDE, SOLID, TOXIC	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4		MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60
2771	THIOCARBAMATE PESTICIDE, SOLID, TOXIC	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3		MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60
2772	THIOCARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	I	3+6.1	61 274	LQ3	E0	P001			MP7 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336
2772	THIOCARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	II	3+6.1	61 274	LQ4	E2	P001 IBC02 R001			MP19	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28	CE7	336
2775	COPPER BASED PESTICIDE, SOLID, TOXIC	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07			MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66
2775	COPPER BASED PESTICIDE, SOLID, TOXIC	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4		MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60
2775	COPPER BASED PESTICIDE, SOLID, TOXIC	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3		MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (e)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2776	COPPER BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	I	3+6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336
2776	COPPER BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	II	3+6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28	CE7	336
2777	MERCURY BASED PESTICIDE, SOLID, TOXIC	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66
2777	MERCURY BASED PESTICIDE, SOLID, TOXIC	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60
2777	MERCURY BASED PESTICIDE, SOLID, TOXIC	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60
2778	MERCURY BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	I	3+6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336
2778	MERCURY BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	II	3+6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28	CE7	336
2779	SUBSTITUTED NITROPHENOL PESTICIDE, SOLID, TOXIC	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66
2779	SUBSTITUTED NITROPHENOL PESTICIDE, SOLID, TOXIC	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2779	SUBSTITUTED NITROPHENOL PESTICIDE, SOLID, TOXIC	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60
2780	SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	I	3+6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336
2780	SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	II	3+6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28	CE7	336
2781	BIPYRIDILIUM PESTICIDE, SOLID, TOXIC	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66
2781	BIPYRIDILIUM PESTICIDE, SOLID, TOXIC	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60
2781	BIPYRIDILIUM PESTICIDE, SOLID, TOXIC	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60
2782	BIPYRIDILIUM PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	I	3+6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336
2782	BIPYRIDILIUM PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	II	3+6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28	CE7	336



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2783	ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66
2783	ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60
2783	ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60
2784	ORGANOPHOSPHORUS PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	I	3+6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336
2784	ORGANOPHOSPHORUS PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	II	3+6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28	CE7	336
2785	4-THIAPENTANAL	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2786	ORGANOTIN PESTICIDE, SOLID, TOXIC	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66
2786	ORGANOTIN PESTICIDE, SOLID, TOXIC	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60
2786	ORGANOTIN PESTICIDE, SOLID, TOXIC	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
2787	ORGANOTIN PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	I	3+6.1	61 274	LQ3 E0		P001			MP7 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336
2787	ORGANOTIN PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	II	3+6.1	61 274	LQ4 E2		P001 IBC02 R001			MP19	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28	CE7	336
2788	ORGANOTIN COMPOUND, LIQUID, N.O.S.	6.1	T3	I	6.1	43 274	LQ0 E5		P001			MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
2788	ORGANOTIN COMPOUND, LIQUID, N.O.S.	6.1	T3	II	6.1	43 274	LQ17 E4		P001 IBC02			MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2788	ORGANOTIN COMPOUND, LIQUID, N.O.S.	6.1	T3	III	6.1	43 274	LQ7 E1		P001 IBC03 LP01 R001			MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2789	ACETIC ACID, GLACIAL or ACETIC ACID SOLUTION, more than 80% acid,	8	CF1	II	8+3		LQ22 E2		P001 IBC02			MP15	T7	TP2	L4BN		2				CE6	83
2790	ACETIC ACID SOLUTION, not less than 50% but not more than 80% acid, by mass	8	C3	II	8		LQ22 E2		P001 IBC02			MP15	T7	TP2	L4BN		2				CE6	80
2790	ACETIC ACID SOLUTION, more than 10% and less than 50% acid, by mass	8	C3	III	8	597 647	LQ7 E1		P001 IBC03 LP01 R001			MP19	T4	TP1	L4BN		3				CE8	80
2793	FERROUS METAL BORINGS, SHAVINGS, TURNINGS or CUTTINGS in a form liable to self-heating	4.2	S4	III	4.2	592	LQ0 E1		P003 IBC08 LP02 R001	PP20 B3 B6		MP14					3	W1	VW4		CE11	40
2794	BATTERIES, WET, FILLED WITH ACID, electric storage	8	C11		8	295 598	LQ0 E0		P801 P801a								3		VW14		CE8	80

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.			
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling					
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (e)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3			
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)			
2795	BATTERIES, WET, FILLED WITH ALKALI, electric storage	8	C11		8	295 598	LQ0	E0	P801 P801a							3		VW14		CE8	80			
2796	SULPHURIC ACID with not more than 51% acid or BATTERY FLUID, ACID	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T8	TP2	L4BN		2				CE6	80			
2797	BATTERY FLUID, ALKALI	8	C5	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2 TP28	L4BN		2				CE6	80			
2798	PHENYLPHOSPHORUS DICHLORIDE	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	80			
2799	PHENYLPHOSPHORUS THIODICHLORIDE	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	80			
2800	BATTERIES, WET, NON-SPILLABLE, electric storage	8	C11		8	238 295 598	LQ0	E0	P003 P801a	PP16						3		VW14		CE8	80			
2801	DYE, LIQUID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, LIQUID, CORROSIVE, N.O.S.	8	C9	I	8	274	LQ0	E0	P001		MP8 MP17	T14	TP2 TP27	L10BH	TU38 TE22	1					88			
2801	DYE, LIQUID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, LIQUID, CORROSIVE, N.O.S.	8	C9	II	8	274	LQ22	E2	P001 IBC02		MP15	T11	TP2 TP27	L4BN		2				CE6	80			
2801	DYE, LIQUID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, LIQUID, CORROSIVE, N.O.S.	8	C9	III	8	274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28	L4BN		3				CE8	80			
2802	COPPER CHLORIDE	8	C2	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV		3		VW9		CE11	80			
2803	GALLIUM	8	C10	III	8		LQ24	E0	P800	PP41	MP10	T1	TP33	SGAV L4BN		3		VW9		CE11	80			
2805	LITHIUM HYDRIDE, FUSED SOLID	4.3	W2	II	4.3		LQ11	E2	P410 IBC04	PP40	MP14	T3	TP33	SGAN		2	W1		CW23	CE10	423			
2806	LITHIUM NITRIDE	4.3	W2	I	4.3		LQ0	E0	P403 IBC04		MP2					1	W1		CW23		X423			
2807	Magnetized material	9	M11						NOT SUBJECT TO RID															

NOT SUBJECT TO RID

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2809	MERCURY	8	C9	III	8	599	LQ19	E0	P800		MP15			L4BN		3				CE8	80
2810	TOXIC LIQUID, ORGANIC, N.O.S.	6.1	T1	I	6.1	274 315 614	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
2810	TOXIC LIQUID, ORGANIC, N.O.S.	6.1	T1	II	6.1	274 614	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2810	TOXIC LIQUID, ORGANIC, N.O.S.	6.1	T1	III	6.1	274 614	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2811	TOXIC SOLID, ORGANIC, N.O.S.	6.1	T2	I	6.1	274 614	LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU15 TU38 TE22	1	W10 W12		CW13 CW28 CW31		66
2811	TOXIC SOLID, ORGANIC, N.O.S.	6.1	T2	II	6.1	274 614	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
2811	TOXIC SOLID, ORGANIC, N.O.S.	6.1	T2	III	6.1	274 614	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2812	Sodium aluminate, solid	8	C6	NOT SUBJECT TO RID																	
2813	WATER-REACTIVE SOLID, N.O.S.	4.3	W2	I	4.3	274	LQ0	E0	P403 IBC99	PP83	MP2	T9	TP7 TP33	S10AN L10DH	TU4 TU14 TU22 TU38 TE21 TE22 TM2	0	W1		CW23		X423
2813	WATER-REACTIVE SOLID, N.O.S.	4.3	W2	II	4.3	274	LQ11	E2	P410 IBC07	PP83	MP14	T3	TP33	SGAN		0	W1 W12		CW23	CE10	423

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)			(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2813	WATER-REACTIVE SOLID, N.O.S.	4.3	W2	III	4.3	274	LQ12 E1	P410 IBC08 R001	PP83 B4	MP14			T1	TP33	SGAN		0	W1	VW5	CW23	CE11	423
2814	INFECTIOUS SUBSTANCE, AFFECTING HUMANS	6.2	I1		6.2	318	LQ0 E0	P620		MP5							0	W9		CW13 CW18 CW26 CW28	CE14	606
2814	INFECTIOUS SUBSTANCE, AFFECTING HUMANS, in refrigerated liquid nitrogen	6.2	I1		6.2+2.2	318	LQ0 E0	P620		MP5							0	W9		CW13 CW18 CW26 CW28	CE14	606
2814	INFECTIOUS SUBSTANCE, AFFECTING HUMANS (animal material only)	6.2	I1		6.2	318	LQ0 E0	P620		MP5			BK1 BK2				0	W9		CW13 CW18 CW26 CW28	CE14	606
2815	N-AMINOETHYLPIPERAZINE	8	C7	III	8		LQ7 E1	P001 IBC03 LP01 R001		MP19			T4	TP1	L4BN		3				CE8	80
2817	AMMONIUM HYDROGENDIFLUORIDE SOLUTION	8	CT1	II	8+6.1		LQ22 E2	P001 IBC02		MP15			T8	TP2	L4DH	TU14 TE17 TE21 TT4	2			CW13 CW28	CE6	86
2817	AMMONIUM HYDROGENDIFLUORIDE SOLUTION	8	CT1	III	8+6.1		LQ7 E1	P001 IBC03 R001		MP19			T4	TP1	L4DH	TU14 TE21	3			CW13 CW28	CE8	86
2818	AMMONIUM POLYSULPHIDE SOLUTION	8	CT1	II	8+6.1		LQ22 E2	P001 IBC02		MP15			T7	TP2	L4BN		2			CW13 CW28	CE6	86
2818	AMMONIUM POLYSULPHIDE SOLUTION	8	CT1	III	8+6.1		LQ7 E1	P001 IBC03 R001		MP19			T4	TP1	L4BN		3			CW13 CW28	CE8	86
2819	AMYL ACID PHOSPHATE	8	C3	III	8		LQ7 E1	P001 IBC03 LP01 R001		MP19			T4	TP1	L4BN		3				CE8	80

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2820	BUTYRIC ACID	8	C3	III	8		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BN		3				CE8	80
2821	PHENOL SOLUTION	6.1	T1	II	6.1		LQ17	E4	P001 IBC02			MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2821	PHENOL SOLUTION	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2822	2-CHLOROPYRIDINE	6.1	T1	II	6.1		LQ17	E4	P001 IBC02			MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2823	CROTONIC ACID, SOLID	8	C4	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3		MP10	T1	TP33	SGAV L4BN		3		VW9		CE11	80
2826	ETHYL CHLOROTHIOFORMATE	8	CF1	II	8+3		LQ22	E2	P001			MP15	T7	TP2	L4BN		2				CE6	83
2829	CAPROIC ACID	8	C3	III	8		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BN		3				CE8	80
2830	LITHIUM FERROSILICON	4.3	W2	II	4.3		LQ11	E2	P410 IBC07			MP14	T3	TP33	SGAN		2	W1 W12		CW23	CE10	423
2831	1,1,1-TRICHLOROETHANE	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2834	PHOSPHOROUS ACID	8	C2	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3		MP10	T1	TP33	SGAV		3		VW9		CE11	80
2835	SODIUM ALUMINIUM HYDRIDE	4.3	W2	II	4.3		LQ11	E2	P410 IBC04			MP14	T3	TP33	SGAN		2	W1		CW23	CE10	423

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2837	BISULPHATES, AQUEOUS SOLUTION	8	C1	II	8	274	LQ22	E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	80
2837	BISULPHATES, AQUEOUS SOLUTION	8	C1	III	8	274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BN		3				CE8	80
2838	VINYL BUTYRATE, STABILIZED	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1	LGBF		2				CE7	339
2839	ALDOL	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2840	BUTYRALDOXIME	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2841	DI-n-AMYLAMINE	3	FT1	III	3+6.1		LQ7	E1	P001 IBC03 R001		MP19	T4	TP1	L4BH	TU15	3			CW13 CW28	CE4	36
2842	NITROETHANE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2844	CALCIUM MANGANESE SILICON	4.3	W2	III	4.3		LQ12	E1	P410 IBC08 R001	B4	MP14	T1	TP33	SGAN		3	W1	VW5 VW7	CW23	CE11	423
2845	PYROPHORIC LIQUID, ORGANIC, N.O.S.	4.2	S1	I	4.2	274	LQ0	E0	P400		MP2	T22	TP2 TP7	L21DH	TU14 TU38 TC1 TE21 TE22 TE25 TM1	0	W1				333
2846	PYROPHORIC SOLID, ORGANIC, N.O.S.	4.2	S2	I	4.2	274	LQ0	E0	P404		MP13					0	W1				43

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2849	3-CHLOROPROPANOL-1	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2850	PROPYLENE TETRAMER	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2851	BORON TRIFLUORIDE DIHYDRATE	8	C1	II	8		LQ22	E2	P001 IBC02			MP15	T7	TP2	L4BN		2				CE6	80
2852	DIPICRYL SULPHIDE, WETTED with not less than 10% water, by mass	4.1	D	I	4.1	545	LQ0	E0	P406	PP24	MP2						1	W1				40
2853	MAGNESIUM FLUOROSILICATE	6.1	T5	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3		MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2854	AMMONIUM FLUOROSILICATE	6.1	T5	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3		MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2855	ZINC FLUOROSILICATE	6.1	T5	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3		MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2856	FLUOROSILICATES, N.O.S.	6.1	T5	III	6.1	274	LQ9	E1	P002 IBC08 LP02 R001	B3		MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2857	REFRIGERATING MACHINES containing non-flammable, non-toxic gases or ammonia solutions (UN 2672)	2	6A		2.2	119	LQ0	E0	P003	PP32	MP9						3			CW9	CE2	20
2858	ZIRCONIUM, DRY, coiled wire, finished metal sheets, strip (thinner than 254 microns but not thinner than 18 microns)	4.1	F3	III	4.1	546	LQ9	E1	P002 LP02 R001			MP11					3	W1	VW1		CE11	40



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2859	AMMONIUM METAVANADATE	6.1	T5	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
2861	AMMONIUM POLYVANADATE	6.1	T5	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
2862	VANADIUM PENTOXIDE, non-fused form	6.1	T5	III	6.1	600	LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2863	SODIUM AMMONIUM VANADATE	6.1	T5	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
2864	POTASSIUM METAVANADATE	6.1	T5	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
2865	HYDROXYLAMINE SULPHATE	8	C2	III	8		LQ24 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV		3		VW9		CE11	80
2869	TITANIUM TRICHLORIDE MIXTURE	8	C2	II	8		LQ23 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN		2	W11			CE10	80
2869	TITANIUM TRICHLORIDE MIXTURE	8	C2	III	8		LQ24 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV		3		VW9		CE11	80
2870	ALUMINIUM BOROHYDRIDE	4.2	SW	I	4.2+4.3		LQ0 E0	P400		MP2	T21	TP7 TP33	L21DH	TU14 TU38 TC1 TE21 TE22 TE25 TM1	0	W1				X333
2870	ALUMINIUM BOROHYDRIDE IN DEVICES	4.2	SW	I	4.2+4.3		LQ0 E0	P002	PP13	MP2					0	W1				X333

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2871	ANTIMONY POWDER	6.1	T5	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2872	DIBROMOCHLOROPROPANES	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2872	DIBROMOCHLOROPROPANES	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2873	DIBUTYLAMINOETHANOL	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2874	FURFURYL ALCOHOL	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2875	HEXACHLOROPHENE	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2876	RESORCINOL	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
2878	TITANIUM SPONGE GRANULES or TITANIUM SPONGE POWDERS	4.1	F3	III	4.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP11	T1	TP33	SGAV		3	W1	VW1		CE11	40
2879	SELENIUM OXYCHLORIDE	8	CT1	I	8+6.1		LQ0	E0	P001		MP8 MP17	T10	TP2	L10BH	TU38 TE22	1			CW13 CW28		X886

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2880	CALCIUM HYPOCHLORITE, HYDRATED or CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, with not less than 5.5% but not more than 16% water	5.1	O2	II	5.1	313 314 322	LQ11 E2	P002 IBC08	B4 B13	MP10			SGAN	TU3	2	W11		CW24 CW35	CE10	50
2880	CALCIUM HYPOCHLORITE, HYDRATED or CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, with not less than 5.5% but not more than 16% water	5.1	O2	III	5.1	313 314	LQ12 E1	P002 IBC08 R001	B4	MP10			SGAV	TU3	3		VW8	CW24 CW35	CE11	50
2881	METAL CATALYST, DRY	4.2	S4	I	4.2	274	LQ0 E0	P404		MP13	T21	TP7 TP33			0	W1				43
2881	METAL CATALYST, DRY	4.2	S4	II	4.2	274	LQ0 E2	P410 IBC06		MP14	T3	TP33	SGAN		2	W1 W12			CE10	40
2881	METAL CATALYST, DRY	4.2	S4	III	4.2	274	LQ0 E1	P002 IBC08 LP02 R001	B3	MP14	T1	TP33	SGAN		3	W1	VW4		CE11	40
2900	INFECTIOUS SUBSTANCE, AFFECTING ANIMALS only	6.2	I2		6.2	318	LQ0 E0	P620		MP5					0	W9		CW13 CW18 CW26 CW28	CE14	606
2900	INFECTIOUS SUBSTANCE, AFFECTING ANIMALS only, in refrigerated liquid nitrogen	6.2	I2		6.2+2.2	318	LQ0 E0	P620		MP5					0	W9		CW13 CW18 CW26 CW28	CE14	606
2900	INFECTIOUS SUBSTANCE, AFFECTING ANIMALS only (animal material only)	6.2	I2		6.2	318	LQ0 E0	P620		MP5	BK1 BK2				0	W9		CW13 CW18 CW26 CW28	CE14	606

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
																		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions						
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
2901	BROMINE CHLORIDE	2	2TOC		2.3+5.1+8 (+13)		LQ0 E0		P200			MP9	(M)		PxBH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		265
2902	PESTICIDE, LIQUID, TOXIC, N.O.S.	6.1	T6	I	6.1	61 274 648	LQ0 E5		P001			MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66
2902	PESTICIDE, LIQUID, TOXIC, N.O.S.	6.1	T6	II	6.1	61 274 648	LQ17 E4		P001 IBC02			MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60
2902	PESTICIDE, LIQUID, TOXIC, N.O.S.	6.1	T6	III	6.1	61 274 648	LQ7 E1		P001 IBC03 LP01 R001			MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60
2903	PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S., flash-point not less than 23 °C	6.1	TF2	I	6.1+3	61 274	LQ0 E5		P001			MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663
2903	PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S., flash-point not less than 23 °C	6.1	TF2	II	6.1+3	61 274	LQ17 E4		P001 IBC02			MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63
2903	PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S., flash-point not less than 23 °C	6.1	TF2	III	6.1+3	61 274	LQ7 E1		P001 IBC03 R001			MP19	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63
2904	CHLOROPHENOLATES, LIQUID or PHENOLATES, LIQUID	8	C9	III	8		LQ7 E1		P001 IBC03 LP01 R001			MP19			L4BN		3				CE8	80

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)			(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2905	CHLOROPHENOLATES, SOLID or PHENOLATES, SOLID	8	C10	III	8		LQ24 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV L4BN		3			VW9			CE11	80
2907	ISOSORBIDE DINITRATE MIXTURE with not less than 60% lactose, mannose, starch or calcium hydrogen phosphate	4.1	D	II	4.1	127	LQ8 E0	P406 IBC06	PP26 PP80 B12	MP2							2	W1 W12			CE10	40
2908	RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - EMPTY PACKAGING	7				290	LQ0 E0	See 1.7	See 4.1.9.1.3								4			CW33	CE15	70
2909	RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - ARTICLES MANUFACTURED FROM NATURAL URANIUM or DEPLETED URANIUM or NATURAL THORIUM	7				290	LQ0 E0	See 1.7	See 4.1.9.1.3								4			CW33	CE15	70
2910	RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL	7				290	LQ0 E0	See 1.7	See 4.1.9.1.3								4			CW33	CE15	70
2911	RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - INSTRUMENTS or ARTICLES	7				290	LQ0 E0	See 1.7	See 4.1.9.1.3								4			CW33	CE15	70
2912	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-I), non fissile or fissile-excepted	7			7X	172 317 325	LQ0 E0	See 2.2.7 and 4.1.9	See 4.1.9.1.3				T5	TP4	S2.65AN(+) L2.65CN(+)	TU36 TT7 TM7	0		VW16	CW33	CE15	70
2913	RADIOACTIVE MATERIAL, SURFACE CONTAMINATED OBJECTS (SCO-I or SCO-II), non fissile or fissile-excepted	7			7X	172 317 336	LQ0 E0	See 2.2.7 and 4.1.9	See 4.1.9.1.3								0		VW17	CW33	CE15	70
2915	RADIOACTIVE MATERIAL, TYPE A PACKAGE, non-special form, non fissile or fissile-excepted	7			7X	172 317 325	LQ0 E0	See 2.2.7 and 4.1.9	See 4.1.9.1.3								0			CW33	CE15	70
2916	RADIOACTIVE MATERIAL, TYPE B(U) PACKAGE, non fissile or fissile-excepted	7			7X	172 317 337	LQ0 E0	See 2.2.7 and 4.1.9	See 4.1.9.1.3								0			CW33	CE15	70
2917	RADIOACTIVE MATERIAL, TYPE B(M) PACKAGE, non fissile or fissile-excepted	7			7X	172 317 337	LQ0 E0	See 2.2.7 and 4.1.9	See 4.1.9.1.3								0			CW33	CE15	70

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2919	RADIOACTIVE MATERIAL, TRANSPORTED UNDER SPECIAL ARRANGEMENT, non fissile or fissile-excepted	7			7X	172 317	LQ0	E0	See 2.2.7 and 4.1.9	See 4.1.9.1.3							0			CW33	CE15	70
2920	CORROSIVE LIQUID, FLAMMABLE, N.O.S.	8	CF1	I	8+3	274	LQ0	E0	P001			MP8 MP17	T14	TP2 TP27	L10BH	TU38 TE22	1					883
2920	CORROSIVE LIQUID, FLAMMABLE, N.O.S.	8	CF1	II	8+3	274	LQ22	E2	P001 IBC02			MP15	T11	TP2 TP27	L4BN		2				CE6	83
2921	CORROSIVE SOLID, FLAMMABLE, N.O.S.	8	CF2	I	8+4.1	274	LQ0	E0	P002 IBC05			MP18	T6	TP33	S10AN L10BH	TU38 TE22	1	W10				884
2921	CORROSIVE SOLID, FLAMMABLE, N.O.S.	8	CF2	II	8+4.1	274	LQ23	E2	P002 IBC08	B4		MP10	T3	TP33	SGAN L4BN		2	W11			CE10	84
2922	CORROSIVE LIQUID, TOXIC, N.O.S.	8	CT1	I	8+6.1	274	LQ0	E0	P001			MP8 MP17	T14	TP2 TP27	L10BH	TU38 TE22	1			CW13 CW28		886
2922	CORROSIVE LIQUID, TOXIC, N.O.S.	8	CT1	II	8+6.1	274	LQ22	E2	P001 IBC02			MP15	T7	TP2	L4BN		2			CW13 CW28	CE6	86
2922	CORROSIVE LIQUID, TOXIC, N.O.S.	8	CT1	III	8+6.1	274	LQ7	E1	P001 IBC03 R001			MP19	T7	TP1 TP28	L4BN		3			CW13 CW28	CE8	86
2923	CORROSIVE SOLID, TOXIC, N.O.S.	8	CT2	I	8+6.1	274	LQ0	E0	P002 IBC05			MP18	T6	TP33	S10AN L10BH	TU38 TE22	1	W10		CW13 CW28		886
2923	CORROSIVE SOLID, TOXIC, N.O.S.	8	CT2	II	8+6.1	274	LQ23	E2	P002 IBC08	B4		MP10	T3	TP33	SGAN L4BN		2	W11		CW13 CW28	CE10	86
2923	CORROSIVE SOLID, TOXIC, N.O.S.	8	CT2	III	8+6.1	274	LQ24	E1	P002 IBC08 R001	B3		MP10	T1	TP33	SGAV L4BN		3		VW9	CW13 CW28	CE11	86
2924	FLAMMABLE LIQUID, CORROSIVE, N.O.S.	3	FC	I	3+8	274	LQ3	E0	P001			MP7 MP17	T14	TP2	L10CH	TU14 TU38 TE21 TE22	1					338
2924	FLAMMABLE LIQUID, CORROSIVE, N.O.S.	3	FC	II	3+8	274	LQ4	E2	P001 IBC02			MP19	T11	TP2 TP27	L4BH		2				CE7	338
2924	FLAMMABLE LIQUID, CORROSIVE, N.O.S.	3	FC	III	3+8	274	LQ7	E1	P001 IBC03 R001			MP19	T7	TP1 TP28	L4BN		3				CE4	38

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3	
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2925	FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.	4.1	FC1	II	4.1+8	274	LQ0	E2	P002 IBC06		MP10	T3	TP33	SGAN		2	W1 W12			CE10	48
2925	FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.	4.1	FC1	III	4.1+8	274	LQ0	E1	P002 IBC06 R001		MP10	T1	TP33	SGAN		3	W1 W12			CE11	48
2926	FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.	4.1	FT1	II	4.1+6.1	274	LQ0	E2	P002 IBC06		MP10	T3	TP33	SGAN		2	W1 W12		CW28	CE10	46
2926	FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.	4.1	FT1	III	4.1+6.1	274	LQ0	E1	P002 IBC06 R001		MP10	T1	TP33	SGAN		3	W1 W12		CW28	CE11	46
2927	TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.	6.1	TC1	I	6.1+8	274 315	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		668
2927	TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.	6.1	TC1	II	6.1+8	274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5	68
2928	TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.	6.1	TC2	I	6.1+8	274	LQ0	E5	P002 IBC05		MP18	T6	TP33	S10AH	TU14 TU15 TE21	1	W10		CW13 CW28 CW31		668
2928	TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.	6.1	TC2	II	6.1+8	274	LQ18	E4	P002 IBC06		MP10	T3	TP33	SGAH L4BH	TU15	2	W11 W12		CW13 CW28 CW31	CE9	68
2929	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.	6.1	TF1	I	6.1+3	274 315	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
2929	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.	6.1	TF1	II	6.1+3	274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5	63
2930	TOXIC SOLID, FLAMMABLE, ORGANIC, N.O.S.	6.1	TF3	I	6.1+4.1	274	LQ0	E5	P002 IBC05		MP18	T6	TP33			1	W10		CW13 CW28 CW31		664

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2930	TOXIC SOLID, FLAMMABLE, ORGANIC, N.O.S.	6.1	TF3	II	6.1+4.1	274	LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	64
2931	VANADYL SULPHATE	6.1	T5	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
2933	METHYL 2-CHLOROPROPIONATE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2934	ISOPROPYL 2-CHLOROPROPIONATE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2935	ETHYL 2-CHLOROPROPIONATE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30
2936	THIOLACTIC ACID	6.1	T1	II	6.1		LQ17 E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2937	alpha-METHYLBENZYL ALCOHOL, LIQUID	6.1	T1	III	6.1		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2940	9-PHOSPHABICYCLO-NONANES (CYCLOOCTADIENE PHOSPHINES)	4.2	S2	II	4.2		LQ0 E2	P410 IBC06		MP14	T3	TP33	SGAN		2	W1 W12			CE10	40
2941	FLUOROANILINES	6.1	T1	III	6.1		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2942	2-TRIFLUOROMETHYLANILINE	6.1	T1	III	6.1		LQ7 E1	P001 IBC03 LP01 R001		MP19			L4BH	TU15	2			CW13 CW28 CW31	CE8	60



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2943	TETRAHYDROFURFURYLAMINE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2945	N-METHYLBUTYLAMINE	3	FC	II	3+8		LQ4 E2	P001 IBC02			MP19	T7	TP1	L4BH		2				CE7	338
2946	2-AMINO-5-DIETHYLAMINOPENTANE	6.1	T1	III	6.1		LQ7 E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
2947	ISOPROPYL CHLOROACETATE	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
2948	3-TRIFLUOROMETHYLANILINE	6.1	T1	II	6.1		LQ17 E4	P001 IBC02			MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
2949	SODIUM HYDROSULPHIDE, HYDRATED with not less than 25% water of crystallization	8	C6	II	8	523	LQ23 E2	P002 IBC08	B4		MP10	T7	TP2	SGAN L4BN		2	W11			CE10	80
2950	MAGNESIUM GRANULES, COATED, particle size not less than 149 microns	4.3	W2	III	4.3		LQ12 E1	P410 IBC08 R001	B4		MP14	T1 BK2	TP33	SGAN		3	W1	VW5	CW23	CE11	423
2956	5-tert-BUTYL-2,4,6-TRINITRO-m- XYLENE (MUSK XYLENE)	4.1	SR1	III	4.1	638	LQ0 E1	P409			MP2					3	W1			CE11	40
2965	BORON TRIFLUORIDE DIMETHYL ETHERATE	4.3	WFC	I	4.3+3+8		LQ0 E0	P401			MP2	T10	TP2 TP7	L10DH	TU4 TU14 TU22 TU38 TE21 TE22 TM2	0	W1		CW23		382
2966	THIOGLYCOL	6.1	T1	II	6.1		LQ17 E4	P001 IBC02			MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2967	SULPHAMIC ACID	8	C2	III	8		LQ24 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV		3			VW9		CE11	80
2968	MANEB, STABILIZED or MANEB PREPARATION, STABILIZED against self-heating	4.3	W2	III	4.3	547	LQ12 E1	P002 IBC08 R001	B4	MP14	T1	TP33	SGAN		0		W1	VW5	CW23	CE11	423
2969	CASTOR BEANS or CASTOR MEAL or CASTOR POMACE or CASTOR FLAKE	9	M11	II	9	141	LQ25 E2	P002 IBC08	PP34 B4	MP10	T3 BK1 BK2	TP33	SGAV		2	W11	VW9	CW31	CE9	90	
2977	RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, FISSILE	7			7X+7E+8	172	LQ0 E0	See 2.2.7 and 4.1.9	See 4.1.9.1.3						0				CW33	CE15	78
2978	RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, non fissile or fissile-excepted	7			7X+8	172 317	LQ0 E0	See 2.2.7 and 4.1.9	See 4.1.9.1.3						0				CW33	CE15	78
2983	ETHYLENE OXIDE AND PROPYLENE OXIDE MIXTURE, not more than 30% ethylene oxide	3	FT1	I	3+6.1		LQ0 E0	P001		MP7 MP17	T14	TP2 TP7	L10CH	TU14 TU15 TU38 TE21 TE22	1				CW13 CW28		336
2984	HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 8% but less than 20% hydrogen peroxide (stabilized as necessary)	5.1	O1	III	5.1	65	LQ13 E1	P504 IBC02 R001	PP10 B5	MP15	T4	TP1 TP6 TP24	LGBV	TU3 TC2 TE8 TE11 TT1	3				CW24	CE8	50
2985	CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S.	3	FC	II	3+8	274 548	LQ4 E2	P010		MP19	T14	TP2 TP7 TP27	L4BH		2					CE7	X338
2986	CHLOROSILANES, CORROSIVE, FLAMMABLE, N.O.S.	8	CF1	II	8+3	274 548	LQ22 E2	P010		MP15	T14	TP2 TP7 TP27	L4BN		2					CE6	X83
2987	CHLOROSILANES, CORROSIVE, N.O.S.	8	C3	II	8	274 548	LQ22 E2	P010		MP15	T14	TP2 TP7 TP27	L4BN		2					CE6	X80

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)			(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2988	CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, N.O.S.	4.3	WFC	I	4.3+3+8	274 549	LQ0 E0			P401	RR7	MP2	T14	TP2 TP7	L10DH	TU14 TU26 TU38 TE21 TE22 TM2 TM3	0	W1		CW23		X338
2989	LEAD PHOSPHITE, DIBASIC	4.1	F3	II	4.1		LQ8 E2			P002 IBC08	B4	MP11	T3	TP33	SGAN		2	W1			CE10	40
2989	LEAD PHOSPHITE, DIBASIC	4.1	F3	III	4.1		LQ9 E1			P002 IBC08 LP02 R001	B3	MP11	T1	TP33	SGAV		3	W1	VW1		CE11	40
2990	LIFE-SAVING APPLIANCES, SELF-INFLATING	9	M5		9	296 635	LQ0 E0			P905							3				CE2	90
2991	CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	I	6.1+3	61 274	LQ0 E5			P001		MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663
2991	CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	II	6.1+3	61 274	LQ17 E4			P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63
2991	CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	III	6.1+3	61 274	LQ7 E1			P001 IBC03 R001		MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63
2992	CARBAMATE PESTICIDE, LIQUID, TOXIC	6.1	T6	I	6.1	61 274 648	LQ0 E5			P001		MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66
2992	CARBAMATE PESTICIDE, LIQUID, TOXIC	6.1	T6	II	6.1	61 274 648	LQ17 E4			P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3	
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	
2992	CARBAMATE PESTICIDE, LIQUID, TOXIC	6.1	T6	III	6.1	61 274 648	LQ7 E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60	
2993	ARSENICAL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	I	6.1+3	61 274	LQ0 E5	P001		MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663	
2993	ARSENICAL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	II	6.1+3	61 274	LQ17 E4	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63	
2993	ARSENICAL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	III	6.1+3	61 274	LQ7 E1	P001 IBC03 R001		MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63	
2994	ARSENICAL PESTICIDE, LIQUID, TOXIC	6.1	T6	I	6.1	61 274 648	LQ0 E5	P001		MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66	
2994	ARSENICAL PESTICIDE, LIQUID, TOXIC	6.1	T6	II	6.1	61 274 648	LQ17 E4	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60	
2994	ARSENICAL PESTICIDE, LIQUID, TOXIC	6.1	T6	III	6.1	61 274 648	LQ7 E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60	
2995	ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	I	6.1+3	61 274	LQ0 E5	P001		MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663	
2995	ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	II	6.1+3	61 274	LQ17 E4	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63	

UN No.	Name and description	Class	Classifi- cation code	Packing group	Labels	Special provi- sions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identi- fication No.
									Packing instructions	Special packing provisions	Mixed packing provi- sions	Instruc- tions	Special provi- sions	Tank code	Special provi- sions		Packages	Bulk	Loading, unloading and handling		
									4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4		1.1.3.1 (c)	7.2.4	7.3.3		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2995	ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	III	6.1+3	61 274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63
2996	ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66
2996	ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60
2996	ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60
2997	TRIAZINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	I	6.1+3	61 274	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663
2997	TRIAZINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	II	6.1+3	61 274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63
2997	TRIAZINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	III	6.1+3	61 274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63
2998	TRIAZINE PESTICIDE, LIQUID, TOXIC	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66
2998	TRIAZINE PESTICIDE, LIQUID, TOXIC	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
2998	TRIAZINE PESTICIDE, LIQUID, TOXIC	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001			MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60
3005	THIOCARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	I	6.1+3	61 274	LQ0	E5	P001			MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663
3005	THIOCARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	II	6.1+3	61 274	LQ17	E4	P001 IBC02			MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63
3005	THIOCARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	III	6.1+3	61 274	LQ7	E1	P001 IBC03 R001			MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63
3006	THIOCARBAMATE PESTICIDE, LIQUID, TOXIC	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001			MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66
3006	THIOCARBAMATE PESTICIDE, LIQUID, TOXIC	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02			MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60
3006	THIOCARBAMATE PESTICIDE, LIQUID, TOXIC	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001			MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60
3009	COPPER BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	I	6.1+3	61 274	LQ0	E5	P001			MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663
3009	COPPER BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	II	6.1+3	61 274	LQ17	E4	P001 IBC02			MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3009	COPPER BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	III	6.1+3	61 274	LQ7	E1	P001 IBC03 R001			MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63
3010	COPPER BASED PESTICIDE, LIQUID, TOXIC	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001			MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66
3010	COPPER BASED PESTICIDE, LIQUID, TOXIC	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02			MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60
3010	COPPER BASED PESTICIDE, LIQUID, TOXIC	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001			MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60
3011	MERCURY BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	I	6.1+3	61 274	LQ0	E5	P001			MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663
3011	MERCURY BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	II	6.1+3	61 274	LQ17	E4	P001 IBC02			MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63
3011	MERCURY BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	III	6.1+3	61 274	LQ7	E1	P001 IBC03 R001			MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63
3012	MERCURY BASED PESTICIDE, LIQUID, TOXIC	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001			MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3012	MERCURY BASED PESTICIDE, LIQUID, TOXIC	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02			MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60
3012	MERCURY BASED PESTICIDE, LIQUID, TOXIC	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001			MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60
3013	SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	I	6.1+3	61 274	LQ0	E5	P001			MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663
3013	SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	II	6.1+3	61 274	LQ17	E4	P001 IBC02			MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63
3013	SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	III	6.1+3	61 274	LQ7	E1	P001 IBC03 R001			MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63
3014	SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001			MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66
3014	SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02			MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60
3014	SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001			MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3015	BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	I	6.1+3	61 274	LQ0	E5	P001			MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663
3015	BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	II	6.1+3	61 274	LQ17	E4	P001 IBC02			MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63
3015	BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	III	6.1+3	61 274	LQ7	E1	P001 IBC03 R001			MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63
3016	BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001			MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66
3016	BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02			MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60
3016	BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001			MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60
3017	ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	I	6.1+3	61 274	LQ0	E5	P001			MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663
3017	ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	II	6.1+3	61 274	LQ17	E4	P001 IBC02			MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63
3017	ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	III	6.1+3	61 274	LQ7	E1	P001 IBC03 R001			MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3018	ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001			MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66
3018	ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02			MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60
3018	ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001			MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60
3019	ORGANOTIN PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	I	6.1+3	61 274	LQ0	E5	P001			MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663
3019	ORGANOTIN PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	II	6.1+3	61 274	LQ17	E4	P001 IBC02			MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63
3019	ORGANOTIN PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	III	6.1+3	61 274	LQ7	E1	P001 IBC03 R001			MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63
3020	ORGANOTIN PESTICIDE, LIQUID, TOXIC	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001			MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66
3020	ORGANOTIN PESTICIDE, LIQUID, TOXIC	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02			MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60
3020	ORGANOTIN PESTICIDE, LIQUID, TOXIC	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001			MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3021	PESTICIDE, LIQUID, FLAMMABLE, TOXIC, N.O.S., flash-point less than 23 °C	3	FT2	I	3+6.1	61 274	LQ3	E0	P001			MP7 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336
3021	PESTICIDE, LIQUID, FLAMMABLE, TOXIC, N.O.S., flash-point less than 23 °C	3	FT2	II	3+6.1	61 274	LQ4	E2	P001 IBC02 R001			MP19	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28	CE7	336
3022	1,2-BUTYLENE OXIDE, STABILIZED	3	F1	II	3		LQ4	E2	P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	339
3023	2-METHYL-2-HEPTANETHIOL	6.1	TF1	I	6.1+3		LQ0	E5	P001			MP8 MP17	T20	TP2 TP35	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
3024	COUMARIN DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	I	3+6.1	61 274	LQ3	E0	P001			MP7 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336
3024	COUMARIN DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	II	3+6.1	61 274	LQ4	E2	P001 IBC02 R001			MP19	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28	CE7	336
3025	COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	I	6.1+3	61 274	LQ0	E5	P001			MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663
3025	COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	II	6.1+3	61 274	LQ17	E4	P001 IBC02			MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63
3025	COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	III	6.1+3	61 274	LQ7	E1	P001 IBC03 R001			MP19	T7	TP1 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63

UN No.	Name and description	Class	Classifi- cation code	Packing group	Labels	Special provis- ions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identi- fication No.
									Packing instructions	Special packing provisions	Mixed packing provis- ions	Instruc- tions	Special provis- ions	Tank code	Special provis- ions		Packages	Bulk	Loading, unloading and handling		
									3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3026	COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66
3026	COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60
3026	COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60
3027	COUMARIN DERIVATIVE PESTICIDE, SOLID, TOXIC	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66
3027	COUMARIN DERIVATIVE PESTICIDE, SOLID, TOXIC	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60
3027	COUMARIN DERIVATIVE PESTICIDE, SOLID, TOXIC	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60
3028	BATTERIES, DRY, CONTAINING POTASSIUM HYDROXIDE SOLID, electric storage	8	C11		8	295 304 598	LQ0	E0	P801 P801a							3		VW14		CE11	80
3048	ALUMINIUM PHOSPHIDE PESTICIDE	6.1	T7	I	6.1	153 648	LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH	TU15	1	W10 W12		CW13 CW28 CW31		642
3054	CYCLOHEXYL MERCAPTAN	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3				CE4	30

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3055	2-(2-AMINOETHOXY)ETHANOL	8	C7	III	8		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BN		3				CE8	80
3056	n-HEPTALDEHYDE	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001			MP19	T2	TP1	LGBF		3				CE4	30
3057	TRIFLUOROACETYL CHLORIDE	2	2TC		2.3+8 (+13)		LQ0	E0	P200			MP9	T50	TP21	PxBH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		268
3064	NITROGLYCERIN, SOLUTION IN ALCOHOL with more than 1% but not more than 5% nitroglycerin	3	D	II	3		LQ0	E0	P300			MP2					2					33
3065	ALCOHOLIC BEVERAGES, with more than 70% alcohol by volume	3	F1	II	3		LQ5	E2	P001 IBC02 R001	PP2		MP19	T4	TP1	LGBF		2				CE7	33
3065	ALCOHOLIC BEVERAGES, with more than 24% but not more than 70% alcohol by volume	3	F1	III	3	144 145 247	LQ7	E1	P001 IBC03 R001	PP2		MP19	T2	TP1	LGBF		3				CE4	30
3066	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound)	8	C9	II	8	163	LQ22	E2	P001 IBC02			MP15	T7	TP2 TP28	L4BN		2				CE6	80
3066	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound)	8	C9	III	8	163	LQ7	E1	P001 IBC03 R001			MP19	T4	TP1 TP29	L4BN		3				CE8	80

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)			(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3070	ETHYLENE OXIDE AND DICHLORODIFLUOROMETHANE MIXTURE with not more than 12.5% ethylene oxide	2	2A		2.2 (+13)		LQ1 E1			P200		MP9	T50 (M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
3071	MERCAPTANS, LIQUID, TOXIC, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, TOXIC, FLAMMABLE, N.O.S.	6.1	TF1	II	6.1+3	274	LQ17 E4			P001 IBC02		MP15	T11 TP2 TP27		L4BH	TU15	2			CW13 CW28 CW31	CE5	63
3072	LIFE-SAVING APPLIANCES NOT SELF-INFLATING containing dangerous goods as equipment	9	M5		9	296 635	LQ0 E0			P905							3				CE2	90
3073	VINYLPYRIDINES, STABILIZED	6.1	TFC	II	6.1+3+8		LQ17 E4			P001 IBC01		MP15	T7 TP2		L4BH	TU15	2			CW13 CW28 CW31	CE5	638
3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.	9	M7	III	9	274 335 601	LQ27 E1			P002 IBC08 LP02 R001	PP12 B3	MP10	T1 BK1 BK2	TP33	SGAV LGBV		3	W13	VW1	CW13 CW31	CE11	90
3078	CERIUM, turnings or gritty powder	4.3	W2	II	4.3	550	LQ11 E2			P410 IBC07		MP14	T3 TP33		SGAN		2	W1 W12		CW23	CE10	423
3079	METHACRYLONITRILE, STABILIZED	3	FT1	I	3+6.1		LQ0 E0			P001		MP7 MP17	T14 TP2		L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336
3080	ISOCYANATES, TOXIC, FLAMMABLE, N.O.S. or ISOCYANATE SOLUTION, TOXIC, FLAMMABLE, N.O.S.	6.1	TF1	II	6.1+3	274 551	LQ17 E4			P001 IBC02		MP15	T11 TP2 TP27		L4BH	TU15	2			CW13 CW28 CW31	CE5	63
3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	9	M6	III	9	274 335 601	LQ7 E1			P001 IBC03 LP01 R001	PP1	MP19	T4 TP1 TP29		LGBV		3			CW13 CW31	CE8	90

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3083	PERCHLORYL FLUORIDE	2	2TO		2.3+5.1 (+13)		LQ0	E0	P200			MP9	(M)		PxBH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		265
3084	CORROSIVE SOLID, OXIDIZING, N.O.S.	8	CO2	I	8+5.1	274	LQ0	E0	P002			MP18	T6	TP33	S10AN L10BH	TU38 TE22	1			CW24		885
3084	CORROSIVE SOLID, OXIDIZING, N.O.S.	8	CO2	II	8+5.1	274	LQ23	E2	P002 IBC06			MP10	T3	TP33	SGAN L4BN		2	W11 W12		CW24	CE10	85
3085	OXIDIZING SOLID, CORROSIVE, N.O.S.	5.1	OC2	I	5.1+8	274	LQ0	E0	P503			MP2					1			CW24		558
3085	OXIDIZING SOLID, CORROSIVE, N.O.S.	5.1	OC2	II	5.1+8	274	LQ11	E2	P002 IBC06			MP2	T3	TP33	SGAN	TU3	2	W11 W12		CW24	CE10	58
3085	OXIDIZING SOLID, CORROSIVE, N.O.S.	5.1	OC2	III	5.1+8	274	LQ12	E1	P002 IBC08 R001	B3		MP2	T1	TP33	SGAN	TU3	3			CW24	CE11	58
3086	TOXIC SOLID, OXIDIZING, N.O.S.	6.1	TO2	I	6.1+5.1	274	LQ0	E5	P002			MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		665
3086	TOXIC SOLID, OXIDIZING, N.O.S.	6.1	TO2	II	6.1+5.1	274	LQ18	E4	P002 IBC06			MP10	T3	TP33	SGAH L4BH	TU15	2	W11 W12		CW13 CW28 CW31	CE9	65
3087	OXIDIZING SOLID, TOXIC, N.O.S.	5.1	OT2	I	5.1+6.1	274	LQ0	E0	P503			MP2					1			CW24 CW28		556
3087	OXIDIZING SOLID, TOXIC, N.O.S.	5.1	OT2	II	5.1+6.1	274	LQ11	E2	P002 IBC06			MP2	T3	TP33	SGAN	TU3	2	W11 W12		CW24 CW28	CE10	56

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
3087	OXIDIZING SOLID, TOXIC, N.O.S.	5.1	OT2	III	5.1+6.1	274	LQ12 E1	P002 IBC08 R001	B3	MP2	T1	TP33	SGAN	TU3	3					CW24 CW28	CE11	56
3088	SELF-HEATING SOLID, ORGANIC, N.O.S.	4.2	S2	II	4.2	274	LQ0 E2	P410 IBC06		MP14	T3	TP33	SGAV		2		W1 W12				CE10	40
3088	SELF-HEATING SOLID, ORGANIC, N.O.S.	4.2	S2	III	4.2	274	LQ0 E1	P002 IBC08 LP02 R001	B3	MP14	T1	TP33	SGAV		3		W1				CE11	40
3089	METAL POWDER, FLAMMABLE, N.O.S.	4.1	F3	II	4.1	274 552	LQ8 E2	P002 IBC08	B4	MP11	T3	TP33	SGAN		2		W1				CE10	40
3089	METAL POWDER, FLAMMABLE, N.O.S.	4.1	F3	III	4.1	274 552	LQ9 E1	P002 IBC06 R001		MP11	T1	TP33	SGAV		3		W1 W12	VW1			CE11	40
3090	LITHIUM METAL BATTERIES (including lithium alloy batteries)	9	M4	II	9	188 230 310 636	LQ0 E0	P903 P903a P903b							2						CE2	90
3091	LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT or LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT (including lithium alloy batteries)	9	M4	II	9	188 230 636	LQ0 E0	P903 P903a P903b							2						CE2	90
3092	1-METHOXY-2-PROPANOL	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001		MP19	T2	TP1	LGBF		3						CE4	30
3093	CORROSIVE LIQUID, OXIDIZING, N.O.S.	8	CO1	I	8+5.1	274	LQ0 E0	P001		MP8 MP17			L10BH	TU38 TE22	1					CW24		885
3093	CORROSIVE LIQUID, OXIDIZING, N.O.S.	8	CO1	II	8+5.1	274	LQ22 E2	P001 IBC02		MP15			L4BN		2					CW24	CE6	85
3094	CORROSIVE LIQUID, WATER-REACTIVE, N.O.S.	8	CW1	I	8+4.3	274	LQ0 E0	P001		MP8 MP17			L10BH	TU38 TE22	1							823
3094	CORROSIVE LIQUID, WATER-REACTIVE, N.O.S.	8	CW1	II	8+4.3	274	LQ22 E2	P001		MP15			L4BN		2						CE6	823



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3095	CORROSIVE SOLID, SELF-HEATING, N.O.S.	8	CS2	I	8+4.2	274	LQ0	E0	P002		MP18	T6	TP33	S10AN		1					884
3095	CORROSIVE SOLID, SELF-HEATING, N.O.S.	8	CS2	II	8+4.2	274	LQ23	E2	P002 IBC06		MP10	T3	TP33	SGAN		2	W11 W12			CE10	84
3096	CORROSIVE SOLID, WATER-REACTIVE, N.O.S.	8	CW2	I	8+4.3	274	LQ0	E0	P002		MP18	T6	TP33	S10AN L10BH	TU38 TE22	1					842
3096	CORROSIVE SOLID, WATER-REACTIVE, N.O.S.	8	CW2	II	8+4.3	274	LQ23	E2	P002 IBC06		MP10	T3	TP33	SGAN L4BN		2	W11 W12			CE10	842
3097	FLAMMABLE SOLID, OXIDIZING, N.O.S.	4.1	FO	CARRIAGE PROHIBITED																	
3098	OXIDIZING LIQUID, CORROSIVE, N.O.S.	5.1	OC1	I	5.1+8	274	LQ0	E0	P502		MP2					1			CW24		558
3098	OXIDIZING LIQUID, CORROSIVE, N.O.S.	5.1	OC1	II	5.1+8	274	LQ10	E2	P504 IBC01		MP2					2			CW24	CE6	58
3098	OXIDIZING LIQUID, CORROSIVE, N.O.S.	5.1	OC1	III	5.1+8	274	LQ13	E1	P504 IBC02 R001		MP2					3			CW24	CE8	58
3099	OXIDIZING LIQUID, TOXIC, N.O.S.	5.1	OT1	I	5.1+6.1	274	LQ0	E0	P502		MP2					1			CW24 CW28		556
3099	OXIDIZING LIQUID, TOXIC, N.O.S.	5.1	OT1	II	5.1+6.1	274	LQ10	E2	P504 IBC01		MP2					2			CW24 CW28	CE6	56
3099	OXIDIZING LIQUID, TOXIC, N.O.S.	5.1	OT1	III	5.1+6.1	274	LQ13	E1	P504 IBC02 R001		MP2					3			CW24 CW28	CE8	56
3100	OXIDIZING SOLID, SELF-HEATING, N.O.S.	5.1	OS	CARRIAGE PROHIBITED																	
3101	ORGANIC PEROXIDE TYPE B, LIQUID	5.2	P1		5.2+1	122 181 274	LQ14	E0	P520		MP4					1	W5 W7 W8		CW22 CW24 CW29		539
3102	ORGANIC PEROXIDE TYPE B, SOLID	5.2	P1		5.2+1	122 181 274	LQ15	E0	P520		MP4					1	W5 W7 W8		CW22 CW24 CW29		539

[illegible]

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3114	ORGANIC PEROXIDE TYPE C, SOLID, TEMPERATURE CONTROLLED	5.2	P2	CARRIAGE PROHIBITED																
3115	ORGANIC PEROXIDE TYPE D, LIQUID, TEMPERATURE CONTROLLED	5.2	P2	CARRIAGE PROHIBITED																
3116	ORGANIC PEROXIDE TYPE D, SOLID, TEMPERATURE CONTROLLED	5.2	P2	CARRIAGE PROHIBITED																
3117	ORGANIC PEROXIDE TYPE E, LIQUID, TEMPERATURE CONTROLLED	5.2	P2	CARRIAGE PROHIBITED																
3118	ORGANIC PEROXIDE TYPE E, SOLID, TEMPERATURE CONTROLLED	5.2	P2	CARRIAGE PROHIBITED																
3119	ORGANIC PEROXIDE TYPE F, LIQUID, TEMPERATURE CONTROLLED	5.2	P2	CARRIAGE PROHIBITED																
3120	ORGANIC PEROXIDE TYPE F, SOLID, TEMPERATURE CONTROLLED	5.2	P2	CARRIAGE PROHIBITED																
3121	OXIDIZING SOLID, WATER-REACTIVE, N.O.S.	5.1	OW	CARRIAGE PROHIBITED																
3122	TOXIC LIQUID, OXIDIZING, N.O.S.	6.1	TO1	I	6.1+5.1	274 315	LQ0 E5	P001		MP8 MP17			L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		665
3122	TOXIC LIQUID, OXIDIZING, N.O.S.	6.1	TO1	II	6.1+5.1	274	LQ17 E4	P001 IBC02		MP15			L4BH	TU15	2			CW13 CW28 CW31	CE5	65
3123	TOXIC LIQUID, WATER-REACTIVE, N.O.S.	6.1	TW1	I	6.1+4.3	274 315	LQ0 E5	P099		MP8 MP17			L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		623
3123	TOXIC LIQUID, WATER-REACTIVE, N.O.S.	6.1	TW1	II	6.1+4.3	274	LQ17 E4	P001 IBC02		MP15			L4BH	TU15	2			CW13 CW28 CW31	CE5	623

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.	
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling			
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (e)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	
3124	TOXIC SOLID, SELF-HEATING, N.O.S.	6.1	TS	I	6.1+4.2	274	LQ0	E5	P002		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		664	
3124	TOXIC SOLID, SELF-HEATING, N.O.S.	6.1	TS	II	6.1+4.2	274	LQ18	E4	P002 IBC06		MP10	T3	TP33	SGAH L4BH	TU15	2	W11 W12		CW13 CW28 CW31	CE9	64	
3125	TOXIC SOLID, WATER-REACTIVE, N.O.S.	6.1	TW2	I	6.1+4.3	274	LQ0	E5	P099		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		642	
3125	TOXIC SOLID, WATER-REACTIVE, N.O.S.	6.1	TW2	II	6.1+4.3	274	LQ18	E4	P002 IBC06		MP10	T3	TP33	SGAH L4BH	TU15	2	W11 W12		CW13 CW28 CW31	CE9	642	
3126	SELF-HEATING SOLID, CORROSIVE, ORGANIC, N.O.S.	4.2	SC2	II	4.2+8	274	LQ0	E2	P410 IBC05		MP14	T3	TP33	SGAN		2	W1			CE10	48	
3126	SELF-HEATING SOLID, CORROSIVE, ORGANIC, N.O.S.	4.2	SC2	III	4.2+8	274	LQ0	E1	P002 IBC08 R001	B3	MP14	T1	TP33	SGAN		3	W1			CE11	48	
3127	SELF-HEATING SOLID, OXIDIZING, N.O.S	4.2	SO	CARRIAGE PROHIBITED																		
3128	SELF-HEATING SOLID, TOXIC, ORGANIC, N.O.S.	4.2	ST2	II	4.2+6.1	274	LQ0	E2	P410 IBC05		MP14	T3	TP33	SGAN		2	W1		CW28	CE10	46	
3128	SELF-HEATING SOLID, TOXIC, ORGANIC, N.O.S.	4.2	ST2	III	4.2+6.1	274	LQ0	E1	P002 IBC08 R001	B3	MP14	T1	TP33	SGAN		3	W1		CW28	CE11	46	
3129	WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.	4.3	WC1	I	4.3+8	274	LQ0	E0	P402	RR7 RR8	MP2	T14	TP2 TP7	L10DH	TU14 TU38 TE21 TE22 TM2	0	W1		CW23		X382	
3129	WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.	4.3	WC1	II	4.3+8	274	LQ10	E2	P402 IBC01	RR7 RR8	MP15	T11	TP2	L4DH	TU14 TE21 TM2	0	W1		CW23	CE7	382	

UN No.	Name and description	Class	Classifi- cation code	Packing group	Labels	Special provi- sions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identi- fication No.
									Packing instructions	Special packing provisions	Mixed packing provi- sions	Instruc- tions	Special provi- sions	Tank code	Special provi- sions		Packages	Bulk	Loading, unloading and handling		
									4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4		1.1.3.1 (c)	7.2.4	7.3.3		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3129	WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.	4.3	WC1	III	4.3+8	274	LQ13	E1	P001 IBC02 R001		MP15	T7	TP1	L4DH	TU14 TE21 TM2	0	W1		CW23	CE8	382
3130	WATER-REACTIVE LIQUID, TOXIC, N.O.S.	4.3	WT1	I	4.3+6.1	274	LQ0	E0	P402	RR4 RR8	MP2			L10DH	TU14 TU38 TE21 TE22 TM2	0	W1		CW23 CW28		X362
3130	WATER-REACTIVE LIQUID, TOXIC, N.O.S.	4.3	WT1	II	4.3+6.1	274	LQ10	E2	P402 IBC01	RR4 RR8 BB1	MP15			L4DH	TU14 TE21 TM2	0	W1		CW23 CW28	CE7	362
3130	WATER-REACTIVE LIQUID, TOXIC, N.O.S.	4.3	WT1	III	4.3+6.1	274	LQ13	E1	P001 IBC02 R001		MP15			L4DH	TU14 TE21 TM2	0	W1		CW23 CW28	CE8	362
3131	WATER-REACTIVE SOLID, CORROSIVE, N.O.S.	4.3	WC2	I	4.3+8	274	LQ0	E0	P403		MP2	T9	TP7 TP33	S10AN L10DH	TU4 TU14 TU22 TU38 TE21 TE22 TM2	0	W1		CW23		X482
3131	WATER-REACTIVE SOLID, CORROSIVE, N.O.S.	4.3	WC2	II	4.3+8	274	LQ11	E2	P410 IBC06		MP14	T3	TP33	SGAN		0	W1 W12		CW23	CE10	482
3131	WATER-REACTIVE SOLID, CORROSIVE, N.O.S.	4.3	WC2	III	4.3+8	274	LQ12	E1	P410 IBC08 R001	B4	MP14	T1	TP33	SGAN		0	W1		CW23	CE11	482
3132	WATER-REACTIVE SOLID, FLAMMABLE, N.O.S.	4.3	WF2	I	4.3+4.1	274	LQ0	E0	P403 IBC99		MP2					0	W1		CW23		X423
3132	WATER-REACTIVE SOLID, FLAMMABLE, N.O.S.	4.3	WF2	II	4.3+4.1	274	LQ11	E2	P410 IBC04		MP14	T3	TP33	SGAN L4DH	TU14 TE21 TM2	0	W1		CW23		423
3132	WATER-REACTIVE SOLID, FLAMMABLE, N.O.S.	4.3	WF2	III	4.3+4.1	274	LQ12	E1	P410 IBC06		MP14	T1	TP33	SGAN L4DH	TU14 TE21 TM2	0	W1		CW23		423
3133	WATER-REACTIVE SOLID, OXIDIZING, N.O.S.	4.3	WO	CARRIAGE PROHIBITED																	

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3134	WATER-REACTIVE SOLID, TOXIC, N.O.S.	4.3	WT2	I	4.3+6.1	274	LQ0	E0		P403		MP2					0	W1		CW23 CW28		X462
3134	WATER-REACTIVE SOLID, TOXIC, N.O.S.	4.3	WT2	II	4.3+6.1	274	LQ11	E2		P410 IBC05		MP14	T3	TP33	SGAN		0	W1		CW23 CW28	CE10	462
3134	WATER-REACTIVE SOLID, TOXIC, N.O.S.	4.3	WT2	III	4.3+6.1	274	LQ12	E1		P410 IBC08 R001	B4	MP14	T1	TP33	SGAN		0	W1		CW23 CW28	CE11	462
3135	WATER-REACTIVE SOLID, SELF-HEATING, N.O.S.	4.3	WS	I	4.3+ 4.2	274	LQ0	E0		P403		MP2					1	W1		CW23		X423
3135	WATER-REACTIVE SOLID, SELF-HEATING, N.O.S.	4.3	WS	II	4.3+ 4.2	274	LQ11	E2		P410 IBC05		MP14	T3	TP33	SGAN L4DH	TU14 TE21 TM2	2	W1		CW23		423
3135	WATER-REACTIVE SOLID, SELF-HEATING, N.O.S.	4.3	WS	III	4.3+ 4.2	274	LQ12	E1		P410 IBC08	B4	MP14	T1	TP33	SGAN L4DH	TU14 TE21 TM2	3	W1		CW23		423
3136	TRIFLUOROMETHANE, REFRIGERATED LIQUID	2	3A		2.2 (+13)	593	LQ1	E1		P203		MP9	T75	TP5	RxBN	TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	22
3137	OXIDIZING SOLID, FLAMMABLE, N.O.S.	5.1	OF	CARRIAGE PROHIBITED																		
3138	ETHYLENE, ACETYLENE AND PROPYLENE MIXTURE, REFRIGERATED LIQUID containing at least 71.5% ethylene with not more than 22.5% acetylene and not more than 6% propylene	2	3F		2.1 (+13)		LQ0	E0		P203		MP9	T75	TP5	RxBN	TU18 TU38 TE22 TA4 TT9 TM6	2	W5		CW9 CW11 CW30 CW36	CE2	223
3139	OXIDIZING LIQUID, N.O.S.	5.1	O1	I	5.1	274	LQ0	E0		P502		MP2					1			CW24		55
3139	OXIDIZING LIQUID, N.O.S.	5.1	O1	II	5.1	274	LQ10	E2		P504 IBC02		MP2					2			CW24	CE6	50

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3139	OXIDIZING LIQUID, N.O.S.	5.1	O1	III	5.1	274	LQ13	E1	P504 IBC02 R001			MP2					3			CW24	CE8	50
3140	ALKALOIDS, LIQUID, N.O.S. or ALKALOID SALTS, LIQUID, N.O.S.	6.1	T1	I	6.1	43 274	LQ0	E5	P001			MP8 MP17			L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
3140	ALKALOIDS, LIQUID, N.O.S. or ALKALOID SALTS, LIQUID, N.O.S.	6.1	T1	II	6.1	43 274	LQ17	E4	P001 IBC02			MP15			L4BH	TU15	2			CW13 CW28 CW31	CE5	60
3140	ALKALOIDS, LIQUID, N.O.S. or ALKALOID SALTS, LIQUID, N.O.S.	6.1	T1	III	6.1	43 274	LQ7	E1	P001 IBC03 LP01 R001			MP19			L4BH	TU15	2			CW13 CW28 CW31	CE8	60
3141	ANTIMONY COMPOUND, INORGANIC, LIQUID, N.O.S.	6.1	T4	III	6.1	45 274 512	LQ7	E1	P001 IBC03 LP01 R001			MP19			L4BH	TU15	2			CW13 CW28 CW31	CE8	60
3142	DISINFECTANT, LIQUID, TOXIC, N.O.S.	6.1	T1	I	6.1	274	LQ0	E5	P001			MP8 MP17			L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
3142	DISINFECTANT, LIQUID, TOXIC, N.O.S.	6.1	T1	II	6.1	274	LQ17	E4	P001 IBC02			MP15			L4BH	TU15	2			CW13 CW28 CW31	CE5	60
3142	DISINFECTANT, LIQUID, TOXIC, N.O.S.	6.1	T1	III	6.1	274	LQ7	E1	P001 IBC03 LP01 R001			MP19			L4BH	TU15	2			CW13 CW28 CW31	CE8	60
3143	DYE, SOLID, TOXIC, N.O.S. or DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.	6.1	T2	I	6.1	274	LQ0	E5	P002 IBC07			MP18	T6	TP33	S10AH L10CH	TU15 TU38 TE22	1	W10 W12		CW13 CW28 CW31		66

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3143	DYE, SOLID, TOXIC, N.O.S. or DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.	6.1	T2	II	6.1	274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3143	DYE, SOLID, TOXIC, N.O.S. or DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.	6.1	T2	III	6.1	274	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
3144	NICOTINE COMPOUND, LIQUID, N.O.S. or NICOTINE PREPARATION, LIQUID, N.O.S.	6.1	T1	I	6.1	43 274	LQ0	E5	P001		MP8 MP17			L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
3144	NICOTINE COMPOUND, LIQUID, N.O.S. or NICOTINE PREPARATION, LIQUID, N.O.S.	6.1	T1	II	6.1	43 274	LQ17	E4	P001 IBC02		MP15			L4BH	TU15	2			CW13 CW28 CW31	CE5	60
3144	NICOTINE COMPOUND, LIQUID, N.O.S. or NICOTINE PREPARATION, LIQUID, N.O.S.	6.1	T1	III	6.1	43 274	LQ7	E1	P001 IBC03 LP01 R001		MP19			L4BH	TU15	2			CW13 CW28 CW31	CE8	60
3145	ALKYLPHENOLS, LIQUID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues)	8	C3	I	8	274	LQ0	E0	P001		MP8 MP17	T14	TP2	L10BH	TU38 TE22	1					88
3145	ALKYLPHENOLS, LIQUID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues)	8	C3	II	8	274	LQ22	E2	P001 IBC02		MP15	T11	TP2 TP27	L4BN		2				CE6	80
3145	ALKYLPHENOLS, LIQUID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues)	8	C3	III	8	274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28	L4BN		3				CE8	80
3146	ORGANOTIN COMPOUND, SOLID, N.O.S.	6.1	T3	I	6.1	43 274	LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66
3146	ORGANOTIN COMPOUND, SOLID, N.O.S.	6.1	T3	II	6.1	43 274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3146	ORGANOTIN COMPOUND, SOLID, N.O.S.	6.1	T3	III	6.1	43 274	LQ9	E1		P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
3147	DYE, SOLID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, SOLID, CORROSIVE, N.O.S.	8	C10	I	8	274	LQ0	E0		P002 IBC07		MP18	T6	TP33	S10AN L10BH	TU38 TE22	1	W10 W12				88
3147	DYE, SOLID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, SOLID, CORROSIVE, N.O.S.	8	C10	II	8	274	LQ23	E2		P002 IBC08	B4	MP10	T3	TP33	SGAN L4BN		2	W11			CE10	80
3147	DYE, SOLID, CORROSIVE, N.O.S. or DYE INTERMEDIATE, SOLID, CORROSIVE, N.O.S.	8	C10	III	8	274	LQ24	E1		P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV L4BN		3		VW9		CE11	80
3148	WATER-REACTIVE LIQUID, N.O.S.	4.3	W1	I	4.3	274	LQ0	E0		P402	RR8	MP2	T9	TP2 TP7	L10DH	TU14 TU38 TE21 TE22 TM2	0	W1		CW23		X323
3148	WATER-REACTIVE LIQUID, N.O.S.	4.3	W1	II	4.3	274	LQ10	E2		P402 IBC01	RR8	MP15	T7	TP2	L4DH	TU14 TE21 TM2	0	W1		CW23	CE7	323
3148	WATER-REACTIVE LIQUID, N.O.S.	4.3	W1	III	4.3	274	LQ13	E1		P001 IBC02 R001		MP15	T7	TP1	L4DH	TU14 TE21 TM2	0	W1		CW23	CE8	323
3149	HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE with acid(s), water and not more than 5% peroxyacetic acid, STABILIZED	5.1	OC1	II	5.1+8	196 553	LQ10	E2		P504 IBC02	PP10 B5	MP15	T7	TP2 TP6 TP24	L4BV(+)	TU3 TC2 TE8 TE11 TT1	2			CW24	CE6	58
3150	DEVICES, SMALL, HYDROCARBON GAS POWERED or HYDROCARBON GAS REFILLS FOR SMALL DEVICES with release device	2	6F		2.1		LQ0	E0		P206		MP9					2			CW9	CE2	23

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
																		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2															
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3151	POLYHALOGENATED BIPHENYLS, LIQUID or POLYHALOGENATED TERPHENYLS, LIQUID	9	M2	II	9	203 305	LQ26	E2		P906 IBC02		MP15			L4BH	TU15	0		VW15	CW13 CW28 CW31	CE5	90
3152	POLYHALOGENATED BIPHENYLS, SOLID or POLYHALOGENATED TERPHENYLS, SOLID	9	M2	II	9	203 305	LQ25	E2		P906 IBC08	B4	MP10	T3	TP33	S4AH L4BH	TU15	0	W11	VW15	CW13 CW28 CW31	CE9	90
3153	PERFLUORO(METHYL VINYL ETHER)	2	2F		2.1 (+13)		LQ0	E0		P200		MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23
3154	PERFLUORO(ETHYL VINYL ETHER)	2	2F		2.1 (+13)		LQ0	E0		P200		MP9	(M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23
3155	PENTACHLOROPHENOL	6.1	T2	II	6.1	43	LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3156	COMPRESSED GAS, OXIDIZING, N.O.S.	2	1O		2.2+5.1 (+13)	274	LQ0	E0		P200		MP9	(M)		CxBN(M)	TA4 TT9	3			CW9 CW10 CW36	CE3	25
3157	LIQUEFIED GAS, OXIDIZING, N.O.S.	2	2O		2.2+5.1 (+13)	274	LQ0	E0		P200		MP9	(M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	25
3158	GAS, REFRIGERATED LIQUID, N.O.S.	2	3A		2.2 (+13)	274 593	LQ1	E1		P203		MP9	T75	TP5	RxBN	TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	22
3159	1,1,1,2-TETRAFLUOROETHANE (REFRIGERANT GAS R 134a)	2	2A		2.2 (+13)		LQ1	E1		P200		MP9	T50 (M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20

[illegible]

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3167	GAS SAMPLE, NON-PRESSURIZED, FLAMMABLE, N.O.S., not refrigerated liquid	2	7F		2.1	274	LQ0	E0		P201		MP9					2			CW9	CE2	23
3168	GAS SAMPLE, NON-PRESSURIZED, TOXIC, FLAMMABLE, N.O.S., not refrigerated liquid	2	7TF		2.3+2.1	274	LQ0	E0		P201		MP9					1			CW9		263
3169	GAS SAMPLE, NON-PRESSURIZED, TOXIC, N.O.S., not refrigerated liquid	2	7T		2.3	274	LQ0	E0		P201		MP9					1			CW9		26
3170	ALUMINIUM SMELTING BY-PRODUCTS or ALUMINIUM REMELTING BY-PRODUCTS	4.3	W2	II	4.3	244	LQ11	E2		P410 IBC07		MP14	T3 BK1 BK2	TP33	SGAN		2	W1 W12	VW6	CW23	CE10	423
3170	ALUMINIUM SMELTING BY-PRODUCTS or ALUMINIUM REMELTING BY-PRODUCTS	4.3	W2	III	4.3	244	LQ12	E1		P002 IBC08 R001	B4	MP14	T1 BK1 BK2	TP33	SGAN		3	W1	VW1 VW5	CW23	CE11	423
3171	Battery-powered vehicle or Battery-powered equipment	9	M11							NOT SUBJECT TO RID												
3172	TOXINS, EXTRACTED FROM LIVING SOURCES, LIQUID, N.O.S.	6.1	T1	I	6.1	210 274	LQ0	E5		P001		MP8 MP17			L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
3172	TOXINS, EXTRACTED FROM LIVING SOURCES, LIQUID, N.O.S.	6.1	T1	II	6.1	210 274	LQ17	E4		P001 IBC02		MP15			L4BH	TU15	2			CW13 CW28 CW31	CE5	60
3172	TOXINS, EXTRACTED FROM LIVING SOURCES, LIQUID, N.O.S.	6.1	T1	III	6.1	210 274	LQ7	E1		P001 IBC03 LP01 R001		MP19			L4BH	TU15	2			CW13 CW28 CW31	CE8	60
3174	TITANIUM DISULPHIDE	4.2	S4	III	4.2		LQ0	E1		P002 IBC08 LP02 R001	B3	MP14	T1	TP33	SGAN		3	W1			CE11	40

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3175	SOLIDS or mixtures of solids (such as preparations and wastes) CONTAINING FLAMMABLE LIQUID, N.O.S. having a flash-point up to 60 °C	4.1	F1	II	4.1	216 274	LQ8	E2		P002 IBC06 R001	PP9	MP11	T3 BK1 BK2	TP33			2	W1 W12	VW3		CE11	40
3176	FLAMMABLE SOLID, ORGANIC, MOLTEN, N.O.S.	4.1	F2	II	4.1	274	LQ0	E0					T3	TP3 TP26	LGBV	TU27 TE4 TE6	2					44
3176	FLAMMABLE SOLID, ORGANIC, MOLTEN, N.O.S.	4.1	F2	III	4.1	274	LQ0	E0					T1	TP3 TP26	LGBV	TU27 TE4 TE6	3					44
3178	FLAMMABLE SOLID, INORGANIC, N.O.S.	4.1	F3	II	4.1	274	LQ8	E2		P002 IBC08	B4	MP11	T3	TP33	SGAN		2	W1			CE10	40
3178	FLAMMABLE SOLID, INORGANIC, N.O.S.	4.1	F3	III	4.1	274	LQ9	E1		P002 IBC08 LP02 R001	B3	MP11	T1	TP33	SGAV		3	W1	VW1		CE11	40
3179	FLAMMABLE SOLID, TOXIC, INORGANIC, N.O.S.	4.1	FT2	II	4.1+6.1	274	LQ0	E2		P002 IBC06		MP10	T3	TP33	SGAN		2	W1 W12		CW28	CE10	46
3179	FLAMMABLE SOLID, TOXIC, INORGANIC, N.O.S.	4.1	FT2	III	4.1+6.1	274	LQ0	E1		P002 IBC06 R001		MP10	T1	TP33	SGAN		3	W1 W12		CW28	CE11	46
3180	FLAMMABLE SOLID, CORROSIVE, INORGANIC, N.O.S.	4.1	FC2	II	4.1+8	274	LQ0	E2		P002 IBC06		MP10	T3	TP33	SGAN		2	W1 W12			CE10	48
3180	FLAMMABLE SOLID, CORROSIVE, INORGANIC, N.O.S.	4.1	FC2	III	4.1+8	274	LQ0	E1		P002 IBC06 R001		MP10	T1	TP33	SGAN		3	W1 W12			CE11	48
3181	METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S.	4.1	F3	II	4.1	274	LQ8	E2		P002 IBC08	B4	MP11	T3	TP33	SGAN		2	W1			CE10	40
3181	METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S.	4.1	F3	III	4.1	274	LQ9	E1		P002 IBC08 LP02 R001	B3	MP11	T1	TP33	SGAV		3	W1	VW1		CE11	40

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3182	METAL HYDRIDES, FLAMMABLE, N.O.S.	4.1	F3	II	4.1	274 554	LQ8	E2		P410 IBC04	PP40	MP11	T3	TP33	SGAN		2	W1			CE10	40
3182	METAL HYDRIDES, FLAMMABLE, N.O.S.	4.1	F3	III	4.1	274 554	LQ9	E1		P002 IBC04 R001		MP11	T1	TP33	SGAV		3	W1	VW1		CE11	40
3183	SELF-HEATING LIQUID, ORGANIC, N.O.S.	4.2	S1	II	4.2	274	LQ0	E2		P001 IBC02		MP15			L4DH	TU14 TE21	2	W1			CE7	30
3183	SELF-HEATING LIQUID, ORGANIC, N.O.S.	4.2	S1	III	4.2	274	LQ0	E1		P001 IBC02 R001		MP15			L4DH	TU14 TE21	3	W1			CE8	30
3184	SELF-HEATING LIQUID, TOXIC, ORGANIC, N.O.S.	4.2	ST1	II	4.2+6.1	274	LQ0	E2		P402 IBC02		MP15			L4DH	TU14 TE21	2	W1		CW28	CE7	36
3184	SELF-HEATING LIQUID, TOXIC, ORGANIC, N.O.S.	4.2	ST1	III	4.2+6.1	274	LQ0	E1		P001 IBC02 R001		MP15			L4DH	TU14 TE21	3	W1		CW28	CE8	36
3185	SELF-HEATING LIQUID, CORROSIVE, ORGANIC, N.O.S.	4.2	SC1	II	4.2+8	274	LQ0	E2		P402 IBC02		MP15			L4DH	TU14 TE21	2	W1			CE7	38
3185	SELF-HEATING LIQUID, CORROSIVE, ORGANIC, N.O.S.	4.2	SC1	III	4.2+8	274	LQ0	E1		P001 IBC02 R001		MP15			L4DH	TU14 TE21	3	W1			CE8	38
3186	SELF-HEATING LIQUID, INORGANIC, N.O.S.	4.2	S3	II	4.2	274	LQ0	E2		P001 IBC02		MP15			L4DH	TU14 TE21	2	W1			CE7	30
3186	SELF-HEATING LIQUID, INORGANIC, N.O.S.	4.2	S3	III	4.2	274	LQ0	E1		P001 IBC02 R001		MP15			L4DH	TU14 TE21	3	W1			CE8	30
3187	SELF-HEATING LIQUID, TOXIC, INORGANIC, N.O.S.	4.2	ST3	II	4.2+6.1	274	LQ0	E2		P402 IBC02		MP15			L4DH	TU14 TE21	2	W1		CW28	CE7	36
3187	SELF-HEATING LIQUID, TOXIC, INORGANIC, N.O.S.	4.2	ST3	III	4.2+6.1	274	LQ0	E1		P001 IBC02 R001		MP15			L4DH	TU14 TE21	3	W1		CW28	CE8	36
3188	SELF-HEATING LIQUID, CORROSIVE, INORGANIC, N.O.S.	4.2	SC3	II	4.2+8	274	LQ0	E2		P402 IBC02		MP15			L4DH	TU14 TE21	2	W1			CE7	38
3188	SELF-HEATING LIQUID, CORROSIVE, INORGANIC, N.O.S.	4.2	SC3	III	4.2+8	274	LQ0	E1		P001 IBC02 R001		MP15			L4DH	TU14 TE21	3	W1			CE8	38

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3189	METAL POWDER, SELF-HEATING, N.O.S.	4.2	S4	II	4.2	274 555	LQ0	E2	P410 IBC06		MP14	T3	TP33	SGAN		2	W1 W12			CE10	40
3189	METAL POWDER, SELF-HEATING, N.O.S.	4.2	S4	III	4.2	274 555	LQ0	E1	P002 IBC08 LP02 R001	B3	MP14	T1	TP33	SGAN		3	W1 VW4			CE11	40
3190	SELF-HEATING SOLID, INORGANIC, N.O.S.	4.2	S4	II	4.2	274	LQ0	E2	P410 IBC06		MP14	T3	TP33	SGAN		2	W1 W12			CE10	40
3190	SELF-HEATING SOLID, INORGANIC, N.O.S.	4.2	S4	III	4.2	274	LQ0	E1	P002 IBC08 LP02 R001	B3	MP14	T1	TP33	SGAN		3	W1 VW4			CE11	40
3191	SELF-HEATING SOLID, TOXIC, INORGANIC, N.O.S.	4.2	ST4	II	4.2+6.1	274	LQ0	E2	P410 IBC05		MP14	T3	TP33	SGAN		2	W1		CW28	CE10	46
3191	SELF-HEATING SOLID, TOXIC, INORGANIC, N.O.S.	4.2	ST4	III	4.2+6.1	274	LQ0	E1	P002 IBC08 R001	B3	MP14	T1	TP33	SGAN		3	W1		CW28	CE11	46
3192	SELF-HEATING SOLID, CORROSIVE, INORGANIC, N.O.S.	4.2	SC4	II	4.2+8	274	LQ0	E2	P410 IBC05		MP14	T3	TP33	SGAN		2	W1			CE10	48
3192	SELF-HEATING SOLID, CORROSIVE, INORGANIC, N.O.S.	4.2	SC4	III	4.2+8	274	LQ0	E1	P002 IBC08 R001	B3	MP14	T1	TP33	SGAN		3	W1			CE11	48
3194	PYROPHORIC LIQUID, INORGANIC, N.O.S.	4.2	S3	I	4.2	274	LQ0	E0	P400		MP2			L21DH	TU14 TU38 TC1 TE21 TE22 TE25 TM1	0	W1				333
3200	PYROPHORIC SOLID, INORGANIC, N.O.S.	4.2	S4	I	4.2	274	LQ0	E0	P404		MP13	T21	TP7 TP33			0	W1				43
3205	ALKALINE EARTH METAL ALCOHOLATES, N.O.S.	4.2	S4	II	4.2	183 274	LQ0	E2	P410 IBC06		MP14	T3	TP33	SGAN		2	W1 W12			CE10	40

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3205	ALKALINE EARTH METAL ALCOHOLATES, N.O.S.	4.2	S4	III	4.2	183 274	LQ0	E1	P002 IBC08 LP02 R001	B3	MP14	T1	TP33	SGAN			3	W1			CE11	40
3206	ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S.	4.2	SC4	II	4.2+8	182 274	LQ0	E2	P410 IBC05		MP14	T3	TP33	SGAN			2	W1			CE10	48
3206	ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S.	4.2	SC4	III	4.2+8	182 274	LQ0	E1	P002 IBC08 R001	B3	MP14	T1	TP33	SGAN			3	W1			CE11	48
3208	METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.	4.3	W2	I	4.3	274 557	LQ0	E0	P403 IBC99		MP2						1	W1		CW23		X423
3208	METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.	4.3	W2	II	4.3	274 557	LQ11	E2	P410 IBC07		MP14	T3	TP33	SGAN			2	W1 W12		CW23	CE10	423
3208	METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.	4.3	W2	III	4.3	274 557	LQ12	E1	P410 IBC08 R001	B4	MP14	T1	TP33	SGAN			3	W1	VW5	CW23	CE11	423
3209	METALLIC SUBSTANCE, WATER-REACTIVE, SELF-HEATING, N.O.S.	4.3	WS	I	4.3+4.2	274 558	LQ0	E0	P403		MP2						1	W1		CW23		X423
3209	METALLIC SUBSTANCE, WATER-REACTIVE, SELF-HEATING, N.O.S.	4.3	WS	II	4.3+4.2	274 558	LQ11	E2	P410 IBC05		MP14	T3	TP33	SGAN			2	W1		CW23	CE10	423
3209	METALLIC SUBSTANCE, WATER-REACTIVE, SELF-HEATING, N.O.S.	4.3	WS	III	4.3+4.2	274 558	LQ12	E1	P410 IBC08 R001	B4	MP14	T1	TP33	SGAN			3	W1	VW5	CW23	CE11	423
3210	CHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	O1	II	5.1	274 605	LQ10	E2	P504 IBC02		MP2	T4	TP1	L4BN	TU3		2			CW24	CE6	50
3210	CHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	O1	III	5.1	274 605	LQ13	E1	P504 IBC02 R001		MP2	T4	TP1	LGBV	TU3		3			CW24	CE8	50
3211	PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	O1	II	5.1	274	LQ10	E2	P504 IBC02		MP2	T4	TP1	L4BN	TU3		2			CW24	CE6	50
3211	PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	O1	III	5.1	274	LQ13	E1	P504 IBC02 R001		MP2	T4	TP1	LGBV	TU3		3			CW24	CE8	50
3212	HYPOCHLORITES, INORGANIC, N.O.S.	5.1	O2	II	5.1	274 559	LQ11	E2	P002 IBC08	B4	MP10	T3	TP33	SGAN	TU3		2	W11		CW24	CE10	50



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3213	BROMATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	O1	II	5.1	274 604	LQ10	E2	P504 IBC02			MP2	T4	TP1	L4BN	TU3	2			CW24	CE6	50
3213	BROMATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	O1	III	5.1	274 604	LQ13	E1	P504 IBC02 R001			MP15	T4	TP1	LGBV	TU3	3			CW24	CE8	50
3214	PERMANGANATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	O1	II	5.1	274 608	LQ10	E2	P504 IBC02			MP2	T4	TP1	L4BN	TU3	2			CW24	CE6	50
3215	PERSULPHATES, INORGANIC, N.O.S.	5.1	O2	III	5.1	274	LQ12	E1	P002 IBC08 LP02 R001	B3		MP10	T1	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
3216	PERSULPHATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	O1	III	5.1	274	LQ13	E1	P504 IBC02 R001			MP15	T4	TP1 TP29	LGBV	TU3	3			CW24	CE8	50
3218	NITRATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	O1	II	5.1	270 274 511	LQ10	E2	P504 IBC02			MP15	T4	TP1	L4BN	TU3	2			CW24	CE6	50
3218	NITRATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	O1	III	5.1	270 274 511	LQ13	E1	P504 IBC02 R001			MP15	T4	TP1	LGBV	TU3	3			CW24	CE8	50
3219	NITRITES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	O1	II	5.1	103 274	LQ10	E2	P504 IBC01			MP15	T4	TP1	L4BN	TU3	2			CW24	CE6	50
3219	NITRITES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	5.1	O1	III	5.1	103 274	LQ13	E1	P504 IBC02 R001			MP15	T4	TP1	LGBV	TU3	3			CW24	CE8	50
3220	PENTAFLUOROETHANE (REFRIGERANT GAS R 125)	2	2A		2.2 (+13)		LQ1	E1	P200			MP9	T50 (M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
3221	SELF-REACTIVE LIQUID TYPE B	4.1	SR1		4.1+1	181 194 274	LQ14	E0	P520	PP21	MP2						1	W5 W7 W8		CW22		40
3222	SELF-REACTIVE SOLID TYPE B	4.1	SR1		4.1+1	181 194 274	LQ15	E0	P520	PP21	MP2						1	W5 W7 W8		CW22		40
3223	SELF-REACTIVE LIQUID TYPE C	4.1	SR1		4.1	194 274	LQ14	E0	P520	PP21	MP2						1	W7		CW22	CE6	40

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instruc-tions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3224	SELF-REACTIVE SOLID TYPE C	4.1	SR1		4.1	194 274	LQ15	E0	P520	PP21	MP2					1	W7		CW22	CE10	40
3225	SELF-REACTIVE LIQUID TYPE D	4.1	SR1		4.1	194 274	LQ16	E0	P520		MP2					2	W7		CW22	CE6	40
3226	SELF-REACTIVE SOLID TYPE D	4.1	SR1		4.1	194 274	LQ11	E0	P520		MP2					2	W7		CW22	CE10	40
3227	SELF-REACTIVE LIQUID TYPE E	4.1	SR1		4.1	194 274	LQ16	E0	P520		MP2					2	W7		CW22	CE6	40
3228	SELF-REACTIVE SOLID TYPE E	4.1	SR1		4.1	194 274	LQ11	E0	P520		MP2					2	W7		CW22	CE10	40
3229	SELF-REACTIVE LIQUID TYPE F	4.1	SR1		4.1	194 274	LQ16	E0	P520 IBC99		MP2	T23				2	W7		CW22	CE6	40
3230	SELF-REACTIVE SOLID TYPE F	4.1	SR1		4.1	194 274	LQ11	E0	P520 IBC99		MP2	T23				2	W7		CW22	CE10	40
3231	SELF-REACTIVE LIQUID TYPE B, TEMPERATURE CONTROLLED	4.1	SR2	CARRIAGE PROHIBITED																	
3232	SELF-REACTIVE SOLID TYPE B, TEMPERATURE CONTROLLED	4.1	SR2	CARRIAGE PROHIBITED																	
3233	SELF-REACTIVE LIQUID TYPE C, TEMPERATURE CONTROLLED	4.1	SR2	CARRIAGE PROHIBITED																	
3234	SELF-REACTIVE SOLID TYPE C, TEMPERATURE CONTROLLED	4.1	SR2	CARRIAGE PROHIBITED																	
3235	SELF-REACTIVE LIQUID TYPE D, TEMPERATURE CONTROLLED	4.1	SR2	CARRIAGE PROHIBITED																	
3236	SELF-REACTIVE SOLID TYPE D, TEMPERATURE CONTROLLED	4.1	SR2	CARRIAGE PROHIBITED																	
3237	SELF-REACTIVE LIQUID TYPE E, TEMPERATURE CONTROLLED	4.1	SR2	CARRIAGE PROHIBITED																	

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3238	SELF-REACTIVE SOLID TYPE E, TEMPERATURE CONTROLLED	4.1	SR2	CARRIAGE PROHIBITED																		
3239	SELF-REACTIVE LIQUID TYPE F, TEMPERATURE CONTROLLED	4.1	SR2	CARRIAGE PROHIBITED																		
3240	SELF-REACTIVE SOLID TYPE F, TEMPERATURE CONTROLLED	4.1	SR2	CARRIAGE PROHIBITED																		
3241	2-BROMO-2-NITROPROPANE-1,3-DIOL	4.1	SR1	III	4.1	638	LQ0	E1		P520 IBC08	PP22 B3	MP2					3	W1			CE11	40
3242	AZODICARBONAMIDE	4.1	SR1	II	4.1	215 638	LQ0	E2		P409		MP2	T3	TP33			2	W1			CE10	40
3243	SOLIDS CONTAINING TOXIC LIQUID, N.O.S.	6.1	T9	II	6.1	217 274	LQ18	E4		P002 IBC02	PP9	MP10	T3 BK1 BK2	TP33	SGAH	TU15	2		VW10	CW13 CW28 CW31	CE5	60
3244	SOLIDS CONTAINING CORROSIVE LIQUID, N.O.S.	8	C10	II	8	218 274	LQ23	E2		P002 IBC05	PP9	MP10	T3 BK1 BK2	TP33	SGAV		2		VW10		CE10	80
3245	GENETICALLY MODIFIED MICROORGANISMS or GENETICALLY MODIFIED ORGANISMS	9	M8		9	219 637	LQ0	E0		P904 IBC08		MP6					2			CW13 CW17 CW18 CW26 CW28 CW31		90
3245	GENETICALLY MODIFIED MICROORGANISMS or GENETICALLY MODIFIED ORGANISMS, in refrigerated liquid nitrogen	9	M8		9+2.2	219 637	LQ0	E0		P904 IBC08		MP6					2			CW13 CW17 CW18 CW26 CW28 CW31		90
3246	METHANESULPHONYL CHLORIDE	6.1	TC1	I	6.1+8		LQ0	E5		P001		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		668

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3247	SODIUM PEROXOBORATE, ANHYDROUS	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33	SGAN	TU3	2	W11			CW24	CE10	50
3248	MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S.	3	FT1	II	3+6.1	220 221 274 601	LQ0	E2	P001		MP19				L4BH	TU15	2			CW13 CW28	CE7	336
3248	MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S.	3	FT1	III	3+6.1	220 221 274 601	LQ7	E1	P001 R001		MP19				L4BH	TU15	3			CW13 CW28	CE4	36
3249	MEDICINE, SOLID, TOXIC, N.O.S.	6.1	T2	II	6.1	221 274 601	LQ18	E4	P002		MP10	T3	TP33	SGAH L4BH	TU15	2				CW13 CW28 CW31	CE9	60
3249	MEDICINE, SOLID, TOXIC, N.O.S.	6.1	T2	III	6.1	221 274 601	LQ9	E1	P002 LP02 R001		MP10	T1	TP33	SGAH L4BH	TU15	2		VW9		CW13 CW28 CW31	CE11	60
3250	CHLOROACETIC ACID, MOLTEN	6.1	TC1	II	6.1+8		LQ0	E0				T7	TP3 TP28	L4BH	TU15 TC4	0				CW13 CW31		68
3251	ISOSORBIDE-5-MONONITRATE	4.1	SR1	III	4.1	226 638	LQ0	E1	P409		MP2						3	W1			CE11	40
3252	DIFLUOROMETHANE (REFRIGERANT GAS R 32)	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2				CW9 CW10 CW36	CE3	23
3253	DISODIUM TRIOXOSILICATE	8	C6	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV		3		VW9			CE11	80
3254	TRIBUTYLPHOSPHANE	4.2	S1	I	4.2		LQ0	E0	P400		MP2	T21	TP2 TP7			0	W1					333
3255	tert-BUTYL HYPOCHLORITE	4.2	SC1						CARRIAGE PROHIBITED													
3256	ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. with flash-point above 60 °C, at or above its flash-point	3	F2	III	3	274 560	LQ0	E0	P099 IBC99		MP2	T3	TP3 TP29	LGAV	TU35	3					CE4	30

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3257	ELEVATED TEMPERATURE LIQUID, N.O.S., at or above 100 °C and below its flash-point (including molten metals, molten salts, etc.)	9	M9	III	9	274 580 643	LQ0	E0		P099 IBC99			T3	TP3 TP29	LGAV	TU35 TE6 TE14	3		VW12	CW17 CW31		99
3258	ELEVATED TEMPERATURE SOLID, N.O.S., at or above 240 °C	9	M10	III	9	274 580 643	LQ0	E0		P099 IBC99							3		VW13	CW31		99
3259	AMINES, SOLID, CORROSIVE, N.O.S. or POLYAMINES, SOLID, CORROSIVE, N.O.S.	8	C8	I	8	274	LQ0	E0		P002 IBC07		MP18	T6	TP33	S10AN L10BH	TU38 TE22	1	W10 W12				88
3259	AMINES, SOLID, CORROSIVE, N.O.S. or POLYAMINES, SOLID, CORROSIVE, N.O.S.	8	C8	II	8	274	LQ23	E2		P002 IBC08	B4	MP10	T3	TP33	SGAN L4BN		2	W11			CE10	80
3259	AMINES, SOLID, CORROSIVE, N.O.S. or POLYAMINES, SOLID, CORROSIVE, N.O.S.	8	C8	III	8	274	LQ24	E1		P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV L4BN		3		VW9		CE11	80
3260	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.	8	C2	I	8	274	LQ0	E0		P002 IBC07		MP18	T6	TP33	S10AN		1	W10 W12				88
3260	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.	8	C2	II	8	274	LQ23	E2		P002 IBC08	B4	MP10	T3	TP33	SGAN		2	W11			CE10	80
3260	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.	8	C2	III	8	274	LQ24	E1		P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV		3		VW9		CE11	80
3261	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.	8	C4	I	8	274	LQ0	E0		P002 IBC07		MP18	T6	TP33	S10AN L10BH	TU38 TE22	1	W10 W12				88
3261	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.	8	C4	II	8	274	LQ23	E2		P002 IBC08	B4	MP10	T3	TP33	SGAN L4BN		2	W11			CE10	80
3261	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.	8	C4	III	8	274	LQ24	E1		P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV L4BN		3		VW9		CE11	80

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3262	CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.	8	C6	I	8	274	LQ0 E0	P002 IBC07		MP18	T6	TP33	S10AN L10BH	TU38 TE22	1	W10 W12				88
3262	CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.	8	C6	II	8	274	LQ23 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN L4BN		2	W11			CE10	80
3262	CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.	8	C6	III	8	274	LQ24 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV L4BN		3		VW9		CE11	80
3263	CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.	8	C8	I	8	274	LQ0 E0	P002 IBC07		MP18	T6	TP33	S10AN L10BH	TU38 TE22	1	W10 W12				88
3263	CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.	8	C8	II	8	274	LQ23 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN L4BN		2	W11			CE10	80
3263	CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.	8	C8	III	8	274	LQ24 E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV L4BN		3		VW9		CE11	80
3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.	8	C1	I	8	274	LQ0 E0	P001		MP8 MP17	T14	TP2 TP27	L10BH	TU38 TE22	1					88
3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.	8	C1	II	8	274	LQ22 E2	P001 IBC02		MP15	T11	TP2 TP27	L4BN		2				CE6	80
3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.	8	C1	III	8	274	LQ7 E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28	L4BN		3				CE8	80
3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.	8	C3	I	8	274	LQ0 E0	P001		MP8 MP17	T14	TP2 TP27	L10BH	TU38 TE22	1					88
3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.	8	C3	II	8	274	LQ22 E2	P001 IBC02		MP15	T11	TP2 TP27	L4BN		2				CE6	80
3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.	8	C3	III	8	274	LQ7 E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28	L4BN		3				CE8	80

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.	8	C5	I	8	274	LQ0 E0	P001		MP8 MP17	T14	TP2 TP27	L10BH	TU38 TE22	1					88
3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.	8	C5	II	8	274	LQ22 E2	P001 IBC02		MP15	T11	TP2 TP27	L4BN		2				CE6	80
3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.	8	C5	III	8	274	LQ7 E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28	L4BN		3				CE8	80
3267	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.	8	C7	I	8	274	LQ0 E0	P001		MP8 MP17	T14	TP2 TP27	L10BH	TU38 TE22	1					88
3267	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.	8	C7	II	8	274	LQ22 E2	P001 IBC02		MP15	T11	TP2 TP27	L4BN		2				CE6	80
3267	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.	8	C7	III	8	274	LQ7 E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28	L4BN		3				CE8	80
3268	AIR BAG INFLATORS or AIR BAG MODULES or SEAT-BELT PRETENSIONERS	9	M5	III	9	280 289	LQ0 E0	P902 LP902							4				CE2	90
3269	POLYESTER RESIN KIT	3	F1	II	3	236 340	LQ6 E0	P302 R001							2				CE7	33
3269	POLYESTER RESIN KIT (viscous according to 2.2.3.1.4)	3	F1	III	3	236 340	LQ7 E0	P302 R001							3				CE4	33
3269	POLYESTER RESIN KIT	3	F1	III	3	236 340	LQ7 E0	P302 R001							3				CE4	30
3270	NITROCELLULOSE MEMBRANE FILTERS, with not more than 12.6% nitrogen, by dry mass	4.1	F1	II	4.1	237 286	LQ8 E2	P411		MP11					2	W1			CE10	40
3271	ETHERS, N.O.S.	3	F1	II	3	274	LQ4 E2	P001 IBC02 R001		MP19	T7	TP1 TP8 TP28	LGBF		2				CE7	33
3271	ETHERS, N.O.S.	3	F1	III	3	274	LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1 TP29	LGBF		3				CE4	30

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3272	ESTERS, N.O.S.	3	F1	II	3	274 601	LQ4	E2		P001 IBC02 R001		MP19	T7	TP1 TP8 TP28	LGBF		2				CE7	33
3272	ESTERS, N.O.S.	3	F1	III	3	274 601	LQ7	E1		P001 IBC03 LP01 R001		MP19	T4	TP1 TP29	LGBF		3				CE4	30
3273	NITRILES, FLAMMABLE, TOXIC, N.O.S.	3	FT1	I	3+6.1	274	LQ0	E0		P001		MP7 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336
3273	NITRILES, FLAMMABLE, TOXIC, N.O.S.	3	FT1	II	3+6.1	274	LQ0	E2		P001 IBC02		MP19	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28	CE7	336
3274	ALCOHOLATES SOLUTION, N.O.S., in alcohol	3	FC	II	3+8	274	LQ4	E2		P001 IBC02		MP19			L4BH		2				CE7	338
3275	NITRILES, TOXIC, FLAMMABLE, N.O.S.	6.1	TF1	I	6.1+3	274 315	LQ0	E5		P001		MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
3275	NITRILES, TOXIC, FLAMMABLE, N.O.S.	6.1	TF1	II	6.1+3	274	LQ17	E4		P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5	63
3276	NITRILES, TOXIC, LIQUID, N.O.S.	6.1	T1	I	6.1	274 315	LQ0	E5		P001		MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
3276	NITRILES, TOXIC, LIQUID, N.O.S.	6.1	T1	II	6.1	274	LQ17	E4		P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
3276	NITRILES, TOXIC, LIQUID, N.O.S.	6.1	T1	III	6.1	274	LQ7	E1		P001 IBC03 LP01 R001		MP19	T7	TP1 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8	60



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3277	CHLOROFORMATES, TOXIC, CORROSIVE, N.O.S.	6.1	TC1	II	6.1+8	274 561	LQ17	E4	P001 IBC02			MP15	T8	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE9	68
3278	ORGANOPHOSPHORUS COMPOUND, TOXIC, LIQUID, N.O.S.	6.1	T1	I	6.1	43 274 315	LQ0	E5	P001			MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
3278	ORGANOPHOSPHORUS COMPOUND, TOXIC, LIQUID, N.O.S.	6.1	T1	II	6.1	43 274	LQ17	E4	P001 IBC02			MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
3278	ORGANOPHOSPHORUS COMPOUND, TOXIC, LIQUID, N.O.S.	6.1	T1	III	6.1	43 274	LQ7	E1	P001 IBC03 LP01 R001			MP19	T7	TP1 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
3279	ORGANOPHOSPHORUS COMPOUND, TOXIC, FLAMMABLE, N.O.S.	6.1	TF1	I	6.1+3	43 274 315	LQ0	E5	P001			MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
3279	ORGANOPHOSPHORUS COMPOUND, TOXIC, FLAMMABLE, N.O.S.	6.1	TF1	II	6.1+3	43 274	LQ17	E4	P001			MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5	63
3280	ORGANOARSENIC COMPOUND, LIQUID, N.O.S.	6.1	T3	I	6.1	274 315	LQ0	E5	P001			MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
3280	ORGANOARSENIC COMPOUND, LIQUID, N.O.S.	6.1	T3	II	6.1	274	LQ17	E4	P001 IBC02			MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
3280	ORGANOARSENIC COMPOUND, LIQUID, N.O.S.	6.1	T3	III	6.1	274	LQ7	E1	P001 IBC03 LP01 R001			MP19	T7	TP1 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE11	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
									4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4		1.1.3.1 (c)	7.2.4	7.3.3		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3281	METAL CARBONYLS, LIQUID, N.O.S.	6.1	T3	I	6.1	274 315 562	LQ0	E5	P601		MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
3281	METAL CARBONYLS, LIQUID, N.O.S.	6.1	T3	II	6.1	274 562	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
3281	METAL CARBONYLS, LIQUID, N.O.S.	6.1	T3	III	6.1	274 562	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
3282	ORGANOMETALLIC COMPOUND, TOXIC, LIQUID, N.O.S.	6.1	T3	I	6.1	274 562	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
3282	ORGANOMETALLIC COMPOUND, TOXIC, LIQUID, N.O.S.	6.1	T3	II	6.1	274 562	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
3282	ORGANOMETALLIC COMPOUND, TOXIC, LIQUID, N.O.S.	6.1	T3	III	6.1	274 562	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
3283	SELENIUM COMPOUND, SOLID, N.O.S.	6.1	T5	I	6.1	274 563	LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66
3283	SELENIUM COMPOUND, SOLID, N.O.S.	6.1	T5	II	6.1	274 563	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3283	SELENIUM COMPOUND, SOLID, N.O.S.	6.1	T5	III	6.1	274 563	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3284	TELLURIUM COMPOUND, N.O.S.	6.1	T5	I	6.1	274	LQ0	E5		P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66
3284	TELLURIUM COMPOUND, N.O.S.	6.1	T5	II	6.1	274	LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3284	TELLURIUM COMPOUND, N.O.S.	6.1	T5	III	6.1	274	LQ9	E1		P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
3285	VANADIUM COMPOUND, N.O.S.	6.1	T5	I	6.1	274 564	LQ0	E5		P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66
3285	VANADIUM COMPOUND, N.O.S.	6.1	T5	II	6.1	274 564	LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3285	VANADIUM COMPOUND, N.O.S.	6.1	T5	III	6.1	274 564	LQ9	E1		P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
3286	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.	3	FTC	I	3+6.1+8	274	LQ0	E0		P001		MP7 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		368
3286	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.	3	FTC	II	3+6.1+8	274	LQ0	E2		P001 IBC02		MP19	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28	CE7	368
3287	TOXIC LIQUID, INORGANIC, N.O.S.	6.1	T4	I	6.1	274 315	LQ0	E5		P001		MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66

UN No.	Name and description	Class	Classifi- cation code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identi- fication No.
									Packing instructions	Special packing provisions	Mixed packing provi- sions	Instruc- tions	Special provi- sions	Tank code	Special provi- sions		Packages	Bulk	Loading, unloading and handling		
									4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4		1.1.3.1 (c)	7.2.4	7.3.3		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3287	TOXIC LIQUID, INORGANIC, N.O.S.	6.1	T4	II	6.1	274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
3287	TOXIC LIQUID, INORGANIC, N.O.S.	6.1	T4	III	6.1	274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
3288	TOXIC SOLID, INORGANIC, N.O.S.	6.1	T5	I	6.1	274	LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66
3288	TOXIC SOLID, INORGANIC, N.O.S.	6.1	T5	II	6.1	274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3288	TOXIC SOLID, INORGANIC, N.O.S.	6.1	T5	III	6.1	274	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
3289	TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S.	6.1	TC3	I	6.1+8	274 315	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		668
3289	TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S.	6.1	TC3	II	6.1+8	274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5	68
3290	TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.	6.1	TC4	I	6.1+8	274	LQ0	E5	P002 IBC05		MP18	T6	TP33	S10AH L10CH	TU15 TU38 TE22	1	W10		CW13 CW28 CW31		668
3290	TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.	6.1	TC4	II	6.1+8	274	LQ18	E4	P002 IBC06		MP10	T3	TP33	SGAH L4BH	TU15	2	W11 W12		CW13 CW28 CW31	CE5	68

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3291	CLINICAL WASTE, UNSPECIFIED, N.O.S. or (BIO) MEDICAL WASTE, N.O.S. or REGULATED MEDICAL WASTE, N.O.S.	6.2	I3	II	6.2	565	LQ0	E0	P621 IBC620 LP621		MP6	BK2				2	W9	VW11	CW13 CW18 CW28	CE14	606
3291	CLINICAL WASTE, UNSPECIFIED, N.O.S. or (BIO) MEDICAL WASTE, N.O.S. or REGULATED MEDICAL WASTE, N.O.S., in refrigerated liquid nitrogen	6.2	I3	II	6.2+2.2	565	LQ0	E0	P621 IBC620 LP621		MP6					2	W9		CW13 CW18 CW28	CE14	606
3292	BATTERIES, CONTAINING SODIUM or CELLS, CONTAINING SODIUM	4.3	W3	II	4.3	239 295	LQ0	E0	P408							2	W1		CW23	CE2	423
3293	HYDRAZINE, AQUEOUS SOLUTION with not more than 37% hydrazine, by mass	6.1	T4	III	6.1	566	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
3294	HYDROGEN CYANIDE, SOLUTION IN ALCOHOL with not more than 45% hydrogen cyanide	6.1	TF1	I	6.1+3	610	LQ0	E5	P601		MP8 MP17	T14	TP2	L15DH(+)	TU14 TU15 TU38 TE21 TE22 TE25	0			CW13 CW28 CW31		663
3295	HYDROCARBONS, LIQUID, N.O.S.	3	F1	I	3	649	LQ3	E3	P001		MP7 MP17	T11	TP1 TP8 TP28	L4BN		1					33
3295	HYDROCARBONS, LIQUID, N.O.S. (vapour pressure at 50 °C more than 110 kPa)	3	F1	II	3	640C 649	LQ4	E2	P001		MP19	T7	TP1 TP8 TP28	L1.5BN		2				CE7	33
3295	HYDROCARBONS, LIQUID, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)	3	F1	II	3	640D 649	LQ4	E2	P001 IBC02 R001		MP19	T7	TP1 TP8 TP28	LGBF		2				CE7	33

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
																		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)			(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3295	HYDROCARBONS, LIQUID, N.O.S.	3	F1	III	3		LQ7 E1	P001 IBC03 LP01 R001		MP19		MP19	T4	TP1 TP29	LGBF		3				CE4	30
3296	HEPTAFLUOROPROPANE (REFRIGERANT GAS R 227)	2	2A		2.2 (+13)		LQ1 E1	P200		MP9		MP9	T50 (M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
3297	ETHYLENE OXIDE AND CHLOROTETRAFLUOROETHANE MIXTURE with not more than 8.8%	2	2A		2.2 (+13)		LQ1 E1	P200		MP9		MP9	T50 (M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
3298	ETHYLENE OXIDE AND PENTAFLUOROETHANE MIXTURE with not more than 7.9% ethylene oxide	2	2A		2.2 (+13)		LQ1 E1	P200		MP9		MP9	T50 (M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
3299	ETHYLENE OXIDE AND TETRAFLUOROETHANE MIXTURE with not more than 5.6% ethylene oxide	2	2A		2.2 (+13)		LQ1 E1	P200		MP9		MP9	T50 (M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
3300	ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with more than 87% ethylene oxide	2	2TF		2.3+2.1 (+13)		LQ0 E0	P200		MP9		MP9	(M)		PxBH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		263
3301	CORROSIVE LIQUID, SELF-HEATING, N.O.S.	8	CS1	I	8+4.2	274	LQ0 E0	P001		MP8 MP17		MP8 MP17			L10BH	TU38 TE22	1					884
3301	CORROSIVE LIQUID, SELF-HEATING, N.O.S.	8	CS1	II	8+4.2	274	LQ22 E2	P001		MP15		MP15			L4BN		2				CE6	84
3302	2-DIMETHYLAMINOETHYL ACRYLATE	6.1	T1	II	6.1		LQ17 E4	P001 IBC02		MP15		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
3303	COMPRESSED GAS, TOXIC, OXIDIZING, N.O.S.	2	1TO		2.3+5.1 (+13)	274	LQ0 E0	P200		MP9		MP9	(M)		CxBH(M)	TU6 TU38 TE22 TE25 TA4 TT9	1			CW9 CW10 CW36		265

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instruc-tions	Special provi-sions	Tank code	Special provi-sions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3304	COMPRESSED GAS, TOXIC, CORROSIVE, N.O.S.	2	1TC		2.3+8 (+13)	274	LQ0	E0		P200		MP9	(M)		CxBH(M)	TU6 TU38 TE22 TE25 TA4 TT9	1			CW9 CW10 CW36		268
3305	COMPRESSED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S.	2	1TFC		2.3+2.1+8 (+13)	274	LQ0	E0		P200		MP9	(M)		CxBH(M)	TU6 TU38 TE22 TE25 TA4 TT9	1			CW9 CW10 CW36		263
3306	COMPRESSED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.	2	1TOC		2.3+5.1+8 (+13)	274	LQ0	E0		P200		MP9	(M)		CxBH(M)	TU6 TU38 TE22 TE25 TA4 TT9	1			CW9 CW10 CW36		265
3307	LIQUEFIED GAS, TOXIC, OXIDIZING, N.O.S.	2	2TO		2.3+5.1 (+13)	274	LQ0	E0		P200		MP9	(M)		PxBH(M)	TU6 TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		265
3308	LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S.	2	2TC		2.3+8 (+13)	274	LQ0	E0		P200		MP9	(M)		PxBH(M)	TU6 TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		268

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3309	LIQUEFIED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S.	2	2TFC		2.3+2.1+8 (+13)	274	LQ0	E0		P200		MP9	(M)		PxBH(M)	TU6 TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		263
3310	LIQUEFIED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.	2	2TOC		2.3+5.1+8 (+13)	274	LQ0	E0		P200		MP9	(M)		PxBH(M)	TU6 TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		265
3311	GAS, REFRIGERATED LIQUID, OXIDIZING, N.O.S.	2	3O		2.2+5.1 (+13)	274	LQ0	E0		P203		MP9	T75 TP22	TP5	RxBN	TU7 TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	225
3312	GAS, REFRIGERATED LIQUID, FLAMMABLE, N.O.S.	2	3F		2.1 (+13)	274	LQ0	E0		P203		MP9	T75	TP5	RxBN	TU18 TU38 TE22 TA4 TT9 TM6	2	W5		CW9 CW11 CW30 CW36	CE2	223
3313	ORGANIC PIGMENTS, SELF-HEATING	4.2	S2	II	4.2		LQ0	E2		P002 IBC08	B4	MP14	T3	TP33	SGAV		2	W1			CE10	40
3313	ORGANIC PIGMENTS, SELF-HEATING	4.2	S2	III	4.2		LQ0	E1		P002 IBC08 LP02 R001	B3	MP14	T1	TP33	SGAV		3	W1			CE11	40
3314	PLASTICS MOULDING COMPOUND in dough, sheet or extruded rope form evolving flammable vapour	9	M3	III	None	207 633	LQ27	E1		P002 IBC08 R001	PP14 B3 B6	MP10					3		VW3	CW31	CE11	90



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3315	CHEMICAL SAMPLE, TOXIC	6.1	T8	I	6.1	250	LQ0	E5	P099			MP8 MP17					1			CW13 CW28 CW31		66
3316	CHEMICAL KIT or FIRST AID KIT	9	M11	II	9	251 340	LQ0	E0	P901								2					90
3316	CHEMICAL KIT or FIRST AID KIT	9	M11	III	9	251 340	LQ0	E0	P901								3					90
3317	2-AMINO-4,6-DINITROPHENOL, WETTED with not less than 20% water, by mass	4.1	D	I	4.1		LQ0	E0	P406	PP26	MP2						1	W1				40
3318	AMMONIA SOLUTION, relative density less than 0.880 at 15 °C in water, with more than 50% ammonia	2	4TC		2.3+8 (+13)	23	LQ0	E0	P200			MP9	T50 (M)		PxBH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10		268
3319	NITROGLYCERIN MIXTURE, DESENSITIZED, SOLID, N.O.S. with more than 2% but not more than 10% nitroglycerin, by mass	4.1	D	II	4.1	272 274	LQ0	E0	P099 IBC99			MP2					2	W1			CE10	40
3320	SODIUM BOROHYDRIDE AND SODIUM HYDROXIDE SOLUTION, with not more than 12% sodium borohydride and not more than 40% sodium hydroxide by mass	8	C5	II	8		LQ22	E2	P001 IBC02			MP15	T7	TP2	L4BN		2				CE6	80
3320	SODIUM BOROHYDRIDE AND SODIUM HYDROXIDE SOLUTION, with not more than 12% sodium borohydride and not more than 40% sodium hydroxide by mass	8	C5	III	8		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP2	L4BN		3				CE8	80
3321	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II), non fissile or fissile-excepted	7			7X	172 317 325 336	LQ0	E0	See 2.2.7 and 4.1.9	See 4.1.9.1.3			T5	TP4	S2.65AN(+) L2.65CN(+)	TU36 TT7 TM7	0			CW33	CE15	70

[illegible]

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3336	MERCAPTANS, LIQUID, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, N.O.S.	3	F1	I	3	274	LQ3 E3	P001		MP7 MP17	T11	TP2	L4BN		1					33
3336	MERCAPTANS, LIQUID, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, N.O.S. (vapour pressure at 50 °C more than 110 kPa)	3	F1	II	3	274 640C	LQ4 E2	P001		MP19	T7	TP1 TP8 TP28	L1.5BN		2				CE7	33
3336	MERCAPTANS, LIQUID, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, N.O.S. (vapour pressure at 50 °C not more than 110 kPa)	3	F1	II	3	274 640D	LQ4 E2	P001 IBC02 R001		MP19	T7	TP1 TP8 TP28	LGBF		2				CE7	33
3336	MERCAPTANS, LIQUID, FLAMMABLE, N.O.S. or MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, N.O.S.	3	F1	III	3	274	LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1 TP29	LGBF		3				CE4	30
3337	REFRIGERANT GAS R 404A (Pentafluoroethane, 1,1,1-trifluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 44% pentafluoroethane and 52% 1,1,1-trifluoroethane)	2	2A		2.2 (+13)		LQ1 E1	P200		MP9	T50 (M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
3338	REFRIGERANT GAS R 407A (Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 20% difluoromethane and 40% pentafluoroethane)	2	2A		2.2 (+13)		LQ1 E1	P200		MP9	T50 (M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
3339	REFRIGERANT GAS R 407B (Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 10% difluoromethane and 70% pentafluoroethane)	2	2A		2.2 (+13)		LQ1 E1	P200		MP9	T50 (M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instruc-tions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3340	REFRIGERANT GAS R 407C (Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 23% difluoromethane and 25% pentafluoroethane)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)		PxBN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20
3341	THIOUREA DIOXIDE	4.2	S2	II	4.2		LQ0	E2	P002 IBC06		MP14	T3	TP33	SGAV		2	W1 W12			CE10	40
3341	THIOUREA DIOXIDE	4.2	S2	III	4.2		LQ0	E1	P002 IBC08 LP02 R001	B3	MP14	T1	TP33	SGAV		3	W1			CE11	40
3342	XANTHATES	4.2	S2	II	4.2		LQ0	E2	P002 IBC06		MP14	T3	TP33	SGAV		2	W1 W12			CE10	40
3342	XANTHATES	4.2	S2	III	4.2		LQ0	E1	P002 IBC08 LP02 R001	B3	MP14	T1	TP33	SGAV		3	W1			CE11	40
3343	NITROGLYCERIN MIXTURE, DESENSITIZED, LIQUID, FLAMMABLE, N.O.S. with not more than 30% nitroglycerin, by mass	3	D		3	274 278	LQ0	E0	P099		MP2					0					30/ 33
3344	PENTAERYTHRITOL TETRANITRATE (PENTAERYTHRITOL TETRANITRATE; PETN) MIXTURE, DESENSITIZED, SOLID, N.O.S. with more than 10% but not more than 20% PETN, by mass	4.1	D	II	4.1	272 274	LQ0	E0	P099		MP2					2	W1			CE10	40
3345	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, SOLID, TOXIC	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66
3345	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, SOLID, TOXIC	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3345	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, SOLID, TOXIC	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2			VW9	CW13 CW28 CW31	CE11 CE12	60
3346	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	I	3+6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1				CW13 CW28		336
3346	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	II	3+6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27	L4BH	TU15	2				CW13 CW28	CE7	336
3347	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	I	6.1+3	61 274	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1				CW13 CW28 CW31	CE12	663
3347	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	II	6.1+3	61 274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2				CW13 CW28 CW31	CE5 CE12	63
3347	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	III	6.1+3	61 274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP2 TP28	L4BH	TU15	2				CW13 CW28 CW31	CE8 CE12	63
3348	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1				CW13 CW28 CW31	CE12	66
3348	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2				CW13 CW28 CW31	CE5 CE12	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instruc-tions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3348	PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60
3349	PYRETHROID PESTICIDE, SOLID, TOXIC	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66
3349	PYRETHROID PESTICIDE, SOLID, TOXIC	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60
3349	PYRETHROID PESTICIDE, SOLID, TOXIC	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60
3350	PYRETHROID PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	I	3+6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336
3350	PYRETHROID PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3	FT2	II	3+6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28	CE7	336
3351	PYRETHROID PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	I	6.1+3	61 274	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663
3351	PYRETHROID PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	II	6.1+3	61 274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63
3351	PYRETHROID PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	6.1	TF2	III	6.1+3	61 274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3352	PYRETHROID PESTICIDE, LIQUID, TOXIC	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001			MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66
3352	PYRETHROID PESTICIDE, LIQUID, TOXIC	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02			MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60
3352	PYRETHROID PESTICIDE, LIQUID, TOXIC	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001			MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60
3354	INSECTICIDE GAS, FLAMMABLE, N.O.S.	2	2F		2.1 (+13)	274	LQ0	E0	P200			MP9	(M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23
3355	INSECTICIDE GAS, TOXIC, FLAMMABLE, N.O.S.	2	2TF		2.3+2.1 (+13)	274	LQ0	E0	P200			MP9	(M)		PxBH(M)	TU6 TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		263
3356	OXYGEN GENERATOR, CHEMICAL	5.1	O3	II	5.1	284	LQ0	E0	P500			MP2					2			CW24		50
3357	NITROGLYCERIN MIXTURE, DESENSITIZED, LIQUID, N.O.S. with not more than 30% nitroglycerin, by mass	3	D	II	3	274 288	LQ0	E0	P099			MP2					2				CE7	33
3358	REFRIGERATING MACHINES containing flammable, non-toxic, liquefied gas	2	6F		2.1	291	LQ0	E0	P003	PP32		MP9					2			CW9	CE2	23
3359	FUMIGATED UNIT	9	M11			302																
3360	Fibres, vegetable, dry	4.1	F1						NOT SUBJECT TO RID													
3361	CHLOROSILANES, TOXIC, CORROSIVE, N.O.S.	6.1	TC1	II	6.1+8	274	LQ0	E4	P010			MP15	T14	TP2 TP7 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5	68

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)			(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3362	CHLOROSILANES, TOXIC, CORROSIVE, FLAMMABLE, N.O.S.	6.1	TFC	II	6.1+3+8	274	LQ0 E4		P010			MP15	T14	TP2 TP7 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5	638
3363	Dangerous goods in machinery or dangerous goods in apparatus	9	M11	NOT SUBJECT TO RID (see also 1.1.3.1 (b))																		
3364	TRINITROPHENOL (PICRIC ACID), WETTED with not less than 10% water, by mass	4.1	D	I	4.1		LQ0 E0		P406	PP24	MP2						1	W1				40
3365	TRINITROCHLOROBENZENE (PICRYL CHLORIDE), WETTED with not less than 10% water, by mass	4.1	D	I	4.1		LQ0 E0		P406	PP24	MP2						1	W1				40
3366	TRINITROTOLUENE (TNT), WETTED with not less than 10% water, by mass	4.1	D	I	4.1		LQ0 E0		P406	PP24	MP2						1	W1				40
3367	TRINITROBENZENE, WETTED with not less than 10% water, by mass	4.1	D	I	4.1		LQ0 E0		P406	PP24	MP2						1	W1				40
3368	TRINITROBENZOIC ACID, WETTED with not less than 10% water, by mass	4.1	D	I	4.1		LQ0 E0		P406	PP24	MP2						1	W1				40
3369	SODIUM DINITRO-o-CRESOLATE, WETTED with not less than 10% water, by mass	4.1	DT	I	4.1+6.1		LQ0 E0		P406	PP24	MP2						1	W1		CW13 CW28		46
3370	UREA NITRATE, WETTED with not less than 10% water, by mass	4.1	D	I	4.1		LQ0 E0		P406	PP78	MP2						1	W1				40
3371	2-METHYLBUTANAL	3	F1	II	3		LQ4 E2		P001 IBC02 R001			MP19	T4	TP1	LGBF		2				CE7	33
3373	BIOLOGICAL SUBSTANCE, CATEGORY B	6.2	I4		6.2	319	LQ0 E0		P650				T1	TP1	L4BH	TU15 TU37					CE14	606
3373	BIOLOGICAL SUBSTANCE, CATEGORY B (animal material only)	6.2	I4		6.2	319	LQ0 E0		P650				T1 BK1 BK2	TP1	L4BH	TU15 TU37					CE14	606
3374	ACETYLENE, SOLVENT FREE	2	2F		2.1		LQ0 E0		P200			MP9					2			CW9 CW10 CW36	CE3	239



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3375	AMMONIUM NITRATE EMULSION or SUSPENSION or GEL, intermediate for blasting explosives, liquid	5.1	O1	II	5.1	309	LQ0	E2		P099 IBC99		MP2	T1	TP1 TP9 TP17 TP32	LGAV(+)	TU3 TU12 TU39 TE10 TE23 TA1 TA3	2			CW24		50
3375	AMMONIUM NITRATE EMULSION or SUSPENSION or GEL, intermediate for blasting explosives, solid	5.1	O2	II	5.1	309	LQ0	E2		P099 IBC99		MP2	T1	TP1 TP9 TP17 TP32	SGAV(+)	TU3 TU12 TU39 TE10 TE23 TA1 TA3	2			CW24		50
3376	4-NITROPHENYLHYDRAZINE, with not less than 30% water, by mass	4.1	D	I	4.1		LQ0	E0		P406	PP26	MP2					1	W1			CE10	40
3377	SODIUM PERBORATE MONOHYDRATE	5.1	O2	III	5.1		LQ12	E1		P002 IBC08 LP02 R001	B3	MP10	T1 BK1 BK2	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
3378	SODIUM CARBONATE PEROXYHYDRATE	5.1	O2	II	5.1		LQ11	E2		P002 IBC08	B4	MP10	T3 BK1 BK2	TP33	SGAV	TU3	2	W11	VW8	CW24	CE10	50
3378	SODIUM CARBONATE PEROXYHYDRATE	5.1	O2	III	5.1		LQ12	E1		P002 IBC08 LP02 R001	B3	MP10	T1 BK1 BK2	TP33	SGAV	TU3	3		VW8	CW24	CE11	50
3379	DESENSITIZED EXPLOSIVE, LIQUID, N.O.S.	3	D	I	3	274 311	LQ0	E0		P099		MP2					1					33
3380	DESENSITIZED EXPLOSIVE, SOLID, N.O.S.	4.1	D	I	4.1	274 311	LQ0	E0		P099		MP2					1	W1				40

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3381	TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	6.1	T1 or T4	I	6.1	274	LQ0	E5	P601			MP8 MP17	T22	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
3382	TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	6.1	T1 or T4	I	6.1	274	LQ0	E5	P602			MP8 MP17	T20	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
3383	TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	6.1	TF1	I	6.1+3	274	LQ0	E5	P601			MP8 MP17	T22	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
3384	TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	6.1	TF1	I	6.1+3	274	LQ0	E5	P602			MP8 MP17	T20	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663
3385	TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	6.1	TW1	I	6.1+4.3	274	LQ0	E5	P601			MP8 MP17	T22	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		623

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3386	TOXIC BY INHALATION LIQUID, WATER REACTIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	6.1	TW1	I	6.1+4.3	274	LQ0	E5		P602		MP8 MP17	T20	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		623
3387	TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	6.1	TO1	I	6.1+5.1	274	LQ0	E5		P601		MP8 MP17	T22	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		665
3388	TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	6.1	TO1	I	6.1+5.1	274	LQ0	E5		P602		MP8 MP17	T20	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		665
3389	TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	6.1	TC1 or TC3	I	6.1+8	274	LQ0	E5		P601		MP8 MP17	T22	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		668
3390	TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	6.1	TC1 or TC3	I	6.1+8	274	LQ0	E5		P602		MP8 MP17	T20	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		668

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3391	ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC	4.2	S5	I	4.2	274	LQ0	E0		P404	PP86	MP2	T21	TP7 TP33	L21DH	TU4 TU14 TU22 TU38 TC1 TE21 TE22 TE25 TM1	0	W1				43
3392	ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC	4.2	S5	I	4.2	274	LQ0	E0		P400	PP86	MP2	T21	TP2 TP7	L21DH	TU4 TU14 TU22 TU38 TC1 TE21 TE22 TE25 TM1	0	W1				333
3393	ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC, WATER-REACTIVE	4.2	SW	I	4.2+4.3	274	LQ0	E0		P404	PP86	MP2	T21	TP7 TP33	L21DH	TU4 TU14 TU22 TU38 TC1 TE21 TE22 TE25 TM1	0	W1				X432
3394	ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE	4.2	SW	I	4.2+4.3	274	LQ0	E0		P400	PP86	MP2	T21	TP2 TP7	L21DH	TU4 TU14 TU22 TU38 TC1 TE21 TE22 TE25 TM1	0	W1				X333

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3395	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE	4.3	W2	I	4.3	274	LQ0	E0		P403		MP2	T9	TP7 TP33	S10AN L10DH	TU4 TU14 TU22 TU38 TE21 TE22 TM2	1	W1		CW23		X423
3395	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE	4.3	W2	II	4.3	274	LQ11	E2		P410 IBC04		MP14	T3	TP33	SGAN L4DH	TU14 TE21 TM2	2	W1		CW23	CE10	423
3395	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE	4.3	W2	III	4.3	274	LQ12	E1		P410 IBC06		MP14	T1	TP33	SGAN L4DH	TU14 TE21 TM2	3	W1		CW23	CE11	423
3396	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE	4.3	WF2	I	4.3+4.1	274	LQ0	E0		P403		MP2	T9	TP7 TP33	S10AN L10DH	TU4 TU14 TU22 TU38 TE21 TE22 TM2	0	W1		CW23		X423
3396	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE	4.3	WF2	II	4.3+4.1	274	LQ11	E2		P410 IBC04		MP14	T3	TP33	SGAN L4DH	TU14 TE21 TM2	0	W1		CW23	CE10	423
3396	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE	4.3	WF2	III	4.3+4.1	274	LQ12	E1		P410 IBC06		MP14	T1	TP33	SGAN L4DH	TU14 TE21 TM2	0	W1		CW23	CE11	423
3397	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, SELF-HEATING	4.3	WS	I	4.3+4.2	274	LQ0	E0		P403		MP2	T9	TP7 TP33	S10AN L10DH	TU14 TU38 TE21 TE22 TM2	1	W1		CW23		X423
3397	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, SELF-HEATING	4.3	WS	II	4.3+4.2	274	LQ11	E2		P410 IBC04		MP14	T3	TP33	SGAN L4DH		2	W1		CW23	CE10	423

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3397	ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, SELF-HEATING	4.3	WS	III	4.3+4.2	274	LQ12	E1		P410 IBC06		MP14	T1	TP33	SGAN L4DH		3	W1		CW23	CE11	423
3398	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE	4.3	W1	I	4.3	274	LQ0	E0		P402		MP2	T13	TP2 TP7	L10DH	TU4 TU14 TU22 TU38 TE21 TE22 TM2	0	W1		CW23		X323
3398	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE	4.3	W1	II	4.3	274	LQ10	E2		P001 IBC01		MP15	T7	TP2 TP7	L4DH	TU14 TE21 TM2	0	W1		CW23	CE7	323
3398	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE	4.3	W1	III	4.3	274	LQ13	E1		P001 IBC02		MP15	T7	TP2 TP7	L4DH	TU14 TE21 TM2	0	W1		CW23	CE8	323
3399	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE	4.3	WF1	I	4.3+3	274	LQ0	E0		P402		MP2	T13	TP2 TP7	L10DH	TU4 TU14 TU22 TU38 TE21 TE22 TM2	0	W1		CW23		X323
3399	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE	4.3	WF1	II	4.3+3	274	LQ10	E2		P001 IBC01		MP15	T7	TP2 TP7	L4DH	TU4 TU14 TU22 TE21 TM2	0	W1		CW23	CE7	323
3399	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE	4.3	WF1	III	4.3+3	274	LQ13	E1		P001 IBC02 R001		MP15	T7	TP2 TP7	L4DH	TU14 TE21 TM2	0	W1		CW23	CE8	323
3400	ORGANOMETALLIC SUBSTANCE, SOLID, SELF-HEATING	4.2	S5	II	4.2	274	LQ18	E2		P410 IBC06		MP14	T3	TP33	SGAN L4BN		2	W1 W12			CE10	40

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3400	ORGANOMETALLIC SUBSTANCE, SOLID, SELF-HEATING	4.2	S5	III	4.2	274	LQ11	E1		P002 IBC08		MP14	T1	TP33	SGAN L4BN		3	W1			CE11	40
3401	ALKALI METAL AMALGAM, SOLID	4.3	W2	I	4.3	182 274	LQ0	E0		P403		MP2	T9	TP7 TP33	L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X423
3402	ALKALINE EARTH METAL AMALGAM, SOLID	4.3	W2	I	4.3	183 274 506	LQ0	E0		P403		MP2	T9	TP7 TP33	L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X423
3403	POTASSIUM METAL ALLOYS, SOLID	4.3	W2	I	4.3		LQ0	E0		P403		MP2	T9	TP7 TP33	L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X423
3404	POTASSIUM SODIUM ALLOYS, SOLID	4.3	W2	I	4.3		LQ0	E0		P403		MP2	T9	TP7 TP33	L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X423
3405	BARIUM CHLORATE SOLUTION	5.1	OT1	II	5.1+6.1		LQ10	E2		P504 IBC02		MP2	T4	TP1	L4BN	TU3	2			CW24 CW28	CE6	56
3405	BARIUM CHLORATE SOLUTION	5.1	OT1	III	5.1+6.1		LQ13	E1		P001 IBC02		MP2	T4	TP1	LGBV	TU3	3			CW24 CW28	CE8	56
3406	BARIUM PERCHLORATE SOLUTION	5.1	OT1	II	5.1+6.1		LQ10	E2		P504 IBC02		MP2	T4	TP1	L4BN	TU3	2			CW24 CW28	CE6	56
3406	BARIUM PERCHLORATE SOLUTION	5.1	OT1	III	5.1+6.1		LQ13	E1		P001 IBC02		MP2	T4	TP1	LGBV	TU3	3			CW24 CW28	CE8	56
3407	CHLORATE AND MAGNESIUM CHLORIDE MIXTURE SOLUTION	5.1	O1	II	5.1		LQ10	E2		P504 IBC02		MP2	T4	TP1	L4BN	TU3	2			CW24	CE6	50
3407	CHLORATE AND MAGNESIUM CHLORIDE MIXTURE SOLUTION	5.1	O1	III	5.1		LQ13	E1		P504 IBC02		MP2	T4	TP1	LGBV	TU3	3			CW24	CE8	50
3408	LEAD PERCHLORATE SOLUTION	5.1	OT1	II	5.1+6.1		LQ10	E2		P504 IBC02		MP2	T4	TP1	L4BN	TU3	2			CW24 CW28	CE6	56
3408	LEAD PERCHLORATE SOLUTION	5.1	OT1	III	5.1+6.1		LQ13	E1		P001 IBC02		MP2	T4	TP1	LGBV	TU3	3			CW24 CW28	CE8	56

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3409	CHLORONITROBENZENES, LIQUID	6.1	T1	II	6.1	279	LQ17 E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
3410	4-CHLORO-o-TOLUIDINE HYDROCHLORIDE SOLUTION	6.1	T1	III	6.1		LQ7 E1	P001 IBC03 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
3411	beta-NAPHTHYLAMINE SOLUTION	6.1	T1	II	6.1		LQ17 E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
3411	beta-NAPHTHYLAMINE SOLUTION	6.1	T1	III	6.1		LQ7 E1	P001 IBC02		MP19	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
3412	FORMIC ACID with not less than 10% but not more than 85% acid by mass	8	C3	II	8		LQ22 E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	80
3412	FORMIC ACID with not less than 5% but less than 10% acid by mass	8	C3	III	8		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BN		3				CE8	80
3413	POTASSIUM CYANIDE SOLUTION	6.1	T4	I	6.1		LQ0 E5	P001		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
3413	POTASSIUM CYANIDE SOLUTION	6.1	T4	II	6.1		LQ17 E4	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
3413	POTASSIUM CYANIDE SOLUTION	6.1	T4	III	6.1		LQ7 E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
3414	SODIUM CYANIDE SOLUTION	6.1	T4	I	6.1		LQ0 E5	P001		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities	Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed packing provisions	Instruc-tions	Special provi-sions	Tank code	Special provi-sions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2	4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3414	SODIUM CYANIDE SOLUTION	6.1	T4	II	6.1		LQ17 E4	P001 IBC02		MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
3414	SODIUM CYANIDE SOLUTION	6.1	T4	III	6.1		LQ7 E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
3415	SODIUM FLUORIDE SOLUTION	6.1	T4	III	6.1		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
3416	CHLOROACETOPHENONE, LIQUID	6.1	T1	II	6.1		LQ17 E4	P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
3417	XYLYL BROMIDE, SOLID	6.1	T2	II	6.1		LQ18 E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3418	2,4-TOLUYLENEDIAMINE SOLUTION	6.1	T1	III	6.1		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
3419	BORON TRIFLUORIDE ACETIC ACID COMPLEX, SOLID	8	C4	II	8		LQ23 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN L4BN		2	W11			CE10	80
3420	BORON TRIFLUORIDE PROPIONIC ACID COMPLEX, SOLID	8	C4	II	8		LQ23 E2	P002 IBC08	B4	MP10	T3	TP33	SGAN L4BN		2	W11			CE10	80
3421	POTASSIUM HYDROGENDIFLUORIDE SOLUTION	8	CT1	II	8+6.1		LQ22 E2	P001 IBC02		MP15	T7	TP2	L4DH	TU14 TE17 TE21 TT4	2			CW13 CW28	CE6	86
3421	POTASSIUM HYDROGENDIFLUORIDE SOLUTION	8	CT1	III	8+6.1		LQ7 E1	P001 IBC03 R001		MP19	T4	TP1	L4DH	TU14 TE21	3			CW13 CW28	CE8	86
3422	POTASSIUM FLUORIDE SOLUTION	6.1	T4	III	6.1		LQ7 E1	P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3423	TETRAMETHYLAMMONIUM HYDROXIDE, SOLID	8	C8	II	8		LQ24	E2		P002 IBC08	B4	MP10	T3	TP33	SGAH L4BN		2	W11			CE10	80
3424	AMMONIUM DINITRO-o-CRESOLATE SOLUTION	6.1	T1	II	6.1		LQ17	E4		P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
3424	AMMONIUM DINITRO-o-CRESOLATE SOLUTION	6.1	T1	III	6.1		LQ7	E1		P001 IBC02		MP19	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
3425	BROMOACETIC ACID, SOLID	8	C4	II	8		LQ23	E2		P002 IBC08	B4	MP10	T3	TP33	SGAH L4BN		2	W11			CE10	80
3426	ACRYLAMIDE SOLUTION	6.1	T1	III	6.1		LQ7	E1		P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
3427	CHLOROBENZYL CHLORIDES, SOLID	6.1	T2	III	6.1		LQ9	E1		P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
3428	3-CHLORO-4-METHYLPHENYL ISOCYANATE, SOLID	6.1	T2	II	6.1		LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3429	CHLOROTOLUIDINES, LIQUID	6.1	T1	III	6.1		LQ7	E1		P001 IBC03 LP01 R001		MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
3430	XYLENOLS, LIQUID	6.1	T1	II	6.1		LQ17	E4		P001 IBC02		MP15	T7	TP2	L4BH	TU15	2			CW13 CW28 CW31	CE5	60
3431	NITROBENZOTRIFLUORIDES, SOLID	6.1	T2	II	6.1		LQ18	E4		P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3432	POLYCHLORINATED BIPHENYLS, SOLID	9	M2	II	9	305	LQ25	E2		P906 IBC08	B4	MP10	T3	TP33	S4AH L4BH	TU15	0	W11	VW15	CW13 CW28 CW31	CE9	90

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
3.1.2		2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3434	NITROCRESOLS, LIQUID	6.1	T1	III	6.1		LQ7 E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
3436	HEXAFLUOROACETONE HYDRATE, SOLID	6.1	T2	II	6.1		LQ18 E4	P002 IBC08	B4		MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3437	CHLOROCRESOLS, SOLID	6.1	T2	II	6.1		LQ18 E4	P002 IBC08	B4		MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3438	alpha-METHYLBENZYL ALCOHOL, SOLID	6.1	T2	III	6.1		LQ9 E1	P002 IBC08 LP02 R001	B3		MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
3439	NITRILES, TOXIC, SOLID, N.O.S.	6.1	T2	I	6.1	274	LQ0 E5	P002 IBC07			MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66
3439	NITRILES, TOXIC, SOLID, N.O.S.	6.1	T2	II	6.1	274	LQ18 E4	P002 IBC08	B4		MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3439	NITRILES, TOXIC, SOLID, N.O.S.	6.1	T2	III	6.1	274	LQ9 E1	P002 IBC08 LP02 R001	B3		MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
3440	SELENIUM COMPOUND, LIQUID, N.O.S.	6.1	T4	I	6.1	274 563	LQ0 E5	P001			MP8 MP17	T14	TP2 TP27	L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
3440	SELENIUM COMPOUND, LIQUID, N.O.S.	6.1	T4	II	6.1	274 563	LQ17 E4	P001 IBC02			MP15	T11	TP2 TP27	L4BH	TU15	2			CW13 CW28 CW31	CE5	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
3.1.2		2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3440	SELENIUM COMPOUND, LIQUID, N.O.S.	6.1	T4	III	6.1	274 563	LQ7	E1	P001 IBC03 R001		MP19	T7	TP1 TP28	L4BH	TU15	2			CW13 CW28 CW31	CE8	60
3441	CHLORODINITROBENZENES, SOLID	6.1	T2	II	6.1	279	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3442	DICHLOROANILINES, SOLID	6.1	T2	II	6.1	279	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3443	DINITROBENZENES, SOLID	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3444	NICOTINE HYDROCHLORIDE, SOLID	6.1	T2	II	6.1	43	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3445	NICOTINE SULPHATE, SOLID	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3446	NITROTOLUENES, SOLID	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3447	NITROXYLENES, SOLID	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3448	TEAR GAS SUBSTANCE, SOLID, N.O.S.	6.1	T2	I	6.1	274	LQ0	E5	P002		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66
3448	TEAR GAS SUBSTANCE, SOLID, N.O.S.	6.1	T2	II	6.1	274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3449	BROMOBENZYL CYANIDES, SOLID	6.1	T2	I	6.1	138	LQ0	E5	P002		MP18	T6	TP33	S10AH L10CH	TU15 TU38 TE22	1			CW13 CW28 CW31		66

UN No.	Name and description	Class	Classifi- cation code	Packing group	Labels	Special provi- sions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identi- fication No.
									Packing instructions	Special packing provisions	Mixed packing provi- sions	Instruc- tions	Special provi- sions	Tank code	Special provi- sions		Packages	Bulk	Loading, unloading and handling		
									4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4		1.1.3.1 (c)	7.2.4	7.3.3		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3450	DIPHENYLCHLOROARSINE, SOLID	6.1	T3	I	6.1		LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU15 TU38 TE22	1	W10 W12		CW13 CW28 CW31		66
3451	TOLUIDINES, SOLID	6.1	T2	II	6.1	279	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3452	XYLIDINES, SOLID	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3453	PHOSPHORIC ACID, SOLID	8	C2	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAV L4BN		3		VW9		CE11	80
3454	DINITROTOLUENES, SOLID	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3455	CRESOLS, SOLID	6.1	TC2	II	6.1+8		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	68
3456	NITROSYLSULPHURIC ACID, SOLID	8	C2	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33	SGAN L4BN		2	W11			CE10	X80
3457	CHLORONITROTOLUENES, SOLID	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
3458	NITROANISOLE, SOLID	6.1	T2	III	6.1	279	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
3459	NITROBROMOBENZENES, SOLID	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (e)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3460	N-ETHYLBENZYL TOLUIDINES, SOLID	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
3462	TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S.	6.1	T2	I	6.1	210 274	LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU15 TU38 TE22	1	W10 W12		CW13 CW28 CW31		66
3462	TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S.	6.1	T2	II	6.1	210 274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3462	TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S.	6.1	T2	III	6.1	210 274	LQ9	E1	P002 IBC08 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
3463	PROPIONIC ACID with not less than 90% acid by mass	8	CF1	II	8+3		LQ22	E2	P001 IBC02		MP15	T7	TP2	L4BN		2				CE6	83
3464	ORGANOPHOSPHORUS COMPOUND, TOXIC, SOLID, N.O.S.	6.1	T2	I	6.1	43 274	LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66
3464	ORGANOPHOSPHORUS COMPOUND, TOXIC, SOLID, N.O.S.	6.1	T2	II	6.1	43 274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60
3464	ORGANOPHOSPHORUS COMPOUND, TOXIC, SOLID, N.O.S.	6.1	T2	III	6.1	43 274	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60
3465	ORGANOARSENIC COMPOUND, SOLID, N.O.S.	6.1	T3	I	6.1	274	LQ0	E5	P002 IBC07		MP18	T6	TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66
3465	ORGANOARSENIC COMPOUND, SOLID, N.O.S.	6.1	T3	II	6.1	274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a) (7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3465	ORGANOARSENIC COMPOUND, SOLID, N.O.S.	6.1	T3	III	6.1	274	LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1 TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60		
3466	METAL CARBONYLS, SOLID, N.O.S.	6.1	T3	I	6.1	274 562	LQ0 E5	P002 IBC07		MP18	T6 TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66		
3466	METAL CARBONYLS, SOLID, N.O.S.	6.1	T3	II	6.1	274 562	LQ18 E4	P002 IBC08	B4	MP10	T3 TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60		
3466	METAL CARBONYLS, SOLID, N.O.S.	6.1	T3	III	6.1	274 562	LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1 TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60		
3467	ORGANOMETALLIC COMPOUND, TOXIC, SOLID, N.O.S.	6.1	T3	I	6.1	274 562	LQ0 E5	P002 IBC07		MP18	T6 TP33	S10AH L10CH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66		
3467	ORGANOMETALLIC COMPOUND, TOXIC, SOLID, N.O.S.	6.1	T3	II	6.1	274 562	LQ18 E4	P002 IBC08	B4	MP10	T3 TP33	SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60		
3467	ORGANOMETALLIC COMPOUND, TOXIC, SOLID, N.O.S.	6.1	T3	III	6.1	274 562	LQ9 E1	P002 IBC08 LP02 R001	B3	MP10	T1 TP33	SGAH L4BH	TU15	2		VW9	CW13 CW28 CW31	CE11	60		
3468	HYDROGEN IN A METAL HYDRIDE STORAGE SYSTEM or HYDROGEN IN A METAL HYDRIDE STORAGE SYSTEM CONTAINED IN EQUIPMENT or HYDROGEN IN A METAL HYDRIDE STORAGE SYSTEM PACKED WITH EQUIPMENT	2	1F		2.1	321	LQ0 E0	P099		MP9				2			CW9 CW10 CW36	CE3	23		

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
										Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3	4.3	4.3.5, 6.8.4	1.1.3.1 (c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3469	PAINT, FLAMMABLE, CORROSIVE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE (including paint thinning and reducing compound)	3	FC	I	3+8	163	LQ3	E0		P001		MP7 MP17	T11	TP2 TP27	L10CH	TU14 TU38 TE21 TE22	1					338
3469	PAINT, FLAMMABLE, CORROSIVE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE (including paint thinning and reducing compound)	3	FC	II	3+8	163	LQ4	E2		P001 IBC02		MP19	T7	TP2 TP8 TP28	L4BH		2				CE7	338
3469	PAINT, FLAMMABLE, CORROSIVE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE (including paint thinning and reducing compound)	3	FC	III	3+8	163	LQ7	E1		P001 IBC03 R001		MP19	T4	TP1 TP29	L4BN		3				CE4	38
3470	PAINT, CORROSIVE, FLAMMABLE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL, CORROSIVE, FLAMMABLE (including paint thinning and reducing compound)	8	CF1	II	8+3	163	LQ22	E2		P001 IBC02		MP15	T7	TP2 TP8 TP28	L4BN		2				CE6	83
3471	HYDROGENDIFLUORIDES SOLUTION, N.O.S.	8	CT1	II	8+6.1		LQ22	E2		P001 IBC02		MP15	T7	TP2	L4DH	TU14 TE17 TE21 TT4	2			CW13 CW28	CE6	86
3471	HYDROGENDIFLUORIDES SOLUTION, N.O.S.	8	CT1	III	8+6.1		LQ7	E1		P001 IBC03 R001		MP19	T4	TP1	L4DH	TU14 TE21	3			CW13 CW28	CE8	86



UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6/3.5.1.2			Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3472	CROTONIC ACID, LIQUID	8	C3	III	8		LQ7	E1	P001 IBC03 LP01 R001			MP19	T4	TP1	L4BN		3				CE8	80
3473	FUEL CELL CARTRIDGES or FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT or FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT containing flammable liquids	3	F1		3	328	LQ13	E0	P004								3				CE7	30
3474	1-HYDROXYBENZO-TRIAZOLE, ANHYDROUS, WETTED with not less than 20% water, by mass	4.1	D	I	4.1		LQ0	E0	P406	PP48	MP2						1	W1				40
3475	ETHANOL AND GASOLINE MIXTURE or ETHANOL AND MOTOR SPIRIT MIXTURE or ETHANOL AND PETROL MIXTURE, with more than 10% ethanol	3	F1	II	3	333	LQ4	E2	P001 IBC02			MP19	T4	TP1	LGBF		2				CE7	33
3476	FUEL CELL CARTRIDGES or FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT or FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing water-reactive substances	4.3	W3		4.3	328 334	LQ10 LQ11	E0	P004								3	W1		CW23	CE2	423
3477	FUEL CELL CARTRIDGES or FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT or FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing corrosive substances	8	C11		8	328 334	LQ12 LQ13	E0	P004								3				CE8	80
3478	FUEL CELL CARTRIDGES or FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT or FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing liquefied flammable gas	2	6F		2.1	328 338	LQ1	E0	P004								2			CW9 CW12	CE3	23

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities			Packaging			Portable tanks and bulk containers		RID tanks		Transport category	Special provisions for carriage			Colis express	Hazard identification No.
																		Packages	Bulk	Loading, unloading and handling		
																		7.2.4	7.3.3	7.5.11		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)		(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3479	FUEL CELL CARTRIDGES or FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT or FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing hydrogen in metal hydride	2	6F		2.1	328 339	LQ1	E0	P004								2			CW9 CW12	CE3	23
3480	LITHIUM ION BATTERIES (including lithium ion polymer batteries)	9	M4	II	9	188 230 310 636	LQ0	E0	P903 P903a P903b								2				CE2	90
3481	LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT or LITHIUM ION BATTERIES PACKED WITH EQUIPMENT (including lithium ion polymer batteries)	9	M4	II	9	188 230 636	LQ0	E0	P903 P903a P903b								2				CE2	90

## Chapter 3.2

### Table B:            Alphabetical List of Dangerous Goods

The names of the substances and articles are listed in alphabetical order. Arabic numbers or prefixes such as o-, m-, p-, n-, sec-, tert-, N-, alpha-, beta-, omega-, cis- and trans- are ignored for the purposes of alphabetical listing. However, prefixes Bis- and Iso- are counted as the first part of a name.

#### Column "NHM-Code" (Nomenclature Harmonisée Marchandises – Harmonized Goods List)

This column contains the NHM Code of the goods in accordance with the harmonized goods list (Annex 3 to UIC-leaflet 221). As dangerous goods are assigned to NHM codes in accordance with principles which do not reflect the classification principles of RID, it is not possible in all cases to assign a single NHM code to each RID substance description. This is especially true of collective entries and n.o.s. entries. In these cases, the correct NHM code can only be found if the chemical or technical description of the goods is known. If the correct NHM code can only be given in part, the missing figures are replaced with plus signs ("+" ). In cases where there is more than one NHM code to be considered, two relevant NHM codes are shown, the most relevant code being indicated first.

The Secretariat of OTIF has assigned the NHM codes with the greatest care. However, it cannot be guaranteed that the content and technical details are entirely free from errors.

The information in this column is not legally binding.

Name and description	UN No	Note	NHM Code
Accumulators, electric: see	2794		8507++
Accumulators, electric: see	2795		8507++
Accumulators, electric: see	2800		8507++
Accumulators, electric: see	3028		8507++
Accumulators, electric: see	3292		8507++
ACETAL	1088		291100
ACETALDEHYDE	1089		291212
ACETALDEHYDE AMMONIA	1841		292211
ACETALDEHYDE OXIME	2332		292800
ACETIC ACID, GLACIAL	2789		291521
ACETIC ACID SOLUTION, more than 10% but not more than 80% acid, by mass	2790		291521
ACETIC ACID SOLUTION, more than 80% acid, by mass	2789		291521
ACETIC ANHYDRIDE	1715		291524
Acetoin: see	2621		291440
ACETONE	1090		291411
ACETONE CYANOHYDRIN, STABILIZED	1541		292690
ACETONE OILS	1091		380700
ACETONITRILE	1648		292690
ACETYL BROMIDE	1716		291590
ACETYL CHLORIDE	1717		291590
ACETYLENE, DISSOLVED	1001		290129
ACETYLENE, SOLVENT FREE	3374		290129
Acetylene tetrabromide: see	2504		290339
Acetylene tetrachloride: see	1702		290319
ACETYL IODIDE	1898		291590
ACETYL METHYL CARBINOL	2621		291440
Acid butyl phosphate: see	1718		291990
Acid mixture, hydrofluoric and sulphuric: see	1786		281119
Acid mixture, nitrating acid: see	1796		280800
Acid mixture, spent, nitrating acid: see	1826		280800 382569
Acraldehyde, inhibited: see	1092		291219
ACRIDINE	2713		293399
ACROLEIN DIMER, STABILIZED	2607		293299
ACROLEIN, STABILIZED	1092		291219
ACRYLAMIDE SOLUTION	3426		292419
ACRYLAMIDE, SOLID	2074		292419
ACRYLIC ACID, STABILIZED	2218		291611
ACRYLONITRILE, STABILIZED	1093		292610
Actinolite: see	2590		252490
Activated carbon: see	1362		380210
Activated charcoal: see	1362		380210
ADHESIVES containing flammable liquid	1133		350699
ADIPONITRILE	2205		292690
AEROSOLS	1950		+++++
AGENT, BLASTING, TYPE B	0331		360200
AGENT, BLASTING, TYPE E	0332		360200
AIR BAG INFLATORS	0503		870895
AIR BAG INFLATORS	3268		870895
AIR BAG MODULES	0503		870895
AIR BAG MODULES	3268		870895
AIR, COMPRESSED	1002		285300
AIRCRAFT HYDRAULIC POWER UNIT FUEL TANK (containing a mixture of anhydrous hydrazine and methylhydrazine) (M86 fuel)	3165		880330
AIR, REFRIGERATED LIQUID	1003		285300
ALCOHOLATES SOLUTION, N.O.S., in alcohol	3274		290519
ALCOHOLIC BEVERAGES	3065		2208++
ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.	1986		2905++
ALCOHOLS, N.O.S.	1987		2905++
ALDEHYDES, FLAMMABLE, TOXIC, N.O.S.	1988		2912++
ALDEHYDES, N.O.S.	1989		2912++
ALDOL	2839		291230
ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S.	3206		290519
ALKALI METAL ALLOY, LIQUID, N.O.S.	1421		280519
ALKALI METAL AMALGAM, LIQUID	1389		285300
ALKALI METAL AMALGAM, SOLID	3401		285300
ALKALI METAL AMIDES	1390		285300
ALKALI METAL DISPERSION	1391		280519
ALKALINE EARTH METAL ALCOHOLATES, N.O.S.	3205		290519
ALKALINE EARTH METAL ALLOY, N.O.S.	1393		280519

Name and description	UN No	Note	NHM Code
ALKALINE EARTH METAL AMALGAM, LIQUID	1392		285300
ALKALINE EARTH METAL AMALGAM, SOLID	3402		285300
ALKALINE EARTH METAL DISPERSION	1391		280519
ALKALOID SALTS, LIQUID, N.O.S.	3140		2939++
ALKALOID SALTS, SOLID, N.O.S.	1544		2939++
ALKALOIDS, LIQUID, N.O.S.	3140		2939++
ALKALOIDS, SOLID, N.O.S.	1544		2939++
ALKYLPHENOLS, LIQUID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues)	3145		290719
ALKYLPHENOLS, SOLID, N.O.S. (including C <sub>2</sub> -C <sub>12</sub> homologues)	2430		290719
ALKYLSULPHONIC ACIDS, LIQUID with more than 5% free sulphuric acid	2584		290410
ALKYLSULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid	2586		290410
ALKYLSULPHONIC ACIDS, SOLID with more than 5% free sulphuric acid	2583		290410
ALKYLSULPHONIC ACIDS, SOLID with not more than 5% free sulphuric acid	2585		290410
ALKYLSULPHURIC ACIDS	2571		290410
ALLYL ACETATE	2333		291539
ALLYL ALCOHOL	1098		290529
ALLYLAMINE	2334		292119
ALLYL BROMIDE	1099		290339
ALLYL CHLORIDE	1100		290329
ALLYL CHLOROFORMATE	1722		291590
ALLYL ETHYL ETHER	2335		290919
ALLYL FORMATE	2336		291513
ALLYL GLYCIDYL ETHER	2219		291090
ALLYL IODIDE	1723		290339
ALLYL ISOTHIOCYANATE, STABILIZED	1545		293090
ALLYLTRICHLOROSILANE, STABILIZED	1724		293100
ALUMINIUM BOROHYDRIDE	2870		285000
ALUMINIUM BOROHYDRIDE IN DEVICES	2870		285000
ALUMINIUM BROMIDE, ANHYDROUS	1725		282759
ALUMINIUM BROMIDE SOLUTION	2580		282759
ALUMINIUM CARBIDE	1394		284990
ALUMINIUM CHLORIDE, ANHYDROUS	1726		282732
ALUMINIUM CHLORIDE SOLUTION	2581		282732
ALUMINIUM FERROSILICON POWDER	1395		760120
ALUMINIUM HYDRIDE	2463		285000
ALUMINIUM NITRATE	1438		283429
ALUMINIUM PHOSPHIDE	1397		284800
ALUMINIUM PHOSPHIDE PESTICIDE	3048		380810
ALUMINIUM POWDER, COATED	1309		760310
ALUMINIUM POWDER, UNCOATED	1396		760310
ALUMINIUM REMELTING BY-PRODUCTS	3170		262040
ALUMINIUM RESINATE	2715		380620
ALUMINIUM SILICON POWDER, UNCOATED	1398		285000
ALUMINIUM SMELTING BY-PRODUCTS	3170		262040
AMINES, FLAMMABLE, CORROSIVE, N.O.S.	2733		2921++
AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.	2734		2921++
AMINES, LIQUID, CORROSIVE, N.O.S.	2735		2921++
AMINES, SOLID, CORROSIVE, N.O.S.	3259		2921++
2-AMINO-4-CHLOROPHENOL	2673		292229
2-AMINO-5-DIETHYLAMINOPENTANE	2946		292129
2-AMINO-4,6-DINITROPHENOL, WETTED with not less than 20% water, by mass	3317		292229
2-(2-AMINOETHOXY)ETHANOL	3055		292250
N-AMINOETHYLPIPERAZINE	2815		293399
AMINOPHENOLS (o-, m-, p-)	2512		292229
AMINOPYRIDINES (o-, m-, p-)	2671		293339
AMMONIA, ANHYDROUS	1005		281410
AMMONIA SOLUTION, relative density between 0.880 and 0.957 at 15 °C in water, with more than 10% but not more than 35% ammonia	2672		281420
AMMONIA SOLUTION, relative density less than 0.880 at 15 °C in water, with more than 35% but not more than 50% ammonia	2073		281420
AMMONIA SOLUTION, relative density less than 0.880 at 15 °C in water, with more than 50% ammonia	3318		281420
AMMONIUM ARSENATE	1546		284290
Ammonium bifluoride solid: see	1727		282619
Ammonium bifluoride solution: see	2817		282619
Ammonium bisulphate: see	2506		283329
AMMONIUM DICHROMATE	1439		284150
AMMONIUM DINITRO- <i>o</i> -CRESOLATE, SOLID	1843		290899
AMMONIUM DINITRO- <i>o</i> -CRESOLATE SOLUTION	3424		290899
AMMONIUM FLUORIDE	2505		282619
AMMONIUM FLUOROSILICATE	2854		282690

Name and description	UN No	Note	NHM Code
AMMONIUM HYDROGENDIFLUORIDE, SOLID	1727		282619
AMMONIUM HYDROGENDIFLUORIDE SOLUTION	2817		282619
AMMONIUM HYDROGEN SULPHATE	2506		283329
AMMONIUM METAVANADATE	2859		284190
AMMONIUM NITRATE BASED FERTILIZER	2067		310520
Ammonium nitrate based fertilizer, uniform mixtures of the nitrogen/phosphate, nitrogen/potash or nitrogen/phosphate/potash type, containing not more than 70% ammonium nitrate and not more than 0.4% total combustible/organic material calculated as carbon or with not more than 45% ammonium nitrate and unrestricted combustible material	2071	Exempt	310520
AMMONIUM NITRATE EMULSION, intermediate for blasting explosives	3375		360200
AMMONIUM NITRATE GEL, intermediate for blasting explosives	3375		360200
AMMONIUM NITRATE, LIQUID, hot concentrated solution, in a concentration of more than 80% but not more than 93%	2426		310230
AMMONIUM NITRATE SUSPENSION, intermediate for blasting explosives	3375		360200
AMMONIUM NITRATE with more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance	0222		310230
AMMONIUM NITRATE with not more than 0.2% total combustible material, including any organic substance calculated as carbon, to the exclusion of any other added substance	1942		310230
AMMONIUM PERCHLORATE	0402		282990
AMMONIUM PERCHLORATE	1442		282990
AMMONIUM PERSULPHATE	1444		283340
AMMONIUM PICRATE dry or wetted with less than 10% water, by mass	0004		290899
AMMONIUM PICRATE, WETTED with not less than 10% water, by mass	1310		290899
AMMONIUM POLYSULPHIDE SOLUTION	2818		283090
AMMONIUM POLYVANADATE	2861		284190
AMMONIUM SULPHIDE SOLUTION	2683		283090
AMMUNITION, ILLUMINATING with or without burster, expelling charge or propelling charge	0171		930690
AMMUNITION, ILLUMINATING with or without burster, expelling charge or propelling charge	0254		930690
AMMUNITION, ILLUMINATING with or without burster, expelling charge or propelling charge	0297		930690
AMMUNITION, INCENDIARY, liquid or gel, with burster, expelling charge or propelling charge	0247		930690
AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge	0009		930690
AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge	0010		930690
AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge	0300		930690
AMMUNITION, INCENDIARY, WHITE PHOSPHORUS with burster, expelling charge or propelling charge	0243		930690
AMMUNITION, INCENDIARY, WHITE PHOSPHORUS with burster, expelling charge or propelling charge	0244		930690
AMMUNITION, PRACTICE	0362		930690
AMMUNITION, PRACTICE	0488		930690
AMMUNITION, PROOF	0363		930690
AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge	0015		930690
AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge	0016		930690
AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge	0303		930690
AMMUNITION, SMOKE, WHITE PHOSPHORUS with burster, expelling charge or propelling charge	0245		930690
AMMUNITION, SMOKE, WHITE PHOSPHORUS with burster, expelling charge or propelling charge	0246		930690
AMMUNITION, TEAR-PRODUCING, NON-EXPLOSIVE without burster or expelling charge, non-fuzed	2017		930690
AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge	0018		930690
AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge	0019		930690
AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge	0301		930690
AMMUNITION, TOXIC with burster, expelling charge or propelling charge	0020	Prohibited	
AMMUNITION, TOXIC with burster, expelling charge or propelling charge	0021	Prohibited	
AMMUNITION, TOXIC, NON-EXPLOSIVE without burster or expelling charge, non-fuzed	2016		930690
Amosite: see	2212		252490
AMYL ACETATES	1104		291539
AMYL ACID PHOSPHATE	2819		291990
AMYLAMINE	1106		292119
AMYL BUTYRATES	2620		291590
AMYL CHLORIDE	1107		290319
n-AMYLENE	1108		290129
AMYL FORMATES	1109		291513
AMYL MERCAPTAN	1111		293090
n-AMYL METHYL KETONE	1110		291419
AMYL NITRATE	1112		292090
AMYL NITRITE	1113		292090
AMYLTRICHLOROSILANE	1728		293100
ANILINE	1547		292141
ANILINE HYDROCHLORIDE	1548		292141
ANISIDINES	2431		292229
ANISOLE	2222		290930
ANISOYL CHLORIDE	1729		291899
Anthophyllite: see	2590		252490
ANTIMONY COMPOUND, INORGANIC, LIQUID, N.O.S.	3141		28++++

Name and description	UN No	Note	NHM Code
ANTIMONY COMPOUND, INORGANIC, SOLID, N.O.S.	1549		28++++
Antimony hydride: see	2676		285000
ANTIMONY LACTATE	1550		291811
ANTIMONY PENTACHLORIDE, LIQUID	1730		282739
ANTIMONY PENTACHLORIDE SOLUTION	1731		282739
ANTIMONY PENTAFLUORIDE	1732		282619
ANTIMONY POTASSIUM TARTRATE	1551		291813
ANTIMONY POWDER	2871		811010
ANTIMONY TRICHLORIDE	1733		282739
ARGON, COMPRESSED	1006		280421
ARGON, REFRIGERATED LIQUID	1951		280421
Arsenates, n.o.s.: see	1556		284290
Arsenates, n.o.s.: see	1557		284290
ARSENIC	1558		280480
ARSENIC ACID, LIQUID	1553		281119
ARSENIC ACID, SOLID	1554		281119
ARSENICAL DUST	1562		280480
ARSENICAL PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	2760		3808++
ARSENICAL PESTICIDE, LIQUID, TOXIC	2994		3808++
ARSENICAL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	2993		3808++
ARSENICAL PESTICIDE, SOLID, TOXIC	2759		3808++
ARSENIC BROMIDE	1555		281290
ARSENIC COMPOUND, LIQUID, N.O.S., inorganic	1556		28++++
ARSENIC COMPOUND, SOLID, N.O.S., inorganic	1557		28++++
ARSENIC PENTOXIDE	1559		282590
Arsenic sulphides, n.o.s.: see	1556		281390
Arsenic sulphides, n.o.s.: see	1557		281390
ARSENIC TRICHLORIDE	1560		281210
ARSENIC TRIOXIDE	1561		282590
Arsenites, n.o.s.: see	1556		284290
Arsenites, n.o.s.: see	1557		284290
ARSINE	2188		285000
ARTICLES, EEI	0486		930690
ARTICLES, EXPLOSIVE, EXTREMELY INSENSITIVE	0486		930690
ARTICLES, EXPLOSIVE, N.O.S.	0349		930690
ARTICLES, EXPLOSIVE, N.O.S.	0350		930690
ARTICLES, EXPLOSIVE, N.O.S.	0351		930690
ARTICLES, EXPLOSIVE, N.O.S.	0352		930690
ARTICLES, EXPLOSIVE, N.O.S.	0353		930690
ARTICLES, EXPLOSIVE, N.O.S.	0354		930690
ARTICLES, EXPLOSIVE, N.O.S.	0355		930690
ARTICLES, EXPLOSIVE, N.O.S.	0356		930690
ARTICLES, EXPLOSIVE, N.O.S.	0462		930690
ARTICLES, EXPLOSIVE, N.O.S.	0463		930690
ARTICLES, EXPLOSIVE, N.O.S.	0464		930690
ARTICLES, EXPLOSIVE, N.O.S.	0465		930690
ARTICLES, EXPLOSIVE, N.O.S.	0466		930690
ARTICLES, EXPLOSIVE, N.O.S.	0467		930690
ARTICLES, EXPLOSIVE, N.O.S.	0468		930690
ARTICLES, EXPLOSIVE, N.O.S.	0469		930690
ARTICLES, EXPLOSIVE, N.O.S.	0470		930690
ARTICLES, EXPLOSIVE, N.O.S.	0471		930690
ARTICLES, EXPLOSIVE, N.O.S.	0472		930690
ARTICLES, PRESSURIZED, HYDRAULIC (containing non-flammable gas)	3164		+++++
ARTICLES, PRESSURIZED, PNEUMATIC (containing non-flammable gas)	3164		+++++
ARTICLES, PYROPHORIC	0380		930690
ARTICLES, PYROTECHNIC for technical purposes	0428		360490
ARTICLES, PYROTECHNIC for technical purposes	0429		360490
ARTICLES, PYROTECHNIC for technical purposes	0430		360490
ARTICLES, PYROTECHNIC for technical purposes	0431		360490
ARTICLES, PYROTECHNIC for technical purposes	0432		360490
ARYLSULPHONIC ACIDS, LIQUID with more than 5% free sulphuric acid	2584		290410
ARYLSULPHONIC ACIDS, LIQUID with not more than 5% free sulphuric acid	2586		290410
ARYLSULPHONIC ACIDS, SOLID with more than 5% free sulphuric acid	2583		290410
ARYLSULPHONIC ACIDS, SOLID with not more than 5% free sulphuric acid	2585		290410
Asphalt at or above 100 °C and below its flash-point: see	3257		271490
Asphalt with a flash-point above 60 °C, at or above its flash-point: see	3256		271490
Asphalt with a flash-point not greater than 60 °C: see	1999		271490
Aviation regulated liquid, n.o.s.	3334	Exempt	+++++
Aviation regulated solid, n.o.s.	3335	Exempt	+++++

Name and description	UN No	Note	NHM Code
AZODICARBONAMIDE	3242		292700
BARIUM	1400		280519
BARIUM ALLOYS, PYROPHORIC	1854		280519
BARIUM AZIDE, dry or wetted with less than 50% water, by mass	0224	Prohibited	
BARIUM AZIDE, WETTED with not less than 50% water, by mass	1571		285000
BARIUM BROMATE	2719		282990
BARIUM CHLORATE, SOLID	1445		282919
BARIUM CHLORATE SOLUTION	3405		282919
BARIUM COMPOUND, N.O.S.	1564		+++++
BARIUM CYANIDE	1565		283719
BARIUM HYPOCHLORITE with more than 22% available chlorine	2741		282890
BARIUM NITRATE	1446		283429
BARIUM OXIDE	1884		281640
BARIUM PERCHLORATE, SOLID	1447		282990
BARIUM PERCHLORATE SOLUTION	3406		282990
BARIUM PERMANGANATE	1448		284169
BARIUM PEROXIDE	1449		281640
BATTERIES, CONTAINING SODIUM	3292		8506++
BATTERIES, DRY, CONTAINING POTASSIUM HYDROXIDE SOLID, electric storage	3028		8507++
BATTERIES, WET, FILLED WITH ACID, electric storage	2794		8507++
BATTERIES, WET, FILLED WITH ALKALI, electric storage	2795		8507++
BATTERIES, WET, NON-SPILLABLE, electric storage	2800		8507++
BATTERY FLUID, ACID	2796		280700
BATTERY FLUID, ALKALI	2797		2815++
Battery-powered equipment	3171	Exempt	+++++
Battery-powered vehicle	3171	Exempt	+++++
BENZALDEHYDE	1990		291221
BENZENE	1114		290220 270710
BENZENESULPHONYL CHLORIDE	2225		290490
BENZIDINE	1885		292159
BENZONITRILE	2224		292690
BENZOQUINONE	2587		291469
BENZOTRICHLORIDE	2226		290369
BENZOTRIFLUORIDE	2338		290369
BENZOYL CHLORIDE	1736		291632
BENZYL BROMIDE	1737		290369
BENZYL CHLORIDE	1738		290369
BENZYL CHLOROFORMATE	1739		291590
Benzyl cyanide: see	2470		292690
BENZYLDIMETHYLAMINE	2619		292149
BENZYLIDENE CHLORIDE	1886		290369
BENZYL IODIDE	2653		290369
BERYLLIUM COMPOUND, N.O.S.	1566		28++++
BERYLLIUM NITRATE	2464		283429
BERYLLIUM POWDER	1567		811212
Bhusa	1327	Exempt	121300
BICYCLO[2.2.1]HEPTA-2,5-DIENE, STABILIZED	2251		290219
BIOLOGICAL SUBSTANCE, CATEGORY B	3373		+++++
BIOMEDICAL WASTE, N.O.S.	3291		382530
BIPYRIDILIUM PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	2782		380893
BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC	3016		380893
BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	3015		380893
BIPYRIDILIUM PESTICIDE, SOLID, TOXIC	2781		380893
BISULPHATES, AQUEOUS SOLUTION	2837		283329
BISULPHITES, AQUEOUS SOLUTION, N.O.S.	2693		283220
Bitumen at or above 100 °C and below its flash-point: see	3257		271320
Bitumen with a flash-point above 60 °C, at or above its flash-point: see	3256		271320
Bitumen with a flash-point not greater than 60 °C: see	1999		271320
BLACK POWDER, COMPRESSED	0028		360200
BLACK POWDER, granular or as a meal	0027		360200
BLACK POWDER, IN PELLETS	0028		360200
BLUE ASBESTOS	2212		252410
BOMBS, PHOTO-FLASH	0037		930690
BOMBS, PHOTO-FLASH	0038		930690
BOMBS, PHOTO-FLASH	0039		930690
BOMBS, PHOTO-FLASH	0299		930690
BOMBS, SMOKE, NON-EXPLOSIVE with corrosive liquid, without initiating device	2028		930690
BOMBS with bursting charge	0033		930690
BOMBS with bursting charge	0034		930690



Name and description	UN No	Note	NHM Code
BOMBS with bursting charge	0035		930690
BOMBS with bursting charge	0291		930690
BOMBS WITH FLAMMABLE LIQUID with bursting charge	0399		930690
BOMBS WITH FLAMMABLE LIQUID with bursting charge	0400		930690
BOOSTERS WITH DETONATOR	0225		360300
BOOSTERS WITH DETONATOR	0268		360300
BOOSTERS without detonator	0042		360300
BOOSTERS without detonator	0283		360300
BORNEOL	1312		290619
BORON TRIBROMIDE	2692		281290
BORON TRICHLORIDE	1741		281210
BORON TRIFLUORIDE	1008		281290
BORON TRIFLUORIDE ACETIC ACID COMPLEX, LIQUID	1742		294200
BORON TRIFLUORIDE ACETIC ACID COMPLEX, SOLID	3419		294200
BORON TRIFLUORIDE DIETHYL ETHERATE	2604		294200
BORON TRIFLUORIDE DIHYDRATE	2851		294200
BORON TRIFLUORIDE DIMETHYL ETHERATE	2965		294200
BORON TRIFLUORIDE PROPIONIC ACID COMPLEX, LIQUID	1743		294200
BORON TRIFLUORIDE PROPIONIC ACID COMPLEX, SOLID	3420		294200
BROMATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	3213		282990
BROMATES, INORGANIC, N.O.S.	1450		282990
BROMINE	1744		280130
BROMINE CHLORIDE	2901		281210
BROMINE PENTAFLUORIDE	1745		281290
BROMINE SOLUTION	1744		280130
BROMINE TRIFLUORIDE	1746		281290
BROMOACETIC ACID, SOLID	3425		291590
BROMOACETIC ACID SOLUTION	1938		291590
BROMOACETONE	1569		291470
omega-Bromoacetone: see	2645		291470
BROMOACETYL BROMIDE	2513		291590
BROMOBENZENE	2514		290369
BROMOBENZYL CYANIDES, LIQUID	1694		292690
BROMOBENZYL CYANIDES, SOLID	3449		292690
1-BROMOBUTANE	1126		290339
2-BROMOBUTANE	2339		290339
BROMOCHLOROMETHANE	1887		290349
1-BROMO-3-CHLOROPROPANE	2688		290349
2-BROMOETHYL ETHYL ETHER	2340		290919
BROMOFORM	2515		290339
1-BROMO-3-METHYLBUTANE	2341		290339
BROMOMETHYLPROPANES	2342		290339
2-BROMO-2-NITROPROPANE-1,3-DIOL	3241		290559
2-BROMOPENTANE	2343		290339
BROMOPROPANES	2344		290339
3-BROMOPROPYNE	2345		290339
BROMOTRIFLUOROETHYLENE	2419		290347
BROMOTRIFLUOROMETHANE	1009		290346
BROWN ASBESTOS	2212		252490
BRUCINE	1570		293999
BURSTERS, explosive	0043		930690
BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED, having a vapour pressure at 70 °C not exceeding 1.1 MPa (11 bar) and a density at 50 °C not lower than 0.525 kg/l	1010		271114
BUTADIENES, STABILIZED (1,2-butadiene)	1010		271114 290129
BUTADIENES, STABILIZED (1,3-butadiene)	1010		271114 290124
BUTANE	1011		271113 290110
BUTANEDIONE	2346		291419
BUTANOLS	1120		290514 290513
BUTYL ACETATES	1123		291533 291539
BUTYL ACID PHOSPHATE	1718		291990
BUTYL ACRYLATES, STABILIZED	2348		291612
n-BUTYLAMINE	1125		292119
N-BUTYLANILINE	2738		292142
BUTYLBENZENES	2709		290290
n-Butyl bromide: see	1126		290339

Name and description	UN No	Note	NHM Code
Butyl chlorides: see	1127		290319
n-BUTYL CHLOROFORMATE	2743		291590
tert-BUTYLCYCLOHEXYL CHLOROFORMATE	2747		291590
1-BUTYLENE	1012		290123
cis-2-BUTYLENE	1012		290123
trans-2-BUTYLENE	1012		290123
BUTYLENES MIXTURE	1012		271114 290123
1,2-BUTYLENE OXIDE, STABILIZED	3022		291090
n-BUTYL FORMATE	1128		291513
tert-BUTYL HYPOCHLORITE	3255	Prohibited	
N,n-BUTYLIMIDAZOLE	2690		293329
n-BUTYL ISOCYANATE	2485		292910
tert-BUTYL ISOCYANATE	2484		292910
BUTYL MERCAPTAN	2347		293090
n-BUTYL METHACRYLATE, STABILIZED	2227		291614
BUTYL METHYL ETHER	2350		290919
BUTYL NITRITES	2351		292090
BUTYL PROPIONATES	1914		291550
BUTYLTOLUENES	2667		290290
BUTYLTRICHLOROSILANE	1747		293100
5-tert-BUTYL-2,4,6-TRINITRO-m-XYLENE	2956		290420
BUTYL VINYL ETHER, STABILIZED	2352		290919
1,4-BUTYNEDIOL	2716		290539
BUTYRALDEHYDE	1129		291219
BUTYRALDOXIME	2840		292800
BUTYRIC ACID	2820		291560
BUTYRIC ANHYDRIDE	2739		291590
BUTYRONITRILE	2411		292690
BUTYRYL CHLORIDE	2353		291590
CACODYLIC ACID	1572		293100
CADMIUM COMPOUND	2570		+++++
CAESIUM	1407		280519
CAESIUM HYDROXIDE	2682		282590
CAESIUM HYDROXIDE SOLUTION	2681		282590
CAESIUM NITRATE	1451		283429
Cajeputene: see	2052		290219
CALCIUM	1401		280512
CALCIUM ALLOYS, PYROPHORIC	1855		280512
CALCIUM ARSENATE	1573		284290
CALCIUM ARSENATE AND CALCIUM ARSENITE MIXTURE, SOLID	1574		284290
CALCIUM CARBIDE	1402		284910
CALCIUM CHLORATE	1452		282919
CALCIUM CHLORATE, AQUEOUS SOLUTION	2429		282919
CALCIUM CHLORITE	1453		282890
CALCIUM CYANAMIDE with more than 0.1% calcium carbide	1403		310290
CALCIUM CYANIDE	1575		283719
CALCIUM DITHIONITE	1923		283190
CALCIUM HYDRIDE	1404		285000
CALCIUM HYDROSULPHITE	1923		283190
CALCIUM HYPOCHLORITE, DRY	1748		282810
CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, with not less than 5.5% but not more than 16% water	2880		282810
CALCIUM HYPOCHLORITE, HYDRATED, with not less than 5.5% but not more than 16% water	2880		282810
CALCIUM HYPOCHLORITE MIXTURE, DRY with more than 10% but not more than 39% available chlorine	2208		282810
CALCIUM HYPOCHLORITE MIXTURE, DRY with more than 39% available chlorine (8.8% available oxygen)	1748		282810
CALCIUM MANGANESE SILICON	2844		285000
CALCIUM NITRATE	1454		283429
Calcium oxide	1910	Exempt	282590 252220
CALCIUM PERCHLORATE	1455		282990
CALCIUM PERMANGANATE	1456		284169
CALCIUM PEROXIDE	1457		282590
CALCIUM PHOSPHIDE	1360		284800
CALCIUM, PYROPHORIC	1855		280512
CALCIUM RESINATE	1313		380620
CALCIUM RESINATE, FUSED	1314		380620
CALCIUM SILICIDE	1405		285000
CAMPHOR OIL	1130		151590
CAMPHOR, synthetic	2717		291421

Name and description	UN No	Note	NHM Code
CAPROIC ACID	2829		291590
CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	2758		3808++
CARBAMATE PESTICIDE, LIQUID, TOXIC	2992		3808++
CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	2991		3808++
CARBAMATE PESTICIDE, SOLID, TOXIC	2757		3808++
CARBON, ACTIVATED	1362		380210
CARBON, animal or vegetable origin	1361		280300
Carbon bisulphide: see	1131		281310
CARBON DIOXIDE	1013		281121
CARBON DIOXIDE, REFRIGERATED LIQUID	2187		281121
Carbon dioxide, solid	1845	Exempt	281121
CARBON DISULPHIDE	1131		281310
CARBON MONOXIDE, COMPRESSED	1016		281129
Carbon paper: see	1379		481160
CARBON TETRABROMIDE	2516		290339
CARBON TETRACHLORIDE	1846		290314
CARBONYL FLUORIDE	2417		281290
CARBONYL SULPHIDE	2204		285300
CARTRIDGES, FLASH	0049		360490
CARTRIDGES, FLASH	0050		360490
CARTRIDGES FOR WEAPONS with bursting charge	0005		930630 930621
CARTRIDGES FOR WEAPONS with bursting charge	0006		930630 930621
CARTRIDGES FOR WEAPONS with bursting charge	0007		930630 930621
CARTRIDGES FOR WEAPONS with bursting charge	0321		930630 930621
CARTRIDGES FOR WEAPONS with bursting charge	0348		930630 930621
CARTRIDGES FOR WEAPONS with bursting charge	0412		930630 930621
CARTRIDGES FOR WEAPONS, BLANK	0014		930630 930621
CARTRIDGES FOR WEAPONS, BLANK	0326		930630 930621
CARTRIDGES FOR WEAPONS, BLANK	0327		930630 930621
CARTRIDGES FOR WEAPONS, BLANK	0338		930630 930621
CARTRIDGES FOR WEAPONS, BLANK	0413		930630 930621
CARTRIDGES FOR WEAPONS, INERT PROJECTILE	0012		930630 930621
CARTRIDGES FOR WEAPONS, INERT PROJECTILE	0328		930630 930621
CARTRIDGES FOR WEAPONS, INERT PROJECTILE	0339		930630 930621
CARTRIDGES FOR WEAPONS, INERT PROJECTILE	0417		930630 930621
CARTRIDGES, OIL WELL	0277		930630
CARTRIDGES, OIL WELL	0278		930630
CARTRIDGES, POWER DEVICE	0275		930630
CARTRIDGES, POWER DEVICE	0276		930630
CARTRIDGES, POWER DEVICE	0323		930630
CARTRIDGES, POWER DEVICE	0381		930630
CARTRIDGES, SIGNAL	0054		360490
CARTRIDGES, SIGNAL	0312		360490
CARTRIDGES, SIGNAL	0405		360490
CARTRIDGES, SMALL ARMS	0012		930621 930630
CARTRIDGES, SMALL ARMS	0339		930621 930630
CARTRIDGES, SMALL ARMS	0417		930621 930630
CARTRIDGES, SMALL ARMS, BLANK	0014		930621 930630
CARTRIDGES, SMALL ARMS, BLANK	0327		930621 930630

Name and description	UN No	Note	NHM Code
CARTRIDGES, SMALL ARMS, BLANK	0338		930621 930630
CASES, CARTRIDGE, EMPTY, WITH PRIMER	0055		930690
CASES, CARTRIDGE, EMPTY, WITH PRIMER	0379		930690
CASES, COMBUSTIBLE, EMPTY, WITHOUT PRIMER	0446		930690
CASES, COMBUSTIBLE, EMPTY, WITHOUT PRIMER	0447		930690
CASTOR BEANS	2969		120799
CASTOR FLAKE	2969		120799
CASTOR MEAL	2969		120890
CASTOR POMACE	2969		230690
CAUSTIC ALKALI LIQUID, N.O.S.	1719		282590
Caustic potash: see	1814		281520
Caustic soda liquor: see	1824		281512
Caustic soda: see	1824		281512
CELLS, CONTAINING SODIUM	3292		8506++
CELLULOID in block, rods, rolls, sheets, tubes, etc., except scrap	2000		391220
CELLULOID, SCRAP	2002		391590
CERIUM, slabs, ingots or rods	1333		280530
CERIUM, turnings or gritty powder	3078		280530
CHARGES, BURSTING, PLASTICS BONDED	0457		930690
CHARGES, BURSTING, PLASTICS BONDED	0458		930690
CHARGES, BURSTING, PLASTICS BONDED	0459		930690
CHARGES, BURSTING, PLASTICS BONDED	0460		930690
CHARGES, DEMOLITION	0048		930690
CHARGES, DEPTH	0056		930690
CHARGES, EXPLOSIVE, COMMERCIAL without detonator	0442		930690
CHARGES, EXPLOSIVE, COMMERCIAL without detonator	0443		930690
CHARGES, EXPLOSIVE, COMMERCIAL without detonator	0444		930690
CHARGES, EXPLOSIVE, COMMERCIAL without detonator	0445		930690
CHARGES, PROPELLING	0271		930690
CHARGES, PROPELLING	0272		930690
CHARGES, PROPELLING	0415		930690
CHARGES, PROPELLING	0491		930690
CHARGES, PROPELLING, FOR CANNON	0242		930690
CHARGES, PROPELLING, FOR CANNON	0279		930690
CHARGES, PROPELLING, FOR CANNON	0414		930690
CHARGES, SHAPED, FLEXIBLE, LINEAR	0237		360300
CHARGES, SHAPED, FLEXIBLE, LINEAR	0288		360300
CHARGES, SHAPED, without detonator	0059		930690
CHARGES, SHAPED, without detonator	0439		930690
CHARGES, SHAPED, without detonator	0440		930690
CHARGES, SHAPED, without detonator	0441		930690
CHARGES, SUPPLEMENTARY, EXPLOSIVE	0060		930690
CHEMICAL KIT	3316		382200
CHEMICAL SAMPLE, TOXIC	3315		+++++
CHLORAL, ANHYDROUS, STABILIZED	2075		291300
CHLORATE AND BORATE MIXTURE	1458		28291+ 2840++
CHLORATE AND MAGNESIUM CHLORIDE MIXTURE, SOLID	1459		28291+ 282731
CHLORATE AND MAGNESIUM CHLORIDE MIXTURE SOLUTION	3407		28291+ 282731
CHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	3210		282919
CHLORATES, INORGANIC, N.O.S.	1461		282919
CHLORIC ACID, AQUEOUS SOLUTION with not more than 10% chloric acid	2626		281119
CHLORINE	1017		280110
CHLORINE PENTAFLUORIDE	2548		281290
CHLORINE TRIFLUORIDE	1749		281210
CHLORITES, INORGANIC, N.O.S.	1462		282890
CHLORITE SOLUTION	1908		282890
Chloroacetaldehyde: see	2232		291300
CHLOROACETIC ACID, MOLTEN	3250		291540
CHLOROACETIC ACID, SOLID	1751		291540
CHLOROACETIC ACID SOLUTION	1750		291540
CHLOROACETONE, STABILIZED	1695		291470
CHLOROACETONITRILE	2668		292690
CHLOROACETOPHENONE, LIQUID	3416		291470
CHLOROACETOPHENONE, SOLID	1697		291470
CHLOROACETYL CHLORIDE	1752		291590
CHLOROANILINES, LIQUID	2019		292142

Name and description	UN No	Note	NHM Code
CHLOROANILINES, SOLID	2018		292142
CHLOROANISIDINES	2233		292229
CHLOROBENZENE	1134		290361
CHLOROBENZOTRIFLUORIDES	2234		290369
CHLOROBENZYL CHLORIDES, LIQUID	2235		290369
CHLOROBENZYL CHLORIDES, SOLID	3427		290369
CHLOROBUTANES	1127		290319
CHLOROCRESOLS, SOLID	3437		290819
CHLOROCRESOLS SOLUTION	2669		290819
CHLORODIFLUOROBROMOMETHANE	1974		290346
1-CHLORO-1,1-DIFLUOROETHANE	2517		290349
CHLORODIFLUOROMETHANE	1018		290349
CHLORODIFLUOROMETHANE AND CHLOROPENTAFLUOROETHANE MIXTURE with fixed boiling point, with approximately 49% chlorodifluoromethane	1973		382479
CHLORODINITROBENZENES, LIQUID	1577		290490
CHLORODINITROBENZENES, SOLID	3441		290490
2-CHLOROETHANAL	2232		291300
2-Chloroethanol: see	1135		290559
CHLOROFORM	1888		290313
CHLOROFORMATES, TOXIC, CORROSIVE, FLAMMABLE, N.O.S.	2742		291590
CHLOROFORMATES, TOXIC, CORROSIVE, N.O.S.	3277		291590
CHLOROMETHYL CHLOROFORMATE	2745		291590
CHLOROMETHYL ETHYL ETHER	2354		290919
3-CHLORO-4-METHYLPHENYL ISOCYANATE, LIQUID	2236		292910
3-CHLORO-4-METHYLPHENYL ISOCYANATE, SOLID	3428		292910
CHLORONITROANILINES	2237		292142
CHLORONITROBENZENES, LIQUID	3409		290490
CHLORONITROBENZENES, SOLID	1578		290490
CHLORONITROTOLUENES, LIQUID	2433		290490
CHLORONITROTOLUENES, SOLID	3457		290490
CHLOROPENTAFLUOROETHANE	1020		290344
CHLOROPHENOLATES, LIQUID	2904		290819
CHLOROPHENOLATES, SOLID	2905		290819
CHLOROPHENOLS, LIQUID	2021		290819
CHLOROPHENOLS, SOLID	2020		290819
CHLOROPHENYLTRICHLOROSILANE	1753		293100
CHLOROPICRIN	1580		290490
CHLOROPICRIN AND METHYL BROMIDE MIXTURE with more than 2% chloropicrin	1581		290490
CHLOROPICRIN AND METHYL CHLORIDE MIXTURE	1582		290490
CHLOROPICRIN MIXTURE, N.O.S.	1583		290490
CHLOROPLATINIC ACID, SOLID	2507		281119
CHLOROPRENE, STABILIZED	1991		290329
1-CHLOROPROPANE	1278		290319
2-CHLOROPROPANE	2356		290319
3-CHLOROPROPANOL-1	2849		290559
2-CHLOROPROPENE	2456		290329
2-CHLOROPROPIONIC ACID	2511		291590
2-CHLOROPYRIDINE	2822		293339
CHLOROSILANES, CORROSIVE, FLAMMABLE, N.O.S.	2986		293100
CHLOROSILANES, CORROSIVE, N.O.S.	2987		293100
CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S.	2985		293100
CHLOROSILANES, TOXIC, CORROSIVE, FLAMMABLE, N.O.S.	3362		293100
CHLOROSILANES, TOXIC, CORROSIVE, N.O.S.	3361		293100
CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, N.O.S.	2988		293100
CHLOROSULPHONIC ACID (with or without sulphur trioxide)	1754		280620
1-CHLORO-1,2,2,2-TETRAFLUOROETHANE	1021		290349
CHLOROTOLUENES	2238		290369
4-CHLORO-o-TOLUIDINE HYDROCHLORIDE, SOLID	1579		292143
4-CHLORO-o-TOLUIDINE HYDROCHLORIDE SOLUTION	3410		292143
CHLOROTOLUIDINES, LIQUID	3429		292143
CHLOROTOLUIDINES, SOLID	2239		292143
1-CHLORO-2,2,2-TRIFLUOROETHANE	1983		290349
CHLOROTRIFLUOROMETHANE	1022		290341
CHLOROTRIFLUOROMETHANE AND TRIFLUOROMETHANE AZEOTROPIC MIXTURE with approximately 60% chlorotrifluoromethane	2599		382471
CHROMIC ACID SOLUTION	1755		281910
CHROMIC FLUORIDE, SOLID	1756		282619
CHROMIC FLUORIDE SOLUTION	1757		282619
Chromium (VI) dichloride dioxide: see	1758		282749
Chromium (III) fluoride, solid: see	1756		282619

Name and description	UN No	Note	NHM Code
CHROMIUM NITRATE	2720		283429
CHROMIUM OXYCHLORIDE	1758		282749
CHROMIUM TRIOXIDE, ANHYDROUS	1463		281910
CHROMOSULPHURIC ACID	2240		280700
Chrysotile: see	2590		252490
Cinene: see	2052		290219
Cinnamene: see	2055		290250
Cinnamol: see	2055		290250
CLINICAL WASTE, UNSPECIFIED, N.O.S.	3291		382530
COAL GAS, COMPRESSED	1023		270500
COAL TAR DISTILLATES, FLAMMABLE	1136		270799
COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining)	1139		3208++
COBALT NAPHTHENATES, POWDER	2001		291829
COBALT RESINATE, PRECIPITATED	1318		380620
COMPONENTS, EXPLOSIVE TRAIN, N.O.S.	0382		360300
COMPONENTS, EXPLOSIVE TRAIN, N.O.S.	0383		360300
COMPONENTS, EXPLOSIVE TRAIN, N.O.S.	0384		360300
COMPONENTS, EXPLOSIVE TRAIN, N.O.S.	0461		360300
COMPRESSED GAS, FLAMMABLE, N.O.S.	1954		+++++
COMPRESSED GAS, N.O.S.	1956		+++++
COMPRESSED GAS, OXIDIZING, N.O.S.	3156		+++++
COMPRESSED GAS, TOXIC, CORROSIVE, N.O.S.	3304		+++++
COMPRESSED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S.	3305		+++++
COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S.	1953		+++++
COMPRESSED GAS, TOXIC, N.O.S.	1955		+++++
COMPRESSED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.	3306		+++++
COMPRESSED GAS, TOXIC, OXIDIZING, N.O.S.	3303		+++++
CONTRIVANCES, WATER-ACTIVATED with burster, expelling charge or propelling charge	0248		930690
CONTRIVANCES, WATER-ACTIVATED with burster, expelling charge or propelling charge	0249		930690
COPPER ACETOARSENITE	1585		294200
COPPER ARSENITE	1586		284290
COPPER BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	2776		380892
COPPER BASED PESTICIDE, LIQUID, TOXIC	3010		380892
COPPER BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	3009		380892
COPPER BASED PESTICIDE, SOLID, TOXIC	2775		380892
COPPER CHLORATE	2721		282919
COPPER CHLORIDE	2802		282739
COPPER CYANIDE	1587		283719
COPRA	1363		120300
CORD, DETONATING, flexible	0065		360300
CORD, DETONATING, flexible	0289		360300
CORD, DETONATING, metal clad	0102		360300
CORD (FUSE), DETONATING, metal clad	0290		360300
CORD, DETONATING, MILD EFFECT, metal clad	0104		360300
CORD, IGNITER	0066		360300
CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.	3264		28++++
CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.	3265		29++++
CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.	3266		28++++
CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.	3267		29++++
CORROSIVE LIQUID, FLAMMABLE, N.O.S.	2920		+++++
CORROSIVE LIQUID, N.O.S.	1760		+++++
CORROSIVE LIQUID, OXIDIZING, N.O.S.	3093		+++++
CORROSIVE LIQUID, SELF-HEATING, N.O.S.	3301		+++++
CORROSIVE LIQUID, TOXIC, N.O.S.	2922		+++++
CORROSIVE LIQUID, WATER-REACTIVE, N.O.S.	3094		+++++
CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.	3260		28++++
CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.	3261		29++++
CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.	3262		28++++
CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.	3263		29++++
CORROSIVE SOLID, FLAMMABLE, N.O.S.	2921		+++++
CORROSIVE SOLID, N.O.S.	1759		+++++
CORROSIVE SOLID, OXIDIZING, N.O.S.	3084		+++++
CORROSIVE SOLID, SELF-HEATING, N.O.S.	3095		+++++
CORROSIVE SOLID, TOXIC, N.O.S.	2923		+++++
CORROSIVE SOLID, WATER-REACTIVE, N.O.S.	3096		+++++
COTTON WASTE, OILY	1364		5202++
COTTON, WET	1365		520100 520300
COUMARIN DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3024		380899

Name and description	UN No	Note	NHM Code
COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC	3026		380899
COUMARIN DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	3025		380899
COUMARIN DERIVATIVE PESTICIDE, SOLID, TOXIC	3027		380899
CRESOLS, LIQUID	2076		290712
CRESOLS, SOLID	3455		290712
CRESYLIC ACID	2022		290712
Crocidolite, see:	2212		252410
CROTONALDEHYDE	1143		291219
CROTONALDEHYDE, STABILIZED	1143		291219
CROTONIC ACID, LIQUID	3472		291619
CROTONIC ACID, SOLID	2823		291619
CROTONYLENE	1144		290129
CUPRIETHYLENEDIAMINE SOLUTION	1761		292121
Cut backs at or above 100 °C and below its flash-point: see	3257		271500
Cut backs with a flash-point above 60 °C, at or above its flash-point: see	3256		271500
Cut backs with a flash-point not greater than 60 °C: see	1999		271500
CUTTERS, CABLE, EXPLOSIVE	0070		930690
CYANIDE SOLUTION, N.O.S.	1935		283719
CYANIDES, INORGANIC, SOLID, N.O.S.	1588		283719
CYANOGEN	1026		292690
CYANOGEN BROMIDE	1889		285300
CYANOGEN CHLORIDE, STABILIZED	1589		285300
CYANURIC CHLORIDE	2670		293369
CYCLOBUTANE	2601		290219
CYCLOBUTYL CHLOROFORMATE	2744		291590
1,5,9-CYCLODODECATRIENE	2518		290219
CYCLOHEPTANE	2241		290219
CYCLOHEPTATRIENE	2603		290219
CYCLOHEPTENE	2242		290219
CYCLOHEXANE	1145		290211
CYCLOHEXANONE	1915		291422
CYCLOHEXENE	2256		290219
CYCLOHEXYLTRICHLOROSILANE	1762		293100
CYCLOHEXYL ACETATE	2243		291539
CYCLOHEXYLAMINE	2357		292130
CYCLOHEXYL ISOCYANATE	2488		292910
CYCLOHEXYL MERCAPTAN	3054		293090
CYCLOHEXYLTRICHLOROSILANE	1763		293100
CYCLONITE AND CYCLOTETRAMETHYLENETETRANITRAMINE MIXTURE, DESENSITIZED with not less than 10% phlegmatiser by mass	0391		293369
CYCLONITE AND CYCLOTETRAMETHYLENETETRANITRAMINE MIXTURE, WETTED with not less than 15% water, by mass	0391		293369
CYCLONITE AND HMX MIXTURE, DESENSITIZED with not less than 10% phlegmatiser by mass	0391		293369
CYCLONITE AND HMX MIXTURE, WETTED with not less than 15% water, by mass	0391		293369
CYCLONITE AND OCTOGEN MIXTURE, DESENSITIZED with not less than 10% phlegmatiser by mass	0391		293369
CYCLONITE AND OCTOGEN MIXTURE, WETTED with not less than 15% water, by mass	0391		293369
CYCLONITE, DESENSITIZED	0483		293369
CYCLONITE, WETTED with not less than 15% water, by mass	0072		293369
CYCLOOCTADIENE PHOSPHINES	2940		293100
CYCLOOCTADIENES	2520		290219
CYCLOOCTATETRAENE	2358		290219
CYCLOPENTANE	1146		290219
CYCLOPENTANOL	2244		290619
CYCLOPENTANONE	2245		291429
CYCLOPENTENE	2246		290219
CYCLOPROPANE	1027		290219
CYCLOTETRAMETHYLENETETRANITRAMINE, DESENSITIZED	0484		293369
CYCLOTETRAMETHYLENETETRANITRAMINE, WETTED with not less than 15% water, by mass	0226		293369
CYCLOTRIMETHYLENETRINITRAMINE AND CYCLOTETRAMETHYLENETETRANITRAMINE MIXTURE, DESENSITIZED with not less than 10% phlegmatiser by mass	0391		293369
CYCLOTRIMETHYLENETRINITRAMINE AND CYCLOTETRAMETHYLENETETRANITRAMINE MIXTURE, WETTED with not less than 15% water, by mass	0391		293369
CYCLOTRIMETHYLENETRINITRAMINE AND HMX MIXTURE, DESENSITIZED with not less than 10% phlegmatiser by mass	0391		293369
CYCLOTRIMETHYLENETRINITRAMINE AND HMX MIXTURE, WETTED with not less than 15% water, by mass	0391		293369
CYCLOTRIMETHYLENETRINITRAMINE AND OCTOGEN MIXTURE, DESENSITIZED with not less than 10% phlegmatiser by mass	0391		293369
CYCLOTRIMETHYLENETRINITRAMINE AND OCTOGEN MIXTURE, WETTED with not less than 15% water, by mass	0391		293369



Name and description	UN No	Note	NHM Code
CYCLOTRIMETHYLENETRINITRAMINE, DESENSITIZED	0483		293369
CYCLOTRIMETHYLENETRINITRAMINE, WETTED with not less than 15% water, by mass	0072		293369
CYMENES	2046		290270
Cymol: see	2046		290270
Dangerous goods in apparatus	3363	Exempt	8++++
Dangerous goods in machinery	3363	Exempt	8++++
DECABORANE	1868		285000
DECAHYDRONAPHTHALENE	1147		290219
Decalin: see	1147		290219
n-DECANE	2247		290110
DEFLAGRATING METAL SALTS OF AROMATIC NITRODERIVATIVES, N.O.S.	0132		290899
DESENSITIZED EXPLOSIVE, LIQUID, N.O.S.	3379		360200
DESENSITIZED EXPLOSIVE, SOLID, N.O.S.	3380		360200
DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting	0360		360300
DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting	0361		360300
DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting	0500		360300
DETONATORS FOR AMMUNITION	0073		360300
DETONATORS FOR AMMUNITION	0364		360300
DETONATORS FOR AMMUNITION	0365		360300
DETONATORS FOR AMMUNITION	0366		360300
DETONATORS, ELECTRIC for blasting	0030		360300
DETONATORS, ELECTRIC for blasting	0255		360300
DETONATORS, ELECTRIC for blasting	0456		360300
DETONATORS, NON-ELECTRIC for blasting	0029		360300
DETONATORS, NON-ELECTRIC for blasting	0267		360300
DETONATORS, NON-ELECTRIC for blasting	0455		360300
DEUTERIUM, COMPRESSED	1957		284590
DEVICES, SMALL, HYDROCARBON GAS POWERED with release device	3150		+++++
DIACETONE ALCOHOL	1148		291440
DIALLYLAMINE	2359		292119
DIALLYL ETHER	2360		290919
4,4'-DIAMINODIPHENYLMETHANE	2651		292159
Diaminopropylamine: see	2269		292129
DI-n-AMYLAMINE	2841		292119
DIAZODINITROPHENOL, WETTED with not less than 40% water, or mixture of alcohol and water, by mass	0074	Prohibited	
DIBENZYLDICHLOROSILANE	2434		293100
DIBORANE	1911		285000
1,2-DIBROMOBUTAN-3-ONE	2648		291470
DIBROMOCHLOROPROPANES	2872		290349
DIBROMODIFLUOROMETHANE	1941		290347
DIBROMOMETHANE	2664		290339
DI-n-BUTYLAMINE	2248		292119
DIBUTYLAMINOETHANOL	2873		292219
DIBUTYL ETHERS	1149		290919
DICHLOROACETIC ACID	1764		291540
1,3-DICHLOROACETONE	2649		291470
DICHLOROACETYL CHLORIDE	1765		291590
DICHLOROANILINES, LIQUID	1590		292142
DICHLOROANILINES, SOLID	3442		292142
o-DICHLOROBENZENE	1591		290361
2,2'-DICHLORODIETHYL ETHER	1916		290919
DICHLORODIFLUOROMETHANE	1028		290342
DICHLORODIFLUOROMETHANE AND 1,1-DIFLUOROETHANE AZEOTROPIC MIXTURE with approximately 74% dichlorodifluoromethane	2602		382479
DICHLORODIMETHYL ETHER, SYMMETRICAL	2249	Prohibited	
1,1-DICHLOROETHANE	2362		290319
1,2-DICHLOROETHYLENE	1150		290329
DICHLOROFLUOROMETHANE	1029		290349
alpha-Dichlorohydrin: see	2750		290559
DICHLOROISOCYANURIC ACID SALTS	2465		293369
DICHLOROISOCYANURIC ACID, DRY	2465		293369
DICHLOROISOPROPYL ETHER	2490		290919
DICHLOROMETHANE	1593		290312
1,1-DICHLORO-1-NITROETHANE	2650		290490
DICHLOROPENTANES	1152		290319
DICHLOROPHENYL ISOCYANATES	2250		292910
DICHLOROPHENYLTRICHLOROSILANE	1766		293100
1,2-DICHLOROPROPANE	1279		290319
1,3-DICHLOROPROPANOL-2	2750		290559
DICHLOROPROPENES	2047		290329



Name and description	UN No	Note	NHM Code
DICHLOROSILANE	2189		281210
1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	1958		290344
DICYCLOHEXYLAMINE	2565		292130
DICYCLOHEXYLAMMONIUM NITRITE	2687		292130
DICYCLOPENTADIENE	2048		290219
1,2-DI-(DIMETHYLAMINO) ETHANE	2372		292129
DIDYMIUM NITRATE	1465		283429
DIESEL FUEL	1202		274100
1,2-Diethoxyethane: see	1153		290919
DIETHOXYMETHANE	2373		291100
3,3-DIETHOXYPROPENE	2374		291100
DIETHYLAMINE	1154		292119
2-DIETHYLAMINOETHANOL	2686		292219
3-DIETHYLAMINOPROPYLAMINE	2684		292129
N,N-DIETHYLANILINE	2432		292142
DIETHYLBENZENE	2049		290290
DIETHYL CARBONATE	2366		292090
DIETHYLDICHLOROSILANE	1767		293100
Diethylenediamine: see	2579		293359
DIETHYLENEGLYCOL DINITRATE, DESENSITIZED with not less than 25% non-volatile, water-insoluble phlegmatizer, by mass	0075		292090
DIETHYLENETRIAMINE	2079		292129
DIETHYL ETHER	1155		290911
N,N-DIETHYLETHYLENEDIAMINE	2685		292129
DIETHYL KETONE	1156		291419
DIETHYL SULPHATE	1594		292090
DIETHYL SULPHIDE	2375		293090
DIETHYLTHIOPHOSPHORYL CHLORIDE	2751		292019
1,1-DIFLUOROETHANE	1030		290339
1,1-DIFLUOROETHYLENE	1959		290339
DIFLUOROMETHANE	3252		290339
Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 10% difluoromethane and 70% pentafluoroethane: see	3339		382474
Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 20% difluoromethane and 40% pentafluoroethane: see	3338		382474
Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 23%	3340		382474
DIFLUOROPHOSPHORIC ACID, ANHYDROUS	1768		281119
2,3-DIHYDROPYRAN	2376		293299
DIISOBUTYLAMINE	2361		292119
DIISOBUTYLENE, ISOMERIC COMPOUNDS	2050		290129
DIISOBUTYL KETONE	1157		291419
DIISOCTYL ACID PHOSPHATE	1902		291990
DIISOPROPYLAMINE	1158		292119
DIISOPROPYL ETHER	1159		290919
DIKETENE, STABILIZED	2521		293229
1,1-DIMETHOXYETHANE	2377		291100
1,2-DIMETHOXYETHANE	2252		290919
DIMETHYLAMINE, ANHYDROUS	1032		292111
DIMETHYLAMINE AQUEOUS SOLUTION	1160		292111
2-DIMETHYLAMINOACETONITRILE	2378		292690
2-DIMETHYLAMINOETHANOL	2051		292219
2-DIMETHYLAMINOETHYL ACRYLATE	3302		292219
2-DIMETHYLAMINOETHYL METHACRYLATE	2522		292219
N,N-DIMETHYLANILINE	2253		292142
2,3-DIMETHYLBUTANE	2457		290110
1,3-DIMETHYLBUTYLAMINE	2379		292119
DIMETHYLCARBAMOYL CHLORIDE	2262		292419
DIMETHYL CARBONATE	1161		292090
DIMETHYLCYCLOHEXANES	2263		290219
N,N-DIMETHYLCYCLOHEXYLAMINE	2264		292130
DIMETHYLDICHLOROSILANE	1162		293100
DIMETHYLDIETHOXSILANE	2380		293100
DIMETHYLDIOXANES	2707		293299
DIMETHYL DISULPHIDE	2381		293090
DIMETHYL ETHER	1033		290919
N,N-DIMETHYLFORMAMIDE	2265		292419
DIMETHYLHYDRAZINE, SYMMETRICAL	2382		292800
DIMETHYLHYDRAZINE, UNSYMMETRICAL	1163		292800
2,2-DIMETHYLPROPANE	2044		290110

Name and description	UN No	Note	NHM Code
DIMETHYL-N-PROPYLAMINE	2266		292119
DIMETHYL SULPHATE	1595		292090
DIMETHYL SULPHIDE	1164		293090
DIMETHYL THIOPHOSPHORYL CHLORIDE	2267		292019
DINGU	0489		293399
DINITROANILINES	1596		292142
DINITROBENZENES, LIQUID	1597		290420
DINITROBENZENES, SOLID	3443		290420
DINITRO- <i>o</i> -CRESOL	1598		290899
DINITROGEN TETROXIDE	1067		281129
DINITROGLYCOURIL	0489		293399
DINITROPHENOL, dry or wetted with less than 15% water, by mass	0076		290899
DINITROPHENOL SOLUTION	1599		290899
DINITROPHENOL, WETTED with not less than 15% water, by mass	1320		290899
DINITROPHENOLATES, alkali metals, dry or wetted with less than 15% water, by mass	0077		290899
DINITROPHENOLATES, WETTED with not less than 15% water, by mass	1321		290899
DINITRORESORCINOL, dry or wetted with less than 15% water, by mass	0078		290899
DINITRORESORCINOL, WETTED with not less than 15% water, by mass	1322		290899
DINITROSOBENZENE	0406		290420
DINITROTOLUENES, LIQUID	2038		290420
DINITROTOLUENES, MOLTEN	1600		290420
DINITROTOLUENES, SOLID	3454		290420
DIOXANE	1165		293299
DIOXOLANE	1166		293299
DIPENTENE	2052		290219
DIPHENYLAMINE CHLOROARSINE	1698		293499
DIPHENYLCHLOROARSINE, LIQUID	1699		293100
DIPHENYLCHLOROARSINE, SOLID	3450		293100
DIPHENYLDICHLOROSILANE	1769		293100
DIPHENYLMETHYL BROMIDE	1770		290369
DIPICRYLAMINE	0079		292144
DIPICRYL SULPHIDE, dry or wetted with less than 10% water, by mass	0401		290899
DIPICRYL SULPHIDE, WETTED with not less than 10% water, by mass	2852		290899
DIPROPYLAMINE	2383		292119
Dipropylene triamine: see	2269		292129
DI-n-PROPYL ETHER	2384		290919
DIPROPYL KETONE	2710		291419
DISINFECTANT, LIQUID, CORROSIVE, N.O.S.	1903		380894
DISINFECTANT, LIQUID, TOXIC, N.O.S.	3142		380894
DISINFECTANT, SOLID, TOXIC, N.O.S.	1601		380894
DISODIUM TRIOXOSILICATE	3253		283911
DIVINYL ETHER, STABILIZED	1167		290919
DODECYLTRICHLOROSILANE	1771		293100
Drum or barrel lining: see	1139		3208++
Dry ice	1845	Exempt	281121
DYE INTERMEDIATE, LIQUID, CORROSIVE, N.O.S.	2801		+++++
DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.	1602		+++++
DYE INTERMEDIATE, SOLID, CORROSIVE, N.O.S.	3147		+++++
DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.	3143		+++++
DYE, LIQUID, CORROSIVE, N.O.S.	2801		320+++
DYE, LIQUID, TOXIC, N.O.S.	1602		320+++
DYE, SOLID, CORROSIVE, N.O.S.	3147		320+++
DYE, SOLID, TOXIC, N.O.S.	3143		320+++
Electric storage batteries: see	2794		8507++
Electric storage batteries: see	2795		8507++
Electric storage batteries: see	2800		8507++
Electric storage batteries: see	3028		8507++
ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. with flash-point above 60 °C, at or above its flash-point	3256		+++++
ELEVATED TEMPERATURE LIQUID, N.O.S., at or above 100 °C and below its flash-point (including molten metals, molten salts, etc.)	3257		+++++
ELEVATED TEMPERATURE SOLID, N.O.S., at or above 240 °C	3258		+++++
EMPTY BATTERY-WAGON		4.3.2.4	992+++
EMPTY DEMOUNTABLE TANK		4.3.2.4	+++++
EMPTY IBC		4.1.1.11	+++++
EMPTY INTERMEDIATE BULK CONTAINER (IBC)		4.1.1.11	+++++
EMPTY LARGE CONTAINER		7.3	993+++
EMPTY LARGE PACKAGING		4.1.1.11	+++++
EMPTY MEGC		4.3.2.4	993+++
EMPTY PACKAGING		4.1.1.11	+++++

Name and description	UN No	Note	NHM Code
EMPTY PORTABLE TANK		4.2.1.5, 4.2.2.6	993+++
EMPTY RECEPTACLE		4.1.6	+++++
EMPTY SMALL CONTAINER		7.3	+++++
EMPTY TANK-CONTAINER		4.3.2.4	993+++
EMPTY TANK WAGON		4.3.2.4	992+++
EMPTY WAGON		7.3	992+++
Enamel: see	1263		3208++
Enamel: see	3066		3208++
Enamel: see	3469		3208++
Enamel: see	3470		3208++
Engine, internal combustion or vehicle, flammable gas powered or vehicle, flammable liquid powered	3166	Exempt	8407++ 870+++
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	3082		+++++
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.	3077		+++++
EPIBROMOHYDRIN	2558		291090
EPICHLOROHYDRIN	2023		291030
1,2-EPOXY-3-ETHOXYPROPANE	2752		291090
ESTERS, N.O.S.	3272		29++++
ETHANE	1035		290110
ETHANE, REFRIGERATED LIQUID	1961		290110
ETHANOL	1170		220710 220720
ETHANOL AND GASOLINE MIXTURE, with more than 10% ethanol	3475		272200 272400
ETHANOL AND MOTOR SPIRIT MIXTURE, with more than 10% ethanol	3475		272200 272400
ETHANOL AND PETROL MIXTURE, with more than 10% ethanol	3475		272200 272400
ETHANOL SOLUTION	1170		220890
ETHANOLAMINE	2491		292211
ETHANOLAMINE SOLUTION	2491		292211
ETHERS, N.O.S.	3271		2909++
2-Ethoxyethanol: see	1171		290944
2-Ethoxyethyl acetate: see	1172		291539
ETHYL ACETATE	1173		291531
ETHYLACETYLENE, STABILIZED	2452		290129
ETHYL ACRYLATE, STABILIZED	1917		291612
ETHYL ALCOHOL	1170		220710 220720
ETHYL ALCOHOL SOLUTION	1170		220890
ETHYLAMINE	1036		292119
ETHYLAMINE, AQUEOUS SOLUTION with not less than 50% but not more than 70% ethylamine	2270		292119
ETHYL AMYL KETONE	2271		291419
N-ETHYLANILINE	2272		292142
2-ETHYLANILINE	2273		292149
ETHYLBENZENE	1175		290260
N-ETHYL-N-BENZYLANILINE	2274		292149
N-ETHYLBENZYL TOLUIDINES, LIQUID	2753		292149
N-ETHYLBENZYL TOLUIDINES, SOLID	3460		292149
ETHYL BORATE	1176		292090
ETHYL BROMIDE	1891		290339
ETHYL BROMOACETATE	1603		291590
2-ETHYLBUTANOL	2275		290519
2-ETHYLBUTYL ACETATE	1177		291539
ETHYL BUTYL ETHER	1179		290919
2-ETHYLBUTYRALDEHYDE	1178		291219
ETHYL BUTYRATE	1180		291560
ETHYL CHLORIDE	1037		290311
ETHYL CHLOROACETATE	1181		291540
ETHYL CHLOROFORMATE	1182		291590
ETHYL 2-CHLOROPROPIONATE	2935		291590
ETHYL CHLOROTHIOFORMATE	2826		293090
ETHYL CROTONATE	1862		291619
ETHYLDICHLOROARSINE	1892		293100
ETHYLDICHLOROSILANE	1183		293100
ETHYLENE, ACETYLENE AND PROPYLENE MIXTURE, REFRIGERATED LIQUID containing at least 71.5% ethylene with not more than 22.5% acetylene and not more than 6% propylene	3138		271119
ETHYLENE	1962		271114 290121

Name and description	UN No	Note	NHM Code
ETHYLENE CHLOROHYDRIN	1135		290559
ETHYLENEDIAMINE	1604		292121
ETHYLENE DIBROMIDE	1605		290331
ETHYLENE DICHLORIDE	1184		290315
ETHYLENE GLYCOL DIETHYL ETHER	1153		290944
ETHYLENE GLYCOL MONOETHYL ETHER	1171		290944
ETHYLENE GLYCOL MONOETHYL ETHER ACETATE	1172		291539
ETHYLENE GLYCOL MONOMETHYL ETHER	1188		290944
ETHYLENE GLYCOL MONOMETHYL ETHER ACETATE	1189		291539
ETHYLENEIMINE, STABILIZED	1185		293399
ETHYLENE OXIDE	1040		291010
ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with more than 87% ethylene oxide	3300		291010 281121
ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with more than 9% but not more than 87% ethylene oxide	1041		291010 281121
ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with not more than 9% ethylene oxide	1952		291010 281121
ETHYLENE OXIDE AND CHLOROTETRAFLUOROETHANE MIXTURE with not more than 8.8% ethylene oxide	3297		291010 290342
ETHYLENE OXIDE AND DICHLORODIFLUOROMETHANE MIXTURE with not more than 12.5% ethylene oxide	3070		291010 290342
ETHYLENE OXIDE AND PENTAFLUOROETHANE MIXTURE with not more than 7.9% ethylene oxide	3298		291010 290330
ETHYLENE OXIDE AND PROPYLENE OXIDE MIXTURE, not more than 30% ethylene oxide	2983		291010 291020
ETHYLENE OXIDE AND TETRAFLUOROETHANE MIXTURE with not more than 5.6% ethylene oxide	3299		291010 290330
ETHYLENE OXIDE WITH NITROGEN up to a total pressure of 1 MPa (10 bar) at 50 °C	1040		291010
ETHYLENE, REFRIGERATED LIQUID	1038		271114 290121
ETHYL ETHER	1155		290911
ETHYL FLUORIDE	2453		290339
ETHYL FORMATE	1190		291513
2-ETHYLHEXYLAMINE	2276		292119
2-ETHYLHEXYL CHLOROFORMATE	2748		291590
ETHYL ISOBUTYRATE	2385		291560
ETHYL ISOCYANATE	2481		292910
ETHYL LACTATE	1192		291811
ETHYL MERCAPTAN	2363		293090
ETHYL METHACRYLATE, STABILIZED	2277		291614
ETHYL METHYL ETHER	1039		290919
ETHYL METHYL KETONE	1193		291412
ETHYL NITRITE SOLUTION	1194		292090
ETHYL ORTHOFORMATE	2524		291590
ETHYL OXALATE	2525		291711
ETHYLPHENYLDICHLOROSILANE	2435		293100
1-ETHYLPYPERIDINE	2386		293339
ETHYL PROPIONATE	1195		291550
ETHYL PROPYL ETHER	2615		290919
N-ETHYLTOLUIDINES	2754		292143
ETHYLTRICHLOROSILANE	1196		293100
EXPLOSIVE, BLASTING, TYPE A	0081		360100
EXPLOSIVE, BLASTING, TYPE B	0082		360200
EXPLOSIVE, BLASTING, TYPE B	0331		360200
EXPLOSIVE, BLASTING, TYPE C	0083		360200
EXPLOSIVE, BLASTING, TYPE D	0084		360200
EXPLOSIVE, BLASTING, TYPE E	0241		360200
EXPLOSIVE, BLASTING, TYPE E	0332		360200
EXTRACTS, AROMATIC, LIQUID	1169		3301++
EXTRACTS, FLAVOURING, LIQUID	1197		130219
FABRICS, ANIMAL, N.O.S. with oil	1373		5++++
FABRICS IMPREGNATED WITH WEAKLY NITRATED NITROCELLULOSE, N.O.S.	1353		590390
FABRICS, SYNTHETIC, N.O.S. with oil	1373		5++++
FABRICS, VEGETABLE, N.O.S. with oil	1373		5++++
FERRIC ARSENATE	1606		284290
FERRIC ARSENITE	1607		284290
FERRIC CHLORIDE, ANHYDROUS	1773		282739
FERRIC CHLORIDE SOLUTION	2582		282739
FERRIC NITRATE	1466		283429
FERROCERIUM	1323		360690

Name and description	UN No	Note	NHM Code
FERROSILICON with 30% or more but less than 90% silicon	1408		72022+
FERROUS ARSENATE	1608		284290
FERROUS METAL BORINGS, SHAVINGS, TURNINGS or CUTTINGS in a form liable to self-heating	2793		720441
FERTILIZER AMMONIATING SOLUTION with free ammonia	1043		281420 310510
Fibres, animal burnt, wet or damp	1372	Exempt	5++++
FIBRES, ANIMAL, N.O.S. with oil	1373		5++++
FIBRES IMPREGNATED WITH WEAKLY NITRATED NITROCELLULOSE, N.O.S.	1353		5++++
FIBRES, SYNTHETIC, N.O.S. with oil	1373		5++++
Fibres, vegetable burnt, wet or damp	1372	Exempt	5++++
Fibres, vegetable, dry	3360	Exempt	5++++
FIBRES, VEGETABLE, N.O.S. with oil	1373		5++++
FILMS, NITROCELLULOSE BASE, gelatin coated, except scrap	1324		3706++
FIRE EXTINGUISHER CHARGES, corrosive liquid	1774		381300
FIRE EXTINGUISHERS with compressed or liquefied gas	1044		842410
FIRELIGHTERS, SOLID with flammable liquid	2623		360690
FIREWORKS	0333	2.2.1.1.7	360410
FIREWORKS	0334	2.2.1.1.7	360410
FIREWORKS	0335	2.2.1.1.7	360410
FIREWORKS	0336	2.2.1.1.7	360410
FIREWORKS	0337		360410
FIRST AID KIT	3316		382200
Fish meal, stabilized	2216	Exempt	230120
FISH MEAL, UNSTABILIZED	1374		230120
Fish scrap, stabilized	2216	Exempt	230120
FISH SCRAP, UNSTABILIZED	1374		230120
FLAMMABLE LIQUID, CORROSIVE, N.O.S.	2924		+++++
FLAMMABLE LIQUID, N.O.S.	1993		+++++
FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.	3286		+++++
FLAMMABLE LIQUID, TOXIC, N.O.S.	1992		+++++
FLAMMABLE SOLID, CORROSIVE, INORGANIC, N.O.S.	3180		28++++
FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.	2925		29++++
FLAMMABLE SOLID, INORGANIC, N.O.S.	3178		28++++
FLAMMABLE SOLID, ORGANIC, MOLTEN, N.O.S.	3176		29++++
FLAMMABLE SOLID, ORGANIC, N.O.S.	1325		29++++
FLAMMABLE SOLID, OXIDIZING, N.O.S.	3097	Prohibited	
FLAMMABLE SOLID, TOXIC, INORGANIC, N.O.S.	3179		28++++
FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.	2926		29++++
FLARES, AERIAL	0093		360490
FLARES, AERIAL	0403		360490
FLARES, AERIAL	0404		360490
FLARES, AERIAL	0420		360490
FLARES, AERIAL	0421		360490
FLARES, SURFACE	0092		360490
FLARES, SURFACE	0418		360490
FLARES, SURFACE	0419		360490
FLASH POWDER	0094		360490
FLASH POWDER	0305		360490
FLUORINE, COMPRESSED	1045		280130
FLUOROACETIC ACID	2642		291590
FLUOROANILINES	2941		292142
FLUOROBENZENE	2387		290369
FLUOROBORIC ACID	1775		281119
FLUOROPHOSPHORIC ACID, ANHYDROUS	1776		281119
FLUOROSILICATES, N.O.S.	2856		282690
FLUOROSILICIC ACID	1778		281119
FLUOROSULPHONIC ACID	1777		281119
FLUOROTOLUENES	2388		290369
FORMALDEHYDE SOLUTION with not less than 25% formaldehyde	2209		291211
FORMALDEHYDE SOLUTION, FLAMMABLE	1198		291211
FORMIC ACID with more than 85% acid by mass	1779		291511
FORMIC ACID with not less than 5% but not more than 85% acid by mass	3412		291511
FRACTURING DEVICES, EXPLOSIVE without detonator, for oil wells	0099		930690
FUEL, AVIATION, TURBINE ENGINE	1863		+++++
FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT, containing corrosive substances	3477		847+++
FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT, containing flammable liquids	3473		847+++
FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT, containing hydrogen in metal hydride	3479		847+++
FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT, containing liquefied flammable gas	3478		847+++
FUEL CELL CARTRIDGES CONTAINED IN EQUIPMENT, containing water-reactive substances	3476		847+++
FUEL CELL CARTRIDGES, containing corrosive substances	3477		8473++

Name and description	UN No	Note	NHM Code
FUEL CELL CARTRIDGES, containing flammable liquids	3473		8473++
FUEL CELL CARTRIDGES, containing hydrogen in metal hydride	3479		8473++
FUEL CELL CARTRIDGES, containing liquefied flammable gas	3478		8473++
FUEL CELL CARTRIDGES, containing water-reactive substances	3476		8473++
FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing corrosive substances	3477		847+++
FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing flammable liquids	3473		847+++
FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing hydrogen in metal hydride	3479		847+++
FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing liquefied flammable gas	3478		847+++
FUEL CELL CARTRIDGES PACKED WITH EQUIPMENT, containing water-reactive substances	3476		847+++
FUMARYL CHLORIDE	1780		291719
FUMIGATED UNIT	3359		+++++
FURALDEHYDES	1199		293212
FURAN	2389		293219
FURFURYL ALCOHOL	2874		293213
FURFURYLAMINE	2526		293219
FUSE, DETONATING, metal clad	0102		360300
FUSE, DETONATING, metal clad	0290		360300
FUSE, DETONATING, MILD EFFECT, metal clad	0104		360300
FUSE, IGNITER, tubular, metal clad	0103		360300
FUSE, NON-DETONATING	0101		360300
FUSEL OIL	1201		290519
FUSE, SAFETY	0105		360300
FUZES, DETONATING	0106		360300
FUZES, DETONATING	0107		360300
FUZES, DETONATING	0257		360300
FUZES, DETONATING	0367		360300
FUZES, DETONATING with protective features	0408		360300
FUZES, DETONATING with protective features	0409		360300
FUZES, DETONATING with protective features	0410		360300
FUZES, IGNITING	0316		360300
FUZES, IGNITING	0317		360300
FUZES, IGNITING	0368		360300
GALLIUM	2803		811292
GAS CARTRIDGES without a release device, non-refillable	2037		+++++
GAS OIL	1202		274200
GASOLINE	1203		272+00
GAS, REFRIGERATED LIQUID, FLAMMABLE, N.O.S.	3312		+++++
GAS, REFRIGERATED LIQUID, N.O.S.	3158		+++++
GAS, REFRIGERATED LIQUID, OXIDIZING, N.O.S.	3311		+++++
GAS SAMPLE, NON-PRESSURIZED, FLAMMABLE, N.O.S., not refrigerated liquid	3167		+++++
GAS SAMPLE, NON-PRESSURIZED, TOXIC, FLAMMABLE, N.O.S., not refrigerated liquid	3168		+++++
GAS SAMPLE, NON-PRESSURIZED, TOXIC, N.O.S., not refrigerated liquid	3169		+++++
GENETICALLY MODIFIED MICROORGANISMS	3245		300290
GENETICALLY MODIFIED ORGANISMS	3245		+++++
GERMANE	2192		285000
Germanium hydride: see	2192		285000
Glycer-1,3-dichlorohydrin: see	2750		290559
GLYCEROL alpha-MONOCHLOROXYDRIN	2689		290559
GLYCIDALDEHYDE	2622		291249
GRENADES, hand or rifle, with bursting charge	0284		930690
GRENADES, hand or rifle, with bursting charge	0285		930690
GRENADES, hand or rifle, with bursting charge	0292		930690
GRENADES, hand or rifle, with bursting charge	0293		930690
GRENADES, PRACTICE, hand or rifle	0110		930690
GRENADES, PRACTICE, hand or rifle	0318		930690
GRENADES, PRACTICE, hand or rifle	0372		930690
GRENADES, PRACTICE, hand or rifle	0452		930690
GUANIDINE NITRATE	1467		292529
GUANYLNITROSAMINO GUANYLIDENE HYDRAZINE, WETTED with not less than 30% water, by mass	0113	Prohibited	
GUANYLNITROSAMINO GUANYLTETRAZENE, WETTED with not less than 30% water, or mixture of alcohol and water, by mass	0114	Prohibited	
GUNPOWDER, COMPRESSED	0028		360200
GUNPOWDER, granular or as a meal	0027		360200
GUNPOWDER, IN PELLETS	0028		360200
HAFNIUM POWDER, DRY	2545		811291
HAFNIUM POWDER, WETTED with not less than 25% water	1326		811291
Hay	1327	Exempt	121490
HEATING OIL, LIGHT	1202		274300
HELIUM, COMPRESSED	1046		280429
HELIUM, REFRIGERATED LIQUID	1963		280429

Name and description	UN No	Note	NHM Code
HEPTAFLUOROPROPANE	3296		290339
n-HEPTALDEHYDE	3056		291219
HEPTANES	1206		290110
n-HEPTENE	2278		290129
HEXACHLOROACETONE	2661		291470
HEXACHLOROBENZENE	2729		290362
HEXACHLOROBUTADIENE	2279		290329
HEXACHLOROCYCLOPENTADIENE	2646		290359
HEXACHLOROPHENE	2875		290819
HEXADECYLTRICHLOROSILANE	1781		293100
HEXADIENES	2458		290129
HEXAETHYL TETRAPHOSPHATE	1611		291990
HEXAETHYL TETRAPHOSPHATE AND COMPRESSED GAS MIXTURE	1612		291990
HEXAFLUOROACETONE	2420		291470
HEXAFLUOROACETONE HYDRATE, LIQUID	2552		291470
HEXAFLUOROACETONE HYDRATE, SOLID	3436		291470
HEXAFLUROETHANE	2193		290339
HEXAFLUOROPHOSPHORIC ACID	1782		281119
HEXAFLUOROPROPYLENE	1858		290339
HEXALDEHYDE	1207		291219
HEXAMETHYLENEDIAMINE, SOLID	2280		292122
HEXAMETHYLENEDIAMINE SOLUTION	1783		292122
HEXAMETHYLENE DIISOCYANATE	2281		292910
HEXAMETHYLENEIMINE	2493		293399
HEXAMETHYLENETETRAMINE	1328		293399
HEXANES	1208		290110
HEXANITRODIPHENYLAMINE	0079		292144
HEXANITROSTILBENE	0392		290420
HEXANOLS	2282		290519
1-HEXENE	2370		290129
HEXOGEN AND CYCLOTETRAMETHYLENETETRANITRAMINE MIXTURE, DESENSITIZED with not less than 10% phlegmatizer by mass	0391		293369
HEXOGEN AND CYCLOTETRAMETHYLENETETRANITRAMINE MIXTURE, WETTED with not less than 15% water, by mass	0391		293369
HEXOGEN AND HMX MIXTURE, DESENSITIZED with not less than 10% phlegmatizer by mass	0391		293369
HEXOGEN AND HMX MIXTURE, WETTED with not less than 15% water, by mass	0391		293369
HEXOGEN AND OCTOGEN MIXTURE, DESENSITIZED with not less than 10% phlegmatizer by mass	0391		293369
HEXOGEN AND OCTOGEN MIXTURE, WETTED with not less than 15% water, by mass	0391		293369
HEXOGEN, DESENSITIZED	0483		293369
HEXOGEN, WETTED with not less than 15% water, by mass	0072		293369
HEXOLITE, dry or wetted with less than 15% water, by mass	0118		360200
HEXOTOL, dry or wetted with less than 15% water, by mass	0118		360200
HEXOTONAL	0393		360200
HEXYL	0079		292144
HEXYLTRICHLOROSILANE	1784		293100
HMX, DESENSITIZED	0484		293369
HMX, WETTED with not less than 15% water, by mass	0226		293369
HYDRAZINE AQUEOUS SOLUTION, with more than 37% hydrazine by mass	2030		282510
HYDRAZINE, ANHYDROUS	2029		282510
HYDRAZINE, AQUEOUS SOLUTION with not more than 37% hydrazine, by mass	3293		282510
HYDRIODIC ACID	1787		281119
HYDROBROMIC ACID	1788		281119
HYDROCARBON GAS MIXTURE, COMPRESSED, N.O.S.	1964		271129
HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S.	1965		271119 271113
HYDROCARBON GAS REFILLS FOR SMALL DEVICES with release device	3150		+++++
HYDROCARBONS, LIQUID, N.O.S.	3295		290+++
HYDROCHLORIC ACID	1789		280610
HYDROCYANIC ACID, AQUEOUS SOLUTION with not more than 20% hydrogen cyanide	1613		281119
HYDROFLUORIC ACID	1790		281111
HYDROFLUORIC ACID AND SULPHURIC ACID MIXTURE	1786		281119
HYDROGEN AND METHANE MIXTURE, COMPRESSED	2034		271129
Hydrogen arsenide: see	2188		285000
HYDROGEN BROMIDE, ANHYDROUS	1048		281119
HYDROGEN CHLORIDE, ANHYDROUS	1050		280610
HYDROGEN CHLORIDE, REFRIGERATED LIQUID	2186	Prohibited	
HYDROGEN, COMPRESSED	1049		280410
HYDROGEN CYANIDE, AQUEOUS SOLUTION with not more than 20% hydrogen cyanide	1613		281119
HYDROGEN CYANIDE, SOLUTION IN ALCOHOL with not more than 45% hydrogen cyanide	3294		281119
HYDROGEN CYANIDE, STABILIZED containing less than 3% water	1051		281119



Name and description	UN No	Note	NHM Code
HYDROGEN CYANIDE, STABILIZED, containing less than 3% water and absorbed in a porous inert	1614		281119
HYDROGENDIFLUORIDES, SOLID, N.O.S.	1740		282619
HYDROGENDIFLUORIDES, SOLUTION, N.O.S.	3471		282619
HYDROGEN FLUORIDE, ANHYDROUS	1052		281111
HYDROGEN IN A METAL HYDRIDE STORAGE SYSTEM	3468		285000
HYDROGEN IN A METAL HYDRIDE STORAGE SYSTEM CONTAINED IN EQUIPMENT	3468		285000
HYDROGEN IN A METAL HYDRIDE STORAGE SYSTEM PACKED WITH EQUIPMENT	3468		285000
HYDROGEN IODIDE, ANHYDROUS	2197		281119
HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE with acid(s), water and not more than 5% peroxyacetic acid, STABILIZED	3149		284700
HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 20% but not more than 60% hydrogen peroxide (stabilized as necessary)	2014		284700
HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 8% but less than 20% hydrogen peroxide (stabilized as necessary)	2984		284700
HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED with more than 60% hydrogen peroxide and not more than 70% hydrogen peroxide	2015		284700
HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED with more than 70% hydrogen peroxide	2015		284700
HYDROGEN, REFRIGERATED LIQUID	1966		280410
HYDROGEN SELENIDE, ANHYDROUS	2202		281119
Hydrogen silicide: see	2203		285000
HYDROGEN SULPHIDE	1053		281119
1-HYDROXYBENZOTRIAZOLE, ANHYDROUS, dry or wetted with less than 20% water, by mass	0508		293390
1-HYDROXYBENZOTRIAZOLE, ANHYDROUS, WETTED with not less than 20% water, by mass	3474		293390
3-Hydroxybutan-2-one: see	2621		291440
HYDROXYLAMINE SULPHATE	2865		282510
1-Hydroxy-3-methyl-2-penten-4-yne: see	2705		290529
HYPOCHLORITES, INORGANIC, N.O.S.	3212		282890
HYPOCHLORITE SOLUTION	1791		282890
IGNITERS	0121		360300
IGNITERS	0314		360300
IGNITERS	0315		360300
IGNITERS	0325		360300
IGNITERS	0454		360300
3,3'-IMINODIPROPYLAMINE	2269		292129
INFECTIOUS SUBSTANCE, AFFECTING ANIMALS only	2900		300+++
INFECTIOUS SUBSTANCE, AFFECTING HUMANS	2814		300+++
INSECTICIDE GAS, FLAMMABLE, N.O.S.	3354		3808++
INSECTICIDE GAS, N.O.S.	1968		3808++
INSECTICIDE GAS, TOXIC, FLAMMABLE, N.O.S.	3355		3808++
INSECTICIDE GAS, TOXIC, N.O.S.	1967		3808++
IODINE MONOCHLORIDE	1792		281210
IODINE PENTAFLUORIDE	2495		281290
2-IODOBUTANE	2390		290339
IODOMETHYLPROPANES	2391		290339
IODOPROPANES	2392		290339
I.p.d.i.: see	2290		292910
Iron (III) chloride, anhydrous: see	1773		282739
Iron chloride, anhydrous: see	1773		282739
IRON OXIDE, SPENT obtained from coal gas purification	1376		282110
IRON PENTACARBONYL	1994		293100
Iron perchloride, anhydrous, see	1773		282739
Iron sesquichloride, anhydrous, see	1773		282739
IRON SPONGE, SPENT obtained from coal gas purification	1376		282110
ISOBUTANE	1969		271113
ISOBUTANOL	1212		290514
ISOBUTYL ACETATE	1213		291539
ISOBUTYL ACRYLATE, STABILIZED	2527		291612
ISOBUTYL ALCOHOL	1212		290514
ISOBUTYL ALDEHYDE	2045		291219
ISOBUTYLAMINE	1214		292119
ISOBUTYLENE	1055		290123
ISOBUTYL FORMATE	2393		291513
ISOBUTYL ISOBUTYRATE	2528		291560
ISOBUTYL ISOCYANATE	2486		292910
ISOBUTYL METHACRYLATE, STABILIZED	2283		291614
ISOBUTYL PROPIONATE	2394		291550
ISOBUTYRALDEHYDE	2045		291219
ISOBUTYRIC ACID	2529		291560
ISOBUTYRONITRILE	2284		292690
ISOBUTYRYL CHLORIDE	2395		291590



Name and description	UN No	Note	NHM Code
ISOCYANATES, FLAMMABLE, TOXIC, N.O.S.	2478		292910
ISOCYANATE SOLUTION, FLAMMABLE, TOXIC, N.O.S.	2478		292910
ISOCYANATE SOLUTION, TOXIC, FLAMMABLE, N.O.S.	3080		292910
ISOCYANATE SOLUTION, TOXIC, N.O.S.	2206		292910
ISOCYANATES, TOXIC, FLAMMABLE, N.O.S.	3080		292910
ISOCYANATES, TOXIC, N.O.S.	2206		292910
ISOCYANATOBENZOTRIFLUORIDES	2285		292910
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate: see	2290		292910
Isododecane: see	2286		290110
ISOHEPTENE	2287		290129
ISOHEXENE	2288		290129
ISOOCETENES	1216		290129
Isopentane: see	1265		290110
ISOPENTENES	2371		290129
ISOPHORONEDIAMINE	2289		292239
ISOPHORONE DIISOCYANATE	2290		292910
ISOPRENE, STABILIZED	1218		290124
ISOPROPANOL	1219		290512
ISOPROPENYL ACETATE	2403		291539
ISOPROPENYLBENZENE	2303		290290
ISOPROPYL ACETATE	1220		291539
ISOPROPYL ACID PHOSPHATE	1793		291990
ISOPROPYL ALCOHOL	1219		290512
ISOPROPYLAMINE	1221		292119
ISOPROPYLBENZENE	1918		290270
ISOPROPYL BUTYRATE	2405		291560
Isopropyl chloride: see	2356		290319
ISOPROPYL CHLOROACETATE	2947		291540
ISOPROPYL CHLOROFORMATE	2407		291590
ISOPROPYL 2-CHLOROPROPIONATE	2934		291590
Isopropylethylene: see	2561		290129
ISOPROPYL ISOBUTYRATE	2406		291560
ISOPROPYL ISOCYANATE	2483		292910
Isopropyl mercaptan: see	2402		293090
ISOPROPYL NITRATE	1222		292090
ISOPROPYL PROPIONATE	2409		291550
Isopropyltoluene: see	2046		290270
Isopropyltoluol: see	2046		290270
ISOSORBIDE DINITRATE MIXTURE with not less than 60% lactose, mannose, starch or calcium hydrogen phosphate	2907		293299
ISOSORBIDE-5-MONONITRATE	3251		293299
JET PERFORATING GUNS, CHARGED, oil well, without detonator	0124		930690
JET PERFORATING GUNS, CHARGED, oil well, without detonator	0494		930690
KEROSENE	1223		273100
KETONES, LIQUID, N.O.S.	1224		2914++
KRYPTON, COMPRESSED	1056		280429
KRYPTON, REFRIGERATED LIQUID	1970		280429
Lacquer: see	1263		3208++
Lacquer: see	3066		3208++
Lacquer: see	3469		3208++
Lacquer: see	3470		3208++
LEAD ACETATE	1616		291529
LEAD ARSENATES	1617		284290
LEAD ARSENITES	1618		284290
LEAD AZIDE, WETTED with not less than 20% water, or mixture of alcohol and water, by mass	0129	Prohibited	
LEAD COMPOUND, SOLUBLE, N.O.S.	2291		28++++
LEAD CYANIDE	1620		283719
LEAD DIOXIDE	1872		282490
LEAD NITRATE	1469		283429
LEAD PERCHLORATE, SOLID	1470		282990
LEAD PERCHLORATE SOLUTION	3408		282990
LEAD PHOSPHITE, DIBASIC	2989		283510
LEAD STYPHNATE, WETTED with not less than 20% water, or mixture of alcohol and water, by mass	0130	Prohibited	
LEAD SULPHATE with more than 3% free acid	1794		283329
Lead tetraethyl: see	1649		381111
Lead tetramethyl: see	1649		381111
LEAD TRINITRORESORCINATE, WETTED with not less than 20% water, or mixture of alcohol and water, by mass	0130	Prohibited	
LIFE-SAVING APPLIANCES NOT SELF-INFLATING containing dangerous goods as equipment	3072		890690
LIFE-SAVING APPLIANCES, SELF-INFLATING	2990		890710

Name and description	UN No	Note	NHM Code
LIGHTER REFILLS containing flammable gas	1057		961390
LIGHTERS containing flammable gas	1057		9613++
LIGHTERS, FUSE	0131		360300
Limonene, inactive: see	2052		290219
LIQUEFIED GASES, non-flammable, charged with nitrogen, carbon dioxide or air	1058		+++++
LIQUEFIED GAS, FLAMMABLE, N.O.S.	3161		+++++
LIQUEFIED GAS, N.O.S.	3163		+++++
LIQUEFIED GAS, OXIDIZING, N.O.S.	3157		+++++
LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S.	3308		+++++
LIQUEFIED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S.	3309		+++++
LIQUEFIED GAS, TOXIC, FLAMMABLE, N.O.S.	3160		+++++
LIQUEFIED GAS, TOXIC, N.O.S.	3162		+++++
LIQUEFIED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.	3310		+++++
LIQUEFIED GAS, TOXIC, OXIDIZING, N.O.S.	3307		+++++
Liquid filler: see	1263		3208++
Liquid filler: see	3066		3208++
Liquid filler: see	3469		3208++
Liquid filler: see	3470		3208++
Liquid lacquer base: see	1263		3208++
Liquid lacquer base: see	3066		3208++
Liquid lacquer base: see	3469		3208++
Liquid lacquer base: see	3470		3208++
LITHIUM	1415		280519
LITHIUM ALUMINIUM HYDRIDE	1410		285000
LITHIUM ALUMINIUM HYDRIDE, ETHEREAL	1411		285000
LITHIUM BOROXYDRIDE	1413		285000
LITHIUM FERROSILICON	2830		285000
LITHIUM HYDRIDE	1414		285000
LITHIUM HYDRIDE, FUSED SOLID	2805		285000
LITHIUM HYDROXIDE	2680		282520
LITHIUM HYDROXIDE SOLUTION	2679		282520
LITHIUM HYPOCHLORITE, DRY	1471		282890
LITHIUM HYPOCHLORITE MIXTURE	1471		282890
LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT (including lithium ion polymer batteries)	3481		847+++
LITHIUM ION BATTERIES (including lithium ion polymer batteries)	3480		850780
LITHIUM ION BATTERIES PACKED WITH EQUIPMENT (including lithium ion polymer batteries)	3481		847+++
LITHIUM METAL BATTERIES (including lithium alloy batteries)	3090		850650
LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT (including lithium alloy batteries)	3091		850650
LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT (including lithium alloy batteries)	3091		850650
LITHIUM NITRATE	2722		283429
LITHIUM NITRIDE	2806		285000
LITHIUM PEROXIDE	1472		282590
LITHIUM SILICON	1417		285000
LONDON PURPLE	1621		380810
Lye: see	1823		281511
MAGNESIUM ALLOYS POWDER	1418		810430
MAGNESIUM ALLOYS with more than 50% magnesium in pellets, turnings or ribbons	1869		8104++
MAGNESIUM ALUMINIUM PHOSPHIDE	1419		284800
MAGNESIUM ARSENATE	1622		284290
MAGNESIUM BROMATE	1473		282990
MAGNESIUM CHLORATE	2723		282919
MAGNESIUM DIAMIDE	2004		285300
MAGNESIUM FLUOROSILICATE	2853		282690
MAGNESIUM GRANULES, COATED, particle size not less than 149 microns	2950		810430
MAGNESIUM HYDRIDE	2010		285000
MAGNESIUM in pellets, turnings or ribbons	1869		8104++
MAGNESIUM NITRATE	1474		283429
MAGNESIUM PERCHLORATE	1475		282990
MAGNESIUM PEROXIDE	1476		281610
MAGNESIUM PHOSPHIDE	2011		284800
MAGNESIUM POWDER	1418		810430
MAGNESIUM SILICIDE	2624		285000
Magnetized material	2807	Exempt	+++++
MALEIC ANHYDRIDE	2215		291714
MALEIC ANHYDRIDE, MOLTEN	2215		291714
MALONONITRILE	2647		292690
MANEB	2210		380892
MANEB PREPARATION with not less than 60% maneb	2210		380892
MANEB PREPARATION, STABILIZED against self-heating	2968		380892
MANEB, STABILIZED against self-heating	2968		380892

Name and description	UN No	Note	NHM Code
Manganese ethylene-1,2-dithiocarbamate: see	2210		380892
Manganese ethylene-di-dithiocarbamate: see	2210		380892
MANGANESE NITRATE	2724		283429
MANGANESE RESINATE	1330		380620
MANNITOL HEXANITRATE, WETTED with not less than 40% water, or mixture of alcohol and water, by mass	0133		292090
MATCHES, FUSEE	2254		360500
MATCHES, SAFETY (book, card or strike on box)	1944		360500
MATCHES, 'STRIKE ANYWHERE'	1331		360500
MATCHES, WAX 'VESTA'	1945		360500
MEDICAL WASTE, N.O.S.	3291		382530
MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S.	3248		300+++
MEDICINE, LIQUID, TOXIC, N.O.S.	1851		300+++
MEDICINE, SOLID, TOXIC, N.O.S.	3249		300+++
p-Mentha-1,8-diene: see	2052		290219
MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, N.O.S.	3336		293090
MERCAPTAN MIXTURE, LIQUID, FLAMMABLE, TOXIC, N.O.S.	1228		293090
MERCAPTAN MIXTURE, LIQUID, TOXIC, FLAMMABLE, N.O.S.	3071		293090
MERCAPTANS, LIQUID, FLAMMABLE, N.O.S.	3336		293090
MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.O.S.	1228		293090
MERCAPTANS, LIQUID, TOXIC, FLAMMABLE, N.O.S.	3071		293090
2-Mercaptoethanol: see	2966		293090
5-MERCAPTOTETRAZOL-1-ACETIC ACID	0448		293499
MERCURIC ARSENATE	1623		285200
MERCURIC CHLORIDE	1624		285200
MERCURIC NITRATE	1625		285200
MERCURIC POTASSIUM CYANIDE	1626		285200
MERCUROUS NITRATE	1627		285200
MERCURY	2809		280540
MERCURY ACETATE	1629		285200
MERCURY AMMONIUM CHLORIDE	1630		285200
MERCURY BASED PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	2778		380892
MERCURY BASED PESTICIDE, LIQUID, TOXIC	3012		380892
MERCURY BASED PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	3011		380892
MERCURY BASED PESTICIDE, SOLID, TOXIC	2777		380892
MERCURY BENZOATE	1631		285200
MERCURY BROMIDES	1634		285200
MERCURY COMPOUND, LIQUID, N.O.S.	2024		285200
MERCURY COMPOUND, SOLID, N.O.S.	2025		285200
MERCURY CYANIDE	1636		285200
MERCURY FULMINATE, WETTED with not less than 20% water, or mixture of alcohol and water, by mass	0135	Prohibited	
MERCURY GLUCONATE	1637		285200
MERCURY IODIDE	1638		285200
MERCURY NUCLEATE	1639		285200
MERCURY OLEATE	1640		285200
MERCURY OXIDE	1641		285200
MERCURY OXYCYANIDE, DESENSITIZED	1642		285200
MERCURY POTASSIUM IODIDE	1643		285200
MERCURY SALICYLATE	1644		285200
MERCURY SULPHATE	1645		285200
MERCURY THIOCYANATE	1646		285200
Mesitylene: see	2325		290290
MESITYL OXIDE	1229		291419
METAL CARBONYLS, LIQUID, N.O.S.	3281		293100
METAL CARBONYLS, SOLID, N.O.S.	3466		293100
METAL CATALYST, DRY	2881		38151+
METAL CATALYST, WETTED with a visible excess of liquid	1378		38151+
METALDEHYDE	1332		291250
METAL HYDRIDES, FLAMMABLE, N.O.S.	3182		285000
METAL HYDRIDES, WATER-REACTIVE, N.O.S.	1409		285000
METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.	3208		+++++
METALLIC SUBSTANCE, WATER-REACTIVE, SELF-HEATING, N.O.S.	3209		+++++
METAL POWDER, FLAMMABLE, N.O.S.	3089		81++++
METAL POWDER, SELF-HEATING, N.O.S.	3189		81++++
METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S.	3181		29++++
METHACRYLALDEHYDE, STABILIZED	2396		291219
METHACRYLIC ACID, STABILIZED	2531		291613
METHACRYLONITRILE, STABILIZED	3079		292690
METHALLYL ALCOHOL	2614		290519
METHANE, COMPRESSED	1971		271129

Name and description	UN No	Note	NHM Code
METHANE, REFRIGERATED LIQUID	1972		271119
METHANESULPHONYL CHLORIDE	3246		290490
METHANOL	1230		290511
METHOXYMETHYL ISOCYANATE	2605		292910
4-METHOXY-4-METHYLPENTAN-2-ONE	2293		291450
1-METHOXY-2-PROPANOL	3092		290949
METHYL ACETATE	1231		291539
METHYLACETYLENE AND PROPADIENE MIXTURE, STABILIZED	1060		271119
METHYL ACRYLATE, STABILIZED	1919		291612
METHYLAL	1234		291100
METHYLALLYL CHLORIDE	2554		290329
METHYLAMINE, ANHYDROUS	1061		292111
METHYLAMINE, AQUEOUS SOLUTION	1235		292111
METHYLAMYL ACETATE	1233		291539
Methyl amyl alcohol: see	2053		290519
N-METHYLANILINE	2294		292142
alpha-METHYLBENZYL ALCOHOL, LIQUID	2937		290629
alpha-METHYLBENZYL ALCOHOL, SOLID	3438		290629
METHYL BROMIDE with not more than 2% chloropicrin	1062		290339
METHYL BROMIDE AND ETHYLENE DIBROMIDE MIXTURE, LIQUID	1647		290339
METHYL BROMOACETATE	2643		291590
2-METHYLBUTANAL	3371		290110
3-METHYLBUTAN-2-ONE	2397		291419
2-METHYL-1-BUTENE	2459		290129
2-METHYL-2-BUTENE	2460		290129
3-METHYL-1-BUTENE	2561		290129
N-METHYLBUTYLAMINE	2945		292119
METHYL tert-BUTYL ETHER	2398		290919
METHYL BUTYRATE	1237		291560
METHYL CHLORIDE	1063		290311
METHYL CHLORIDE AND METHYLENE CHLORIDE MIXTURE	1912		290319
METHYL CHLOROACETATE	2295		291540
METHYL CHLOROFORMATE	1238		291590
METHYL CHLOROMETHYL ETHER	1239		290919
METHYL 2-CHLOROPROPIONATE	2933		291590
METHYLCHLOROSILANE	2534		293100
Methyl cyanide: see	1648		292690
METHYLCYCLOHEXANE	2296		290219
METHYLCYCLOHEXANOLS, flammable	2617		290612
METHYLCYCLOHEXANONE	2297		291422
METHYLCYCLOPENTANE	2298		290219
METHYL DICHLOROACETATE	2299		291540
METHYLDICHLOROSILANE	1242		293100
Methylene chloride: see	1593		290312
METHYL ETHYL KETONE	1193		291412
2-METHYL-5-ETHYLPYRIDINE	2300		293339
METHYL FLUORIDE	2454		290339
METHYL FORMATE	1243		291513
2-METHYLFURAN	2301		293219
Methyl glycol, see	1188		290944
2-METHYL-2-HEPTANETHIOL	3023		293090
5-METHYLHEXAN-2-ONE	2302		291419
METHYLHYDRAZINE	1244		292800
METHYL IODIDE	2644		290339
METHYL ISOBUTYL CARBINOL	2053		290519
METHYL ISOBUTYL KETONE	1245		291413
METHYL ISOCYANATE	2480		292910
METHYL ISOPROPENYL KETONE, STABILIZED	1246		291419
METHYL ISOTHIOCYANATE	2477		293090
METHYL ISOVALERATE	2400		291560
METHYL MAGNESIUM BROMIDE IN ETHYL ETHER	1928		293100
METHYL MERCAPTAN	1064		293090
Methyl mercaptopropionaldehyde: see	2785		293090
METHYL METHACRYLATE MONOMER, STABILIZED	1247		291614
4-METHYLMORPHOLINE	2535		293499
N-METHYLMORPHOLINE	2535		293499
METHYL NITRITE	2455	Prohibited	
METHYL ORTHOSILICATE	2606		292090
METHYLPENTADIENE	2461		290129
2-METHYLPENTAN-2-OL	2560		290519

Name and description	UN No	Note	NHM Code
4-Methylpentan-2-ol: see	2053		290519
3-Methyl-2-penten-4-ynol: see	2705		290529
METHYLPHENYLDICHLOROSILANE	2437		293100
1-METHYLPYRIDINE	2399		293339
METHYL PROPIONATE	1248		291550
Methylpropylbenzene: see	2046		290270
METHYL PROPYL ETHER	2612		290919
METHYL PROPYL KETONE	1249		291419
Methyl pyridines: see	2313		293339
METHYLTETRAHYDROFURAN	2536		293219
METHYL TRICHLOROACETATE	2533		291540
METHYLTRICHLOROSILANE	1250		293100
alpha-METHYLVALERALDEHYDE	2367		291219
METHYL VINYL KETONE, STABILIZED	1251		291419
M.i.b.c.: see	2053		290519
MINES with bursting charge	0136		930690
MINES with bursting charge	0137		930690
MINES with bursting charge	0138		930690
MINES with bursting charge	0294		930690
Mixture A: see	1965		271113 271119
Mixture A 0: see	1965		271113 271119
Mixture A 01: see	1965		271113 271119
Mixture A 02: see	1965		271113 271119
Mixture A 1: see	1965		271119 271113
Mixture B: see	1965		271119 271113
Mixture B 1: see	1965		271119 271113
Mixture B 2: see	1965		271119 271113
Mixture C: see	1965		271119 271113
Mixture F1: see	1078		38247+
Mixture F2: see	1078		38247+
Mixture F3: see	1078		38247+
Mixture P1: see	1060		271119
Mixture P2: see	1060		271119
Mixtures of solids containing flammable liquid, n.o.s. having a flash-point up to 60 °C: see	3175		+++++
MOLYBDENUM PENTACHLORIDE	2508		282739
Monochlorobenzene: see	1134		290361
MONONITROTOLUIDINES	2660		292143
MORPHOLINE	2054		293499
MOTOR FUEL ANTI-KNOCK MIXTURE	1649		381111
MOTOR SPIRIT	1203		272+00
Muriatic acid: see	1789		280610
MUSK XYLENE	2956		290420
Mysorite: see	2212		252490
NAPHTHALENE, CRUDE	1334		270740
NAPHTHALENE, MOLTEN	2304		290290
NAPHTHALENE, REFINED	1334		290290
alpha-NAPHTHYLAMINE	2077		292145
beta-NAPHTHYLAMINE, SOLID	1650		292145
beta-NAPHTHYLAMINE SOLUTION	3411		292145
NAPHTHYLTHIOUREA	1651		293090
NAPHTHYLUREA	1652		292421
NATURAL GAS, COMPRESSED with high methane content	1971		271121
NATURAL GAS, REFRIGERATED LIQUID with high methane content	1972		271111
NEON, COMPRESSED	1065		280429
NEON, REFRIGERATED LIQUID	1913		280429
NICKEL CARBONYL	1259		293100
NICKEL CYANIDE	1653		283719
NICKEL NITRATE	2725		283429
NICKEL NITRITE	2726		283410
NICOTINE	1654		293999
NICOTINE COMPOUND, LIQUID, N.O.S.	3144		293999

Name and description	UN No	Note	NHM Code
NICOTINE COMPOUND, SOLID, N.O.S.	1655		293999
NICOTINE HYDROCHLORIDE, LIQUID	1656		293999
NICOTINE HYDROCHLORIDE, SOLID	3444		293999
NICOTINE HYDROCHLORIDE, SOLUTION	1656		293999
NICOTINE PREPARATION, LIQUID, N.O.S.	3144		293999
NICOTINE PREPARATION, SOLID, N.O.S.	1655		293999
NICOTINE SALICYLATE	1657		293999
NICOTINE SULPHATE, SOLID	3445		293999
NICOTINE SULPHATE, SOLUTION	1658		293999
NICOTINE TARTRATE	1659		293999
NITRATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	3218		283429
NITRATES, INORGANIC, N.O.S.	1477		283429
NITRATING ACID MIXTURE with more than 50% nitric acid	1796		280800
NITRATING ACID MIXTURE with not more than 50% nitric acid	1796		280800
NITRATING ACID MIXTURE, SPENT, with more than 50% nitric acid	1826		280800 382569
NITRATING ACID MIXTURE, SPENT, with not more than 50% nitric acid	1826		280800 382569
NITRIC ACID, other than red fuming	2031		280800
NITRIC ACID, RED FUMING	2032		280800
NITRIC OXIDE AND DINITROGEN TETROXIDE MIXTURE	1975		281129
NITRIC OXIDE AND NITROGEN DIOXIDE MIXTURE	1975		281129
NITRIC OXIDE, COMPRESSED	1660		281129
NITRILES, FLAMMABLE, TOXIC, N.O.S.	3273		292690
NITRILES, TOXIC, FLAMMABLE, N.O.S.	3275		292690
NITRILES, TOXIC, LIQUID, N.O.S.	3276		292690
NITRILES, TOXIC, SOLID, N.O.S.	3439		292690
NITRITES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	3219		283410
NITRITES, INORGANIC, N.O.S.	2627		283410
NITROANILINES (o-, m-, p-)	1661		292142
NITROANISOLE, LIQUID	2730		290930
NITROANISOLE, SOLID	3458		290930
NITROBENZENE	1662		290420
NITROBENZENESULPHONIC ACID	2305		290490
5-NITROBENZOTRIAZOL	0385		293399
NITROBENZOTRIFLUORIDES, LIQUID	2306		290490
NITROBENZOTRIFLUORIDES, SOLID	3431		290490
NITROBROMOBENZENES, LIQUID	2732		290490
NITROBROMOBENZENES, SOLID	3459		290490
NITROCELLULOSE, dry or wetted with less than 25% water (or alcohol), by mass	0340		391220
NITROCELLULOSE MEMBRANE FILTERS, with not more than 12.6% nitrogen, by dry mass	3270		391220
NITROCELLULOSE, PLASTICIZED with not less than 18% plasticizing substance, by mass	0343		391220
NITROCELLULOSE SOLUTION, FLAMMABLE with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose	2059		391220
NITROCELLULOSE, unmodified or plasticized with less than 18% plasticizing substance, by mass	0341		391220
NITROCELLULOSE, WETTED with not less than 25% alcohol, by mass	0342		391220
NITROCELLULOSE WITH ALCOHOL (not less than 25% alcohol, by mass, and not more than 12.6% nitrogen, by dry mass)	2556		391220
NITROCELLULOSE, with not more than 12.6% nitrogen, by dry mass, MIXTURE WITH or WITHOUT PLASTICIZER, WITH or WITHOUT PIGMENT	2557		391220
NITROCELLULOSE WITH WATER (not less than 25% water, by mass)	2555		391220
3-NITRO-4-CHLORO-BENZOTRIFLUORIDE	2307		290490
NITROCRESOLS, LIQUID	3434		290899
NITROCRESOLS, SOLID	2446		290899
NITROETHANE	2842		290420
NITROGEN, COMPRESSED	1066		280430
NITROGEN DIOXIDE	1067		281129
NITROGEN, REFRIGERATED LIQUID	1977		280430
NITROGEN TRIFLUORIDE	2451		281290
NITROGEN TRIOXIDE	2421	Prohibited	
NITROGLYCERIN MIXTURE, DESENSITIZED, LIQUID, FLAMMABLE, N.O.S. with not more than 30% nitroglycerin, by mass	3343		292090
NITROGLYCERIN MIXTURE, DESENSITIZED, LIQUID, N.O.S. with not more than 30% nitroglycerin, by mass	3357		292090
NITROGLYCERIN MIXTURE, DESENSITIZED, SOLID, N.O.S. with more than 2% but not more than 10% nitroglycerin, by mass	3319		292090
NITROGLYCERIN, DESENSITIZED with not less than 40% non-volatile water-insoluble phlegmatizer, by mass	0143		360200
NITROGLYCERIN, SOLUTION IN ALCOHOL with more than 1% but not more than 5% nitroglycerin	3064		292090
NITROGLYCERIN SOLUTION IN ALCOHOL with more than 1% but not more than 10% nitroglycerin	0144		360200

Name and description	UN No	Note	NHM Code
NITROGLYCERIN SOLUTION IN ALCOHOL with not more than 1% nitroglycerin	1204		292090
NITROGUANIDINE, dry or wetted with less than 20% water, by mass	0282		292529
NITROGUANIDINE, WETTED with not less than 20% water, by mass	1336		292529
NITROHYDROCHLORIC ACID	1798	Prohibited	
NITROMANNITE, WETTED with not less than 40% water, or mixture of alcohol and water, by mass	0133		292090
NITROMETHANE	1261		290420
NITRONAPHTHALENE	2538		290420
NITROPHENOLS (o-, m-, p-)	1663		290899
4-NITROPHENYLHYDRAZINE, with not less than 30% water, by mass	3376		292800
NITROPROPANES	2608		290420
p-NITROSODIMETHYLANILINE	1369		292119
NITROSTARCH, dry or wetted with less than 20% water, by mass	0146		360200
NITROSTARCH, WETTED with not less than 20% water, by mass	1337		360200
NITROSYL CHLORIDE	1069		281210
NITROSYLSULPHURIC ACID, LIQUID	2308		281119
NITROSYLSULPHURIC ACID, SOLID	3456		281119
NITROTOLUENES, LIQUID	1664		290420
NITROTOLUENES, SOLID	3446		290420
NITROTOLUIDINES (MONO)	2660		292143
NITROTRIAZOLONE	0490		293399
NITRO UREA	0147		292419
NITROUS OXIDE	1070		281129
NITROUS OXIDE, REFRIGERATED LIQUID	2201		281129
NITROXYLENES, LIQUID	1665		290420
NITROXYLENES, SOLID	3447		290420
NONANES	1920		290110
NONYLTRICHLOROSILANE	1799		293100
2,5-NORBORNADIENE, STABILIZED	2251		290219
NTO	0490		293399
OCTADECYLTRICHLOROSILANE	1800		293100
OCTADIENES	2309		290129
OCTAFLUOROBUT-2-ENE	2422		290339
OCTAFLUOROCYCLOBUTANE	1976		290359
OCTAFLUOROPROPANE	2424		290339
OCTANES	1262		290110
OCTOGEN, DESENSITIZED	0484		293369
OCTOGEN, WETTED with not less than 15% water, by mass	0226		293369
OCTOL, dry or wetted with less than 15% water, by mass	0266		360200
OCTOLITE, dry or wetted with less than 15% water, by mass	0266		360200
OCTONAL	0496		360200
OCTYL ALDEHYDES	1191		291219
OCTYLTRICHLOROSILANE	1801		293100
OIL GAS, COMPRESSED	1071		271129
Oleum: see	1831		280700
ORGANIC PEROXIDES (list)		2.2.52.4	+++++
ORGANIC PEROXIDE TYPE B, LIQUID	3101		29++++
ORGANIC PEROXIDE TYPE B, LIQUID, TEMPERATURE CONTROLLED	3111	Prohibited	
ORGANIC PEROXIDE TYPE B, SOLID	3102		29++++
ORGANIC PEROXIDE TYPE B, SOLID, TEMPERATURE CONTROLLED	3112	Prohibited	
ORGANIC PEROXIDE TYPE C, LIQUID	3103		29++++
ORGANIC PEROXIDE TYPE C, LIQUID, TEMPERATURE CONTROLLED	3113	Prohibited	
ORGANIC PEROXIDE TYPE C, SOLID	3104		29++++
ORGANIC PEROXIDE TYPE C, SOLID, TEMPERATURE CONTROLLED	3114	Prohibited	
ORGANIC PEROXIDE TYPE D, LIQUID	3105		29++++
ORGANIC PEROXIDE TYPE D, LIQUID, TEMPERATURE CONTROLLED	3115	Prohibited	
ORGANIC PEROXIDE TYPE D, SOLID	3106		29++++
ORGANIC PEROXIDE TYPE D, SOLID, TEMPERATURE CONTROLLED	3116	Prohibited	
ORGANIC PEROXIDE TYPE E, LIQUID	3107		29++++
ORGANIC PEROXIDE TYPE E, LIQUID, TEMPERATURE CONTROLLED	3117	Prohibited	
ORGANIC PEROXIDE TYPE E, SOLID	3108		29++++
ORGANIC PEROXIDE TYPE E, SOLID, TEMPERATURE CONTROLLED	3118	Prohibited	
ORGANIC PEROXIDE TYPE F, LIQUID	3109		29++++
ORGANIC PEROXIDE TYPE F, LIQUID, TEMPERATURE CONTROLLED	3119	Prohibited	
ORGANIC PEROXIDE TYPE F, SOLID	3110		29++++
ORGANIC PEROXIDE TYPE F, SOLID, TEMPERATURE CONTROLLED	3120	Prohibited	
ORGANIC PIGMENTS, SELF-HEATING	3313		320+++
ORGANOARSENIC COMPOUND, LIQUID, N.O.S.	3280		293100
ORGANOARSENIC COMPOUND, SOLID, N.O.S.	3465		293100
ORGANOCHLORINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	2762		380891
ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC	2996		380891



Name and description	UN No	Note	NHM Code
ORGANOCHLORINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	2995		380891
ORGANOCHLORINE PESTICIDE, SOLID, TOXIC	2761		380891
ORGANOMETALLIC COMPOUND, TOXIC, LIQUID, N.O.S.	3282		293100
ORGANOMETALLIC COMPOUND, TOXIC, SOLID, N.O.S.	3467		293100
ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC	3392		293100
ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE	3394		293100
ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE	3398		293100
ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE	3399		293100
ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC	3391		293100
ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC, WATER-REACTIVE	3393		293100
ORGANOMETALLIC SUBSTANCE, SOLID, SELF-HEATING	3400		293100
ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE	3395		293100
ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE	3396		293100
ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, SELF-HEATING	3397		293100
ORGANOPHOSPHORUS COMPOUND, TOXIC, FLAMMABLE, N.O.S.	3279		+++++
ORGANOPHOSPHORUS COMPOUND, TOXIC, LIQUID, N.O.S.	3278		+++++
ORGANOPHOSPHORUS COMPOUND, TOXIC, SOLID, N.O.S.	3464		+++++
ORGANOPHOSPHORUS PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	2784		3808++
ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC	3018		3808++
ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	3017		3808++
ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC	2783		3808++
ORGANOTIN COMPOUND, LIQUID, N.O.S.	2788		293100
ORGANOTIN COMPOUND, SOLID, N.O.S.	3146		293100
ORGANOTIN PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	2787		3808++
ORGANOTIN PESTICIDE, LIQUID, TOXIC	3020		3808++
ORGANOTIN PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	3019		3808++
ORGANOTIN PESTICIDE, SOLID, TOXIC	2786		3808++
OSMIUM TETROXIDE	2471		284390
OXIDIZING LIQUID, CORROSIVE, N.O.S.	3098		+++++
OXIDIZING LIQUID, N.O.S.	3139		+++++
OXIDIZING LIQUID, TOXIC, N.O.S.	3099		+++++
OXIDIZING SOLID, CORROSIVE, N.O.S.	3085		+++++
OXIDIZING SOLID, FLAMMABLE, N.O.S.	3137	Prohibited	
OXIDIZING SOLID, N.O.S.	1479		+++++
OXIDIZING SOLID, SELF-HEATING, N.O.S.	3100	Prohibited	
OXIDIZING SOLID, TOXIC, N.O.S.	3087		+++++
OXIDIZING SOLID, WATER-REACTIVE, N.O.S.	3121	Prohibited	
OXYGEN, COMPRESSED	1072		280440
OXYGEN DIFLUORIDE, COMPRESSED	2190		281290
OXYGEN GENERATOR, CHEMICAL	3356		+++++
OXYGEN, REFRIGERATED LIQUID	1073		280440
PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)	1263		3208++
PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)	3066		3208++
PAINT, CORROSIVE, FLAMMABLE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)	3470		3208++
PAINT, FLAMMABLE, CORROSIVE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)	3469		3208++
PAINT RELATED MATERIAL (including paint thinning and reducing compound)	1263		381400
PAINT RELATED MATERIAL (including paint thinning and reducing compound)	3066		381400
PAINT RELATED MATERIAL, CORROSIVE, FLAMMABLE (including paint thinning and reducing compound)	3470		381400
PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE (including paint thinning and reducing compound)	3469		381400
Paint thinning: see	1263		381400
Paint thinning: see	3066		381400
Paint thinning: see	3469		381400
Paint thinning: see	3470		381400
PAPER, UNSATURATED OIL TREATED, incompletely dried	1379		481160
PARAFORMALDEHYDE	2213		291260
PARALDEHYDE	1264		291250
PENTABORANE	1380		285000
PENTACHLOROETHANE	1669		290319
PENTACHLOROPHENOL	3155		290811
PENTAERYTHRITOL TETRANITRATE, DESENSITIZED with not less than 15% phlegmatizer, by mass	0150		292090
PENTAERYTHRITOL TETRANITRATE MIXTURE, DESENSITIZED, SOLID, N.O.S. with more than 10% but not more than 20% PETN, by mass	3344		292090
PENTAERYTHRITOL TETRANITRATE, WETTED with not less than 25% water, by mass	0150		292090
PENTAERYTHRITOL TETRANITRATE with not less than 7% wax, by mass	0411		292090
PENTAERYTHRITOL TETRANITRATE, DESENSITIZED with not less than 15% phlegmatizer, by mass	0150		292090
PENTAERYTHRITOL TETRANITRATE MIXTURE, DESENSITIZED, SOLID, N.O.S. with more than 10% but not more than 20% PETN, by mass	3344		292090
PENTAERYTHRITOL TETRANITRATE, WETTED with not less than 25% water, by mass	0150		292090



Name and description	UN No	Note	NHM Code
PENTAERYTHRITOL TETRANITRATE with not less than 7% wax, by mass	0411		292090
PENTAFLUOROETHANE	3220		290339
Pentafluoroethane, 1,1,1-trifluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 44% pentafluoroethane and 52% 1,1,1-trifluoroethane: see	3337		382474
PENTAMETHYLHEPTANE	2286		290110
PENTANE-2,4-DIONE	2310		291419
PENTANES, liquid	1265		290110
n-Pentane: see	1265		290110
PENTANOLS	1105		290519
1-PENTENE	1108		290129
1-PENTOL	2705		290529
PENTOLITE, dry or wetted with less than 15% water, by mass	0151		360200
PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	3211		282990
PERCHLORATES, INORGANIC, N.O.S.	1481		282990
PERCHLORIC ACID with more than 50% but not more than 72% acid, by mass	1873		281119
PERCHLORIC ACID with not more than 50% acid, by mass	1802		281119
Perchloroethylene: see	1897		290323
PERCHLOROMETHYL MERCAPTAN	1670		293090
PERCHLORYL FLUORIDE	3083		281210
PERFLUORO(ETHYL VINYL ETHER)	3154		290919
PERFLUORO(METHYL VINYL ETHER)	3153		290919
PERFUMERY PRODUCTS with flammable solvents	1266		330300
PERMANGANATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	3214		284169
PERMANGANATES, INORGANIC, N.O.S.	1482		284169
PEROXIDES, INORGANIC, N.O.S.	1483		282590
PERSULPHATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	3216		283340
PERSULPHATES, INORGANIC, N.O.S.	3215		283340
PESTICIDE, LIQUID, FLAMMABLE, TOXIC, N.O.S., flash-point less than 23 °C	3021		3808++
PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S., flash-point not less than 23 °C	2903		3808++
PESTICIDE, LIQUID, TOXIC, N.O.S.	2902		3808++
PESTICIDE, SOLID, TOXIC, N.O.S.	2588		3808++
PETN, DESENSITIZED with not less than 15% phlegmatizer, by mass	0150		292090
PETN MIXTURE, DESENSITIZED, SOLID, N.O.S. with more than 10% but not more than 20% PETN, by	3344		292090
PETN, WETTED with not less than 25% water, by mass	0150		292090
PETN with not less than 7% wax, by mass	0411		292090
PETROL	1203		272+00
PETROLEUM CRUDE OIL	1267		270900
PETROLEUM DISTILLATES, N.O.S.	1268		27++++
PETROLEUM GASES, LIQUEFIED	1075		271119
PETROLEUM PRODUCTS, N.O.S.	1268		27++++
PHENACYL BROMIDE	2645		291470
PHENETIDINES	2311		292229
PHENOLATES, LIQUID	2904		290711
PHENOLATES, SOLID	2905		290711
PHENOL, MOLTEN	2312		290711
PHENOL, SOLID	1671		290711
PHENOL SOLUTION	2821		290711
PHENOLSULPHONIC ACID, LIQUID	1803		290899
PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3346		380893
PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC	3348		380893
PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than	3347		380893
PHENOXYACETIC ACID DERIVATIVE PESTICIDE, SOLID, TOXIC	3345		380893
PHENYLACETONITRILE, LIQUID	2470		292690
PHENYLACETYL CHLORIDE	2577		291639
PHENYLCARBYLAMINE CHLORIDE	1672		292529
PHENYL CHLOROFORMATE	2746		291590
PHENYLENEDIAMINES (o-, m-, p-)	1673		292151
Phenylethylene: see	2055		290250
PHENYLHYDRAZINE	2572		292800
PHENYL ISOCYANATE	2487		292910
PHENYL MERCAPTAN	2337		293090
PHENYLMERCURIC ACETATE	1674		285200
PHENYLMERCURIC COMPOUND, N.O.S.	2026		285200
PHENYLMERCURIC HYDROXIDE	1894		285200
PHENYLMERCURIC NITRATE	1895		285200
PHENYLPHOSPHORUS DICHLORIDE	2798		293100
PHENYLPHOSPHORUS THIODICHLORIDE	2799		292019
PHENYLTRICHLOROSILANE	1804		293100

Name and description	UN No	Note	NHM Code
PHOSGENE	1076		281210
9-PHOSPHABICYCLO-NONANES	2940		293100
PHOSPHINE	2199		284800
Phosphoretted hydrogen: see	2199		284800
PHOSPHORIC ACID, SOLID	3453		280920
PHOSPHORIC ACID, SOLUTION	1805		280920
Phosphoric acid, anhydrous: see	1807		280910
PHOSPHOROUS ACID	2834		281119
PHOSPHORUS, AMORPHOUS	1338		280470
PHOSPHORUS HEPTASULPHIDE, free from yellow and white phosphorus	1339		281390
PHOSPHORUS OXYBROMIDE	1939		281290
PHOSPHORUS OXYBROMIDE, MOLTEN	2576		281290
PHOSPHORUS OXYCHLORIDE	1810		281210
PHOSPHORUS PENTABROMIDE	2691		281290
PHOSPHORUS PENTACHLORIDE	1806		281210
PHOSPHORUS PENTAFLUORIDE	2198		281290
PHOSPHORUS PENTASULPHIDE, free from yellow and white phosphorus	1340		281390
PHOSPHORUS PENTOXIDE	1807		280910
PHOSPHORUS SESQUISULPHIDE, free from yellow and white phosphorus	1341		281390
PHOSPHORUS TRIBROMIDE	1808		281290
PHOSPHORUS TRICHLORIDE	1809		281210
PHOSPHORUS TRIOXIDE	2578		281129
PHOSPHORUS TRISULPHIDE, free from yellow and white phosphorus	1343		281390
PHOSPHORUS, WHITE, DRY	1381		280470
PHOSPHORUS, WHITE, IN SOLUTION	1381		280470
PHOSPHORUS, WHITE, MOLTEN	2447		280470
PHOSPHORUS, WHITE, UNDER WATER	1381		280470
PHOSPHORUS, YELLOW, DRY	1381		280470
PHOSPHORUS, YELLOW, IN SOLUTION	1381		280470
PHOSPHORUS, YELLOW, UNDER WATER	1381		280470
PHTHALIC ANHYDRIDE with more than 0.05% of maleic anhydride	2214		291735
PICOLINES	2313		293339
PICRAMIDE	0153		292142
PICRIC ACID, dry or wetted with less than 30% water, by mass	0154		290899
PICRIC ACID, WETTED with not less than 10% water, by mass	3364		290899
PICRIC ACID, WETTED with not less than 30% water, by mass	1344		290899
PICRITE, dry or wetted with less than 20% water, by mass	0282		292529
PICRITE, WETTED with not less than 20% water, by mass	1336		292529
PICRYL CHLORIDE	0155		290490
PICRYL CHLORIDE WETTED with not less than 10% water, by mass	3365		290490
alpha-PINENE	2368		290219
PINE OIL	1272		380590
PIPERAZINE	2579		293359
PIPERIDINE	2401		293332
Pivaloyl chloride: see	2438		291590
PLASTICS MOULDING COMPOUND in dough, sheet or extruded rope form evolving flammable vapour	3314		39++++
PLASTICS, NITROCELLULOSE-BASED, SELF-HEATING, N.O.S.	2006		391290
Polish: see	1263		3208++
Polish: see	3066		3208++
Polish: see	3469		3208++
Polish: see	3470		3208++
POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S.	2733		2921++
POLYAMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.	2734		2921++
POLYAMINES, LIQUID, CORROSIVE, N.O.S.	2735		2921++
POLYAMINES, SOLID, CORROSIVE, N.O.S.	3259		2921++
POLYCHLORINATED BIPHENYLS, LIQUID	2315		290369
POLYCHLORINATED BIPHENYLS, SOLID	3432		290369
POLYESTER RESIN KIT	3269		3907++
POLYHALOGENATED BIPHENYLS, LIQUID	3151		290369
POLYHALOGENATED BIPHENYLS, SOLID	3152		290369
POLYHALOGENATED TERPHENYLS, LIQUID	3151		290369
POLYHALOGENATED TERPHENYLS, SOLID	3152		290369
POLYMERIC BEADS, EXPANDABLE, evolving flammable vapour	2211		390311
POTASSIUM	2257		280519
POTASSIUM ARSENATE	1677		284290
POTASSIUM ARSENITE	1678		284290
Potassium bisulphate: see	2509		283329
POTASSIUM BOROHYDRIDE	1870		285000
POTASSIUM BROMATE	1484		282990
POTASSIUM CHLORATE	1485		282919

Name and description	UN No	Note	NHM Code
POTASSIUM CHLORATE, AQUEOUS SOLUTION	2427		282919
POTASSIUM CUPROCYANIDE	1679		283720
POTASSIUM CYANIDE SOLUTION	3413		283719
POTASSIUM CYANIDE, SOLID	1680		283719
POTASSIUM DITHIONITE	1929		283190
POTASSIUM FLUORIDE SOLUTION	3422		282619
POTASSIUM FLUORIDE, SOLID	1812		282619
POTASSIUM FLUOROACETATE	2628		291590
POTASSIUM FLUOROSILICATE	2655		282620
Potassium hydrate: see	1814		281520
POTASSIUM HYDROGENDIFLUORIDE, SOLID	1811		282619
POTASSIUM HYDROGENDIFLUORIDE SOLUTION	3421		282619
POTASSIUM HYDROGEN SULPHATE	2509		283329
POTASSIUM HYDROSULPHITE	1929		283190
Potassium hydroxide, liquid: see	1814		281520
POTASSIUM HYDROXIDE, SOLID	1813		281520
POTASSIUM HYDROXIDE SOLUTION	1814		281520
POTASSIUM METAL ALLOYS, LIQUID	1420		280519
POTASSIUM METAL ALLOYS, SOLID	3403		280519
POTASSIUM METAVANADATE	2864		284190
POTASSIUM MONOXIDE	2033		282590
POTASSIUM NITRATE	1486		283421
POTASSIUM NITRATE AND SODIUM NITRITE MIXTURE	1487		283421 283410
POTASSIUM NITRITE	1488		283410
POTASSIUM PERCHLORATE	1489		282990
POTASSIUM PERMANGANATE	1490		284161
POTASSIUM PEROXIDE	1491		281530
POTASSIUM PERSULPHATE	1492		283340
POTASSIUM PHOSPHIDE	2012		284800
POTASSIUM SODIUM ALLOYS, LIQUID	1422		280519
POTASSIUM SODIUM ALLOYS, SOLID	3404		280519
POTASSIUM SULPHIDE, ANHYDROUS	1382		283090
POTASSIUM SULPHIDE, HYDRATED with not less than 30% water of crystallization	1847		283090
POTASSIUM SULPHIDE with less than 30% water of crystallization	1382		283090
POTASSIUM SUPEROXIDE	2466		281530
POWDER CAKE, WETTED with not less than 17% alcohol, by mass	0433		360100
POWDER CAKE, WETTED with not less than 25% water, by mass	0159		360100
POWDER PASTE, WETTED with not less than 17% alcohol, by mass	0433		360100
POWDER PASTE, WETTED with not less than 25% water, by mass	0159		360100
POWDER, SMOKELESS	0160		360100
POWDER, SMOKELESS	0161		360100
Preparations containing flammable liquid, n.o.s. having a flash-point up to 60 °C: see	3175		+++++
PRIMERS, CAP TYPE	0044		360300
PRIMERS, CAP TYPE	0377		360300
PRIMERS, CAP TYPE	0378		360300
PRIMERS, TUBULAR	0319		360300
PRIMERS, TUBULAR	0320		360300
PRIMERS, TUBULAR	0376		360300
PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable	1210		381400
PRINTING INK, flammable	1210		3215++
PROJECTILES, inert with tracer	0345		930690
PROJECTILES, inert with tracer	0424		930690
PROJECTILES, inert with tracer	0425		930690
PROJECTILES with burster or expelling charge	0346		930690
PROJECTILES with burster or expelling charge	0347		930690
PROJECTILES with burster or expelling charge	0426		930690
PROJECTILES with burster or expelling charge	0427		930690
PROJECTILES with burster or expelling charge	0434		930690
PROJECTILES with burster or expelling charge	0435		930690
PROJECTILES with bursting charge	0167		930690
PROJECTILES with bursting charge	0168		930690
PROJECTILES with bursting charge	0169		930690
PROJECTILES with bursting charge	0324		930690
PROJECTILES with bursting charge	0344		930690
PROPADIENE, STABILIZED	2200		290129
PROPANE	1978		271112
PROPANETHIOLS	2402		293090
n-PROPANOL	1274		290512
PROPELLANT, LIQUID	0495		360200

Name and description	UN No	Note	NHM Code
PROPELLANT, LIQUID	0497		360200
PROPELLANT, SOLID	0498		360100
PROPELLANT, SOLID	0499		360100
PROPELLANT, SOLID	0501		360100
PROPIONALDEHYDE	1275		291219
PROPIONIC ACID with not less than 10% and less than 90% acid by mass	1848		291550
PROPIONIC ACID with not less than 90% acid by mass	3463		291550
PROPIONIC ANHYDRIDE	2496		291590
PROPIONITRILE	2404		292690
PROPIONYL CHLORIDE	1815		291590
n-PROPYL ACETATE	1276		291539
PROPYL ALCOHOL, NORMAL	1274		290512
PROPYLAMINE	1277		292119
n-PROPYLBENZENE	2364		290290
Propyl chloride: see	1278		290319
n-PROPYL CHLOROFORMATE	2740		291590
PROPYLENE	1077		271114 290122
PROPYLENE CHLOROXYDRIN	2611		290559
1,2-PROPYLENEDIAMINE	2258		292129
Propylene dichloride: see	1279		290319
PROPYLENEIMINE, STABILIZED	1921		293399
PROPYLENE OXIDE	1280		291020
PROPYLENE TETRAMER	2850		290129
Propylene trimer: see	2057		290129
PROPYL FORMATES	1281		291513
n-PROPYL ISOCYANATE	2482		292910
Propyl mercaptan: see	2402		293090
n-PROPYL NITRATE	1865		292090
PROPYLTRICHLOROSILANE	1816		293100
Pyrazine hexahydrate: see	2579		293359
PYRETHROID PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	3350		380891
PYRETHROID PESTICIDE, LIQUID, TOXIC	3352		380891
PYRETHROID PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	3351		380891
PYRETHROID PESTICIDE, SOLID, TOXIC	3349		380891
PYRIDINE	1282		293331
PYROPHORIC ALLOY, N.O.S.	1383		81++++
PYROPHORIC LIQUID, INORGANIC, N.O.S.	3194		28++++
PYROPHORIC LIQUID, ORGANIC, N.O.S.	2845		29++++
PYROPHORIC METAL, N.O.S.	1383		81++++
PYROPHORIC SOLID, INORGANIC, N.O.S.	3200		28++++
PYROPHORIC SOLID, ORGANIC, N.O.S.	2846		29++++
PYROSULPHURYL CHLORIDE	1817		281210
PYRROLIDINE	1922		293399
QUINOLINE	2656		293349
RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - ARTICLES	2911		2844++
RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - ARTICLES MANUFACTURED FROM NATURAL URANIUM or DEPLETED URANIUM or NATURAL THORIUM	2909		2844++
RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - EMPTY PACKAGING	2908		2844++
RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - INSTRUMENTS	2911		2844++
RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL	2910		2844++
RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-I), non fissile or fissile-excepted	2912		2844++
RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II), FISSILE	3324		2844++
RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II), non fissile or fissile-excepted	3321		2844++
RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-III), non fissile or fissile-excepted	3322		2844++
RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, (LSA-III), FISSILE	3325		2844++
RADIOACTIVE MATERIAL, SURFACE CONTAMINATED OBJECTS (SCO-I or SCO-II), FISSILE	3326		2844++
RADIOACTIVE MATERIAL, SURFACE CONTAMINATED OBJECTS (SCO-I or SCO-II), non fissile or fissile-excepted	2913		2844++
RADIOACTIVE MATERIAL, TRANSPORTED UNDER SPECIAL ARRANGEMENT, FISSILE	3331		2844++
RADIOACTIVE MATERIAL, TRANSPORTED UNDER SPECIAL ARRANGEMENT, non fissile or fissile-excepted	2919		2844++
RADIOACTIVE MATERIAL, TYPE A PACKAGE, FISSILE, non-special form	3327		2844++
RADIOACTIVE MATERIAL, TYPE A PACKAGE, non-special form, non fissile or fissile-excepted	2915		2844++
RADIOACTIVE MATERIAL, TYPE A PACKAGE, SPECIAL FORM, FISSILE	3333		2844++
RADIOACTIVE MATERIAL, TYPE A PACKAGE, SPECIAL FORM, non fissile or fissile-excepted	3332		2844++
RADIOACTIVE MATERIAL, TYPE B(M) PACKAGE, FISSILE	3329		2844++
RADIOACTIVE MATERIAL, TYPE B(M) PACKAGE, non fissile or fissile-excepted	2917		2844++
RADIOACTIVE MATERIAL, TYPE B(U) PACKAGE, FISSILE	3328		2844++
RADIOACTIVE MATERIAL, TYPE B(U) PACKAGE, non fissile or fissile-excepted	2916		2844++

Name and description	UN No	Note	NHM Code
RADIOACTIVE MATERIAL, TYPE C PACKAGE, FISSILE	3330		2844++
RADIOACTIVE MATERIAL, TYPE C PACKAGE, non fissile or fissile-excepted	3323		2844++
RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, FISSILE	2977		2844++
RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, non fissile or fissile-excepted	2978		2844++
Rags, oily	1856	Exempt	5+++++
RDX AND CYCLOTETRAMETHYLENETETRAMINE MIXTURE, DESENSITIZED with not less than 10% phlegmatiser by mass	0391		293369
RDX AND CYCLOTETRAMETHYLENETETRAMINE MIXTURE, WETTED with not less than 15% water, by mass	0391		293369
RDX AND HMX MIXTURE, DESENSITIZED with not less than 10% phlegmatiser by mass	0391		293369
RDX AND HMX MIXTURE, WETTED with not less than 15% water, by mass	0391		293369
RDX AND OCTOGEN MIXTURE, DESENSITIZED with not less than 10% phlegmatiser by mass	0391		293369
RDX AND OCTOGEN MIXTURE, WETTED with not less than 15% water, by mass	0391		293369
RDX, DESENSITIZED	0483		293369
RDX, WETTED with not less than 15% water, by mass	0072		293369
RECEPTACLES, SMALL, CONTAINING GAS without a release device, non-refillable	2037		+++++
Red phosphorus: see	1338		280470
Reducing compound: see	1263		381400
Reducing compound: see	3066		381400
Reducing compound: see	3469		381400
Reducing compound: see	3470		381400
REFRIGERANT GAS, N.O.S.	1078		38247+
REFRIGERANT GAS R 12	1028		290342
REFRIGERANT GAS R 12B1	1974		290346
REFRIGERANT GAS R 13	1022		290341
REFRIGERANT GAS R 13B1	1009		290346
REFRIGERANT GAS R 14	1982		290339
REFRIGERANT GAS R 21	1029		290349
REFRIGERANT GAS R 22	1018		290349
REFRIGERANT GAS R 23	1984		290339
REFRIGERANT GAS R 32	3252		290339
REFRIGERANT GAS R 40	1063		290311
REFRIGERANT GAS R 41	2454		290339
REFRIGERANT GAS R 114	1958		290344
REFRIGERANT GAS R 115	1020		290344
REFRIGERANT GAS R 116	2193		290339
REFRIGERANT GAS R 124	1021		290349
REFRIGERANT GAS R 125	3220		290339
REFRIGERANT GAS R 133a	1983		290349
REFRIGERANT GAS R 134a	3159		290339
REFRIGERANT GAS R 142b	2517		290349
REFRIGERANT GAS R 143a	2035		290339
REFRIGERANT GAS R 152a	1030		290339
REFRIGERANT GAS R 161	2453		290339
REFRIGERANT GAS R 218	2424		290339
REFRIGERANT GAS R 227	3296		290339
REFRIGERANT GAS R 404A	3337		382474
REFRIGERANT GAS R 407A	3338		382474
REFRIGERANT GAS R 407B	3339		382474
REFRIGERANT GAS R 407C	3340		382474
REFRIGERANT GAS R 500	2602		382479
REFRIGERANT GAS R 502	1973		382479
REFRIGERANT GAS R 503	2599		382471
Refrigerant gas R 1113: see	1082		290345
REFRIGERANT GAS R 1132a	1959		290339
REFRIGERANT GAS R 1216	1858		290339
REFRIGERANT GAS R 1318	2422		290339
REFRIGERANT GAS RC 318	1976		290359
REFRIGERATING MACHINES containing flammable, non-toxic, liquefied gas	3358		8418++
REFRIGERATING MACHINES containing non-flammable, non-toxic gases or ammonia solutions (UN 2672)	2857		8418++
REGULATED MEDICAL WASTE, N.O.S.	3291		382530
RELEASE DEVICES, EXPLOSIVE	0173		360300
RESIN SOLUTION, flammable	1866		380690
RESORCINOL	2876		290721
RIVETS, EXPLOSIVE	0174		930690
ROCKET MOTORS	0186		930690
ROCKET MOTORS	0280		930690
ROCKET MOTORS	0281		930690
ROCKET MOTORS, LIQUID FUELLED	0395		930690
ROCKET MOTORS, LIQUID FUELLED	0396		930690

Name and description	UN No	Note	NHM Code
ROCKET MOTORS WITH HYPERGOLIC LIQUIDS with or without expelling charge	0250		930690
ROCKET MOTORS WITH HYPERGOLIC LIQUIDS with or without expelling charge	0322		930690
ROCKETS with bursting charge	0180		930690
ROCKETS with bursting charge	0181		930690
ROCKETS with bursting charge	0182		930690
ROCKETS with bursting charge	0295		930690
ROCKETS with expelling charge	0436		930690
ROCKETS with expelling charge	0437		930690
ROCKETS with expelling charge	0438		930690
ROCKETS with inert head	0183		930690
ROCKETS with inert head	0502		930690
ROCKETS, LINE-THROWING	0238		930690
ROCKETS, LINE-THROWING	0240		930690
ROCKETS, LINE-THROWING	0453		930690
ROCKETS, LIQUID FUELLED with bursting charge	0397		930690
ROCKETS, LIQUID FUELLED with bursting charge	0398		930690
ROSIN OIL	1286		380690
RUBBER SCRAP, powdered or granulated	1345		400400
RUBBER SHODDY, powdered or granulated	1345		400400
RUBBER SOLUTION	1287		400520
RUBIDIUM	1423		280519
RUBIDIUM HYDROXIDE	2678		282590
RUBIDIUM HYDROXIDE SOLUTION	2677		282590
SAMPLES, EXPLOSIVE, other than initiating explosive	0190		360200
SEAT-BELT PRETENSIONERS	0503		870895
SEAT-BELT PRETENSIONERS	3268		870895
SEED CAKE with more than 1.5% oil and not more than 11% moisture	1386		2306++
SEED CAKE with not more than 1.5% oil and not more than 11% moisture	2217		2306++
SELENATES	2630		284290
SELENIC ACID	1905		281119
SELENITES	2630		284290
SELENIUM COMPOUND, LIQUID, N.O.S.	3440		+++++
SELENIUM COMPOUND, SOLID, N.O.S.	3283		+++++
SELENIUM DISULPHIDE	2657		281390
SELENIUM HEXAFLUORIDE	2194		281290
SELENIUM OXYCHLORIDE	2879		281210
SELF-HEATING LIQUID, CORROSIVE, INORGANIC, N.O.S.	3188		28++++
SELF-HEATING LIQUID, CORROSIVE, ORGANIC, N.O.S.	3185		29++++
SELF-HEATING LIQUID, INORGANIC, N.O.S.	3186		28++++
SELF-HEATING LIQUID, ORGANIC, N.O.S.	3183		29++++
SELF-HEATING LIQUID, TOXIC, INORGANIC, N.O.S.	3187		28++++
SELF-HEATING LIQUID, TOXIC, ORGANIC, N.O.S.	3184		29++++
SELF-HEATING SOLID, CORROSIVE, INORGANIC, N.O.S.	3192		28++++
SELF-HEATING SOLID, CORROSIVE, ORGANIC, N.O.S.	3126		29++++
SELF-HEATING SOLID, INORGANIC, N.O.S.	3190		28++++
SELF-HEATING SOLID, ORGANIC, N.O.S.	3088		29++++
SELF-HEATING SOLID, OXIDIZING, N.O.S.	3127	Prohibited	
SELF-HEATING SOLID, TOXIC, INORGANIC, N.O.S.	3191		28++++
SELF-HEATING SOLID, TOXIC, ORGANIC, N.O.S.	3128		29++++
SELF-REACTIVE LIQUID TYPE B	3221		+++++
SELF-REACTIVE LIQUID TYPE B, TEMPERATURE CONTROLLED	3231	Prohibited	
SELF-REACTIVE LIQUID TYPE C	3223		+++++
SELF-REACTIVE LIQUID TYPE C, TEMPERATURE CONTROLLED	3233	Prohibited	
SELF-REACTIVE LIQUID TYPE D	3225		+++++
SELF-REACTIVE LIQUID TYPE D, TEMPERATURE CONTROLLED	3235	Prohibited	
SELF-REACTIVE LIQUID TYPE E	3227		+++++
SELF-REACTIVE LIQUID TYPE E, TEMPERATURE CONTROLLED	3237	Prohibited	
SELF-REACTIVE LIQUID TYPE F	3229		+++++
SELF-REACTIVE LIQUID TYPE F, TEMPERATURE CONTROLLED	3239	Prohibited	
SELF-REACTIVE SOLID TYPE B	3222		+++++
SELF-REACTIVE SOLID TYPE B, TEMPERATURE CONTROLLED	3232	Prohibited	
SELF-REACTIVE SOLID TYPE C	3224		+++++
SELF-REACTIVE SOLID TYPE C, TEMPERATURE CONTROLLED	3234	Prohibited	
SELF-REACTIVE SOLID TYPE D	3226		+++++
SELF-REACTIVE SOLID TYPE D, TEMPERATURE CONTROLLED	3236	Prohibited	
SELF-REACTIVE SOLID TYPE E	3228		+++++
SELF-REACTIVE SOLID TYPE E, TEMPERATURE CONTROLLED	3238	Prohibited	
SELF-REACTIVE SOLID TYPE F	3230		+++++
SELF-REACTIVE SOLID TYPE F, TEMPERATURE CONTROLLED	3240	Prohibited	
SELF-REACTIVE SUBSTANCES (list)		2.2.41.4	+++++

Name and description	UN No	Note	NHM Code
SHALE OIL	1288		270900 274900
Shellac: see	1263		3208++
Shellac: see	3066		3208++
Shellac: see	3469		3208++
Shellac: see	3470		3208++
SIGNAL DEVICES, HAND	0191		360490
SIGNAL DEVICES, HAND	0373		360490
SIGNALS, DISTRESS, ship	0194		360490
SIGNALS, DISTRESS, ship	0195		360490
SIGNALS, DISTRESS, ship	0505		360490
SIGNALS, DISTRESS, ship	0506		360490
SIGNALS, RAILWAY TRACK, EXPLOSIVE	0192		360490
SIGNALS, RAILWAY TRACK, EXPLOSIVE	0193		360490
SIGNALS, RAILWAY TRACK, EXPLOSIVE	0492		360490
SIGNALS, RAILWAY TRACK, EXPLOSIVE	0493		360490
SIGNALS, SMOKE	0196		360490
SIGNALS, SMOKE	0197		360490
SIGNALS, SMOKE	0313		360490
SIGNALS, SMOKE	0487		360490
SIGNALS, SMOKE	0507		360490
SILANE	2203		285000
SILICON POWDER, AMORPHOUS	1346		280461 280469
SILICON TETRACHLORIDE	1818		281210
SILICON TETRAFLUORIDE	1859		281290
SILVER ARSENITE	1683		284329
SILVER CYANIDE	1684		284329
SILVER NITRATE	1493		284321
SILVER PICRATE, WETTED with not less than 30% water, by mass	1347		284329
SLUDGE ACID	1906		280700 382569
SODA LIME with more than 4% sodium hydroxide	1907		282590
SODIUM	1428		280511
Sodium aluminate, solid	2812	Exempt	284190
SODIUM ALUMINATE SOLUTION	1819		284190
SODIUM ALUMINIUM HYDRIDE	2835		285000
SODIUM AMMONIUM VANADATE	2863		284190
SODIUM ARSANILATE	2473		293100
SODIUM ARSENATE	1685		284290
SODIUM ARSENITE, AQUEOUS SOLUTION	1686		284290
SODIUM ARSENITE, SOLID	2027		284290
SODIUM AZIDE	1687		285000
Sodium bifluoride: see	2439		282619
SODIUM BOROHYDRIDE	1426		285000
SODIUM BOROHYDRIDE AND SODIUM HYDROXIDE SOLUTION, with not more than 12% sodium borohydride and not more than 40% sodium hydroxide by mass	3320		285000
SODIUM BROMATE	1494		282990
SODIUM CACODYLATE	1688		293100
SODIUM CARBONATE PEROXYHYDRATE	3378		288699
SODIUM CHLORATE	1495		282911
SODIUM CHLORATE, AQUEOUS SOLUTION	2428		282911
SODIUM CHLORITE	1496		282890
SODIUM CHLOROACETATE	2659		291540
SODIUM CUPROCYANIDE, SOLID	2316		283720
SODIUM CUPROCYANIDE SOLUTION	2317		283720
SODIUM CYANIDE, SOLID	1689		283711
SODIUM CYANIDE SOLUTION	3414		283711
SODIUM DINITRO- <i>o</i> -CRESOLATE, dry or wetted with less than 15% water, by mass	0234		290899
SODIUM DINITRO- <i>o</i> -CRESOLATE, WETTED with not less than 10% water, by mass	3369		290899
SODIUM DINITRO- <i>o</i> -CRESOLATE, WETTED with not less than 15% water, by mass	1348		290899
SODIUM DITHIONITE	1384		283110
SODIUM FLUORIDE, SOLID	1690		282619
SODIUM FLUORIDE SOLUTION	3415		282619
SODIUM FLUOROACETATE	2629		291590
SODIUM FLUOROSILICATE	2674		282620
Sodium hydrate: see	1824		281512
SODIUM HYDRIDE	1427		285000
SODIUM HYDROGENDIFLUORIDE	2439		282619
SODIUM HYDROSULPHIDE with less than 25% water of crystallization	2318		283010



Name and description	UN No	Note	NHM Code
SODIUM HYDROSULPHIDE, HYDRATED with not less than 25% water of crystallization	2949		283010
SODIUM HYDROSULPHITE	1384		283110
SODIUM HYDROXIDE, SOLID	1823		281511
SODIUM HYDROXIDE SOLUTION	1824		281512
Sodium metasilicate pentahydrate: see	3253		283911
SODIUM METHYLATE	1431		290519
SODIUM METHYLATE SOLUTION in alcohol	1289		290519
SODIUM MONOXIDE	1825		282590
SODIUM NITRATE	1498		310250
SODIUM NITRATE AND POTASSIUM NITRATE MIXTURE	1499		283429
SODIUM NITRITE	1500		283410
SODIUM PENTACHLOROPHENATE	2567		290819
SODIUM PERBORATE MONOHYDRATE	3377		284030
SODIUM PERCHLORATE	1502		282990
SODIUM PERMANGANATE	1503		284169
SODIUM PEROXIDE	1504		281530
SODIUM PEROXOBORATE, ANHYDROUS	3247		284030
SODIUM PERSULPHATE	1505		283340
SODIUM PHOSPHIDE	1432		284800
SODIUM PICRAMATE, dry or wetted with less than 20% water, by mass	0235		292229
SODIUM PICRAMATE, WETTED with not less than 20% water, by mass	1349		292229
SODIUM SULPHIDE with less than 30% water of crystallization	1385		283010
SODIUM SULPHIDE, ANHYDROUS	1385		283010
SODIUM SULPHIDE, HYDRATED with not less than 30% water	1849		283010
SODIUM SUPEROXIDE	2547		281530
SOLIDS CONTAINING CORROSIVE LIQUID, N.O.S.	3244		+++++
SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S. having a flash-point up to 60 °C	3175		+++++
SOLIDS CONTAINING TOXIC LIQUID, N.O.S.	3243		+++++
SOUNDING DEVICES, EXPLOSIVE	0204		360490
SOUNDING DEVICES, EXPLOSIVE	0296		360490
SOUNDING DEVICES, EXPLOSIVE	0374		360490
SOUNDING DEVICES, EXPLOSIVE	0375		360490
Stain: see	1263		3208++
Stain: see	3066		3208++
Stain: see	3469		3208++
Stain: see	3470		3208++
Stain: see	3066		3208++
STANNIC CHLORIDE, ANHYDROUS	1827		282739
STANNIC CHLORIDE PENTAHYDRATE	2440		282739
STANNIC PHOSPHIDES	1433		284800
STIBINE	2676		285000
Straw	1327	Exempt	121300
STRONTIUM ARSENITE	1691		284290
STRONTIUM CHLORATE	1506		282919
STRONTIUM NITRATE	1507		283429
STRONTIUM PERCHLORATE	1508		282990
STRONTIUM PEROXIDE	1509		281640
STRONTIUM PHOSPHIDE	2013		284800
STRYCHNINE	1692		293999
STRYCHNINE SALTS	1692		293999
STYPHNIC ACID, dry or wetted with less than 20% water, or mixture of alcohol and water, by mass	0219		290899
STYPHNIC ACID, WETTED with not less than 20% water, or mixture of alcohol and water, by mass	0394		290899
STYRENE MONOMER, STABILIZED	2055		290250
SUBSTANCES, EVI, N.O.S.	0482		360200
SUBSTANCES, EXPLOSIVE, N.O.S.	0357		360200
SUBSTANCES, EXPLOSIVE, N.O.S.	0358		360200
SUBSTANCES, EXPLOSIVE, N.O.S.	0359		360200
SUBSTANCES, EXPLOSIVE, N.O.S.	0473	Prohibited	
SUBSTANCES, EXPLOSIVE, N.O.S.	0474		360200
SUBSTANCES, EXPLOSIVE, N.O.S.	0475		360200
SUBSTANCES, EXPLOSIVE, N.O.S.	0476		360200
SUBSTANCES, EXPLOSIVE, N.O.S.	0477		360200
SUBSTANCES, EXPLOSIVE, N.O.S.	0478		360200
SUBSTANCES, EXPLOSIVE, N.O.S.	0479		360200
SUBSTANCES, EXPLOSIVE, N.O.S.	0480		360200
SUBSTANCES, EXPLOSIVE, N.O.S.	0481		360200
SUBSTANCES, EXPLOSIVE, N.O.S.	0485		360200
SUBSTANCES, EXPLOSIVE, VERY INSENSITIVE, N.O.S.	0482		360200
SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	2780		380893
SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC	3014		380893



Name and description	UN No	Note	NHM Code
SUBSTITUTED NITROPHENOL PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	3013		380893
SUBSTITUTED NITROPHENOL PESTICIDE, SOLID, TOXIC	2779		380893
SULPHAMIC ACID	2967		281119
SULPHUR	1350		250300 280200
SULPHUR CHLORIDES	1828		281210
SULPHUR DIOXIDE	1079		281129
SULPHUR HEXAFLUORIDE	1080		281290
SULPHURIC ACID with more than 51% acid	1830		280700
SULPHURIC ACID with not more than 51% acid	2796		280700
SULPHURIC ACID, FUMING	1831		280700
SULPHURIC ACID, SPENT	1832		280700 382569
SULPHUR, MOLTEN	2448		250300
SULPHUROUS ACID	1833		281119
SULPHUR TETRAFLUORIDE	2418		281290
SULPHUR TRIOXIDE, STABILIZED	1829		281129
SULPHURYL CHLORIDE	1834		281210
SULPHURYL FLUORIDE	2191		281290
Tar oils at or above 100 °C and below its flash-point: see	3257		270600
Tar oils with a flash-point above 60 °C, at or above its flash-point: see	3256		270600
Tar oils with a flash-point not greater than 60 °C: see	1999		270600
Tars, liquid, including road asphalt and oils, bitumen and cut backs, at or above 100 °C and below its flash-point: see	3257		270600
Tars, liquid, including road asphalt and oils, bitumen and cut backs, with a flash-point above 60 °C, at or above its flash-point: see	3256		270600
TARS, LIQUID, including road asphalt and oils, bitumen and cut backs, with a flash-point not greater than 60 °C	1999		270600
TEAR GAS CANDLES	1700		930690
TEAR GAS SUBSTANCE, LIQUID, N.O.S.	1693		+++++
TEAR GAS SUBSTANCE, SOLID, N.O.S.	3448		+++++
TELLURIUM COMPOUND, N.O.S.	3284		28++++
TELLURIUM HEXAFLUORIDE	2195		281290
TERPENE HYDROCARBONS, N.O.S.	2319		290219
TERPINOLENE	2541		290219
TETRABROMOETHANE	2504		290339
1,1,2,2-TETRACHLOROETHANE	1702		290319
TETRACHLOROETHYLENE	1897		290323
TETRAETHYL DITHIOPYROPHOSPHATE	1704		292019
TETRAETHYLENEPENTAMINE	2320		292129
Tetraethyl lead: see	1649		381111
TETRAETHYL SILICATE	1292		292090
1,1,1,2-TETRAFLUOROETHANE	3159		290339
TETRAFLUOROETHYLENE, STABILIZED	1081		290339
TETRAFLUOROMETHANE	1982		290339
1,2,3,6-TETRAHYDROBENZALDEHYDE	2498		291229
TETRAHYDROFURAN	2056		293211
TETRAHYDROFURFURYLAMINE	2943		293219
TETRAHYDROPHthalic ANHYDRIDES with more than 0.05% of maleic anhydride	2698		293499
1,2,3,6-TETRAHYDROPYRIDINE	2410		293339
TETRAHYDROTHIOPHENE	2412		293499
Tetramethoxysilane: see	2606		292090
TETRAMETHYLAMMONIUM HYDROXIDE, SOLID	3423		292390
TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION	1835		292390
Tetramethyl lead: see	1649		381111
TETRAMETHYLSILANE	2749		293100
TETRANITROANILINE	0207		292142
TETRANITROMETHANE	1510		290420
TETRAPROPYL ORTHOTITANATE	2413		292090
TETRAZENE, WETTED with not less than 30% water, or mixture of alcohol and water, by mass	0114	Prohibited	
TETRAZOL-1-ACETIC ACID	0407		293399
1H-TETRAZOLE	0504		293399
TETRYL	0208		292149
Textile waste, wet	1857	Exempt	5++++
THALLIUM CHLORATE	2573		282990
THALLIUM COMPOUND, N.O.S.	1707		+++++
THALLIUM NITRATE	2727		283429
4-THIAPENTANAL	2785		293090
Thia-4-pentanal: see	2785		293090
THIOACETIC ACID	2436		293090

Name and description	UN No	Note	NHM Code
THIOCARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	2772		380893
THIOCARBAMATE PESTICIDE, LIQUID, TOXIC	3006		380893
THIOCARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	3005		380893
THIOCARBAMATE PESTICIDE, SOLID, TOXIC	2771		380893
THIOGLYCOL	2966		293090
THIOGLYCOLIC ACID	1940		293090
THIOLACTIC ACID	2936		293090
THIONYL CHLORIDE	1836		281210
THIOPHENE	2414		293499
THIOPHOSGENE	2474		293090
THIOPHOSPHORYL CHLORIDE	1837		281210
THIOUREA DIOXIDE	3341		293090
TINCTURES, MEDICINAL	1293		300490
TITANIUM DISULPHIDE	3174		283090
TITANIUM HYDRIDE	1871		285000
TITANIUM POWDER, DRY	2546		810820
TITANIUM POWDER, WETTED with not less than 25% water	1352		810820
TITANIUM SPONGE GRANULES	2878		810820
TITANIUM SPONGE POWDERS	2878		810820
TITANIUM TETRACHLORIDE	1838		282739
TITANIUM TRICHLORIDE MIXTURE	2869		282739
TITANIUM TRICHLORIDE MIXTURE, PYROPHORIC	2441		282739
TITANIUM TRICHLORIDE, PYROPHORIC	2441		282739
TNT AND HEXANITROSTILBENE MIXTURE	0388		290420
TNT AND TRINITROBENZENE MIXTURE	0388		290420
TNT, dry or wetted with less than 30% water, by mass	0209		290420
TNT MIXTURE CONTAINING TRINITROBENZENE AND HEXANITROSTILBENE	0389		290420
TNT, WETTED with not less than 10% water, by mass	3366		290420
TNT, WETTED with not less than 30% water, by mass	1356		290420
TOLUENE	1294		290230 270720
TOLUENE DIISOCYANATE	2078		292910
TOLUIDINES, LIQUID	1708		292143
TOLUIDINES, SOLID	3451		292143
2,4-TOLUYLENEDIAMINE, SOLID	1709		292151
2,4-TOLUYLENEDIAMINE SOLUTION	3418		292151
TORPEDOES with bursting charge	0329		930690
TORPEDOES with bursting charge	0330		930690
TORPEDOES with bursting charge	0451		930690
TORPEDOES, LIQUID FUELLED with inert head	0450		930690
TORPEDOES, LIQUID FUELLED with or without bursting charge	0449		930690
TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	3390		+++++
TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	3389		+++++
TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	3383		+++++
TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	3384		+++++
TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	3382		+++++
TOXIC BY INHALATION LIQUID, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	3381		+++++
TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	3387		+++++
TOXIC BY INHALATION LIQUID, OXIDIZING, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	3388		+++++
TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an inhalation toxicity lower than or equal to 1000 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 10 LC <sub>50</sub>	3386		+++++
TOXIC BY INHALATION LIQUID, WATER-REACTIVE, N.O.S. with an inhalation toxicity lower than or equal to 200 ml/m <sup>3</sup> and saturated vapour concentration greater than or equal to 500 LC <sub>50</sub>	3385		+++++
TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S.	3289		28++++
TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.	2927		29++++
TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.	2929		29++++
TOXIC LIQUID, INORGANIC, N.O.S.	3287		28++++
TOXIC LIQUID, ORGANIC, N.O.S.	2810		29++++
TOXIC LIQUID, OXIDIZING, N.O.S.	3122		+++++
TOXIC LIQUID, WATER-REACTIVE, N.O.S.	3123		+++++
TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.	3290		28++++
TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.	2928		29++++

Name and description	UN No	Note	NHM Code
TOXIC SOLID, FLAMMABLE, ORGANIC, N.O.S.	2930		29++++
TOXIC SOLID, INORGANIC, N.O.S.	3288		28++++
TOXIC SOLID, ORGANIC, N.O.S.	2811		29++++
TOXIC SOLID, OXIDIZING, N.O.S.	3086		+++++
TOXIC SOLID, SELF-HEATING, N.O.S.	3124		+++++
TOXIC SOLID, WATER-REACTIVE, N.O.S.	3125		+++++
TOXINS, EXTRACTED FROM LIVING SOURCES, LIQUID, N.O.S.	3172		300290
TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S.	3462		300290
TRACERS FOR AMMUNITION	0212		360490
TRACERS FOR AMMUNITION	0306		360490
Tremolite: see	2590		252490
TRIALLYLAMINE	2610		292119
TRIALLYL BORATE	2609		292090
TRIAZINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23 °C	2764		3808++
TRIAZINE PESTICIDE, LIQUID, TOXIC	2998		3808++
TRIAZINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE, flash-point not less than 23 °C	2997		3808++
TRIAZINE PESTICIDE, SOLID, TOXIC	2763		3808++
TRIBUTYLAMINE	2542		292119
TRIBUTYLPHOSPHANE	3254		293100
TRICHLOROACETIC ACID	1839		291540
TRICHLOROACETIC ACID SOLUTION	2564		291540
TRICHLOROACETYL CHLORIDE	2442		291590
TRICHLOROBENZENES, LIQUID	2321		290369
TRICHLOROBUTENE	2322		290329
1,1,1-TRICHLOROETHANE	2831		290319
TRICHLOROETHYLENE	1710		290322
TRICHLOROISOCYANURIC ACID, DRY	2468		293369
TRICHLOROSILANE	1295		281290
TRICRESYL PHOSPHATE with more than 3% ortho isomer	2574		291990
TRIETHYLAMINE	1296		292119
TRIETHYLENETETRAMINE	2259		292129
TRIETHYL PHOSPHITE	2323		292090
TRIFLUOROACETIC ACID	2699		291590
TRIFLUOROACETYL CHLORIDE	3057		291590
TRIFLUOROCHLOROETHYLENE, STABILIZED	1082		290345
1,1,1-TRIFLUOROETHANE	2035		290339
TRIFLUOROMETHANE	1984		290339
TRIFLUOROMETHANE, REFRIGERATED LIQUID	3136		290339
2-TRIFLUOROMETHYLANILINE	2942		292143
3-TRIFLUOROMETHYLANILINE	2948		292143
TRIISOBUTYLENE	2324		290129
TRIISOPROPYL BORATE	2616		292090
TRIMETHYLACETYL CHLORIDE	2438		291590
TRIMETHYLAMINE, ANHYDROUS	1083		292111
TRIMETHYLAMINE, AQUEOUS SOLUTION, not more than 50% trimethylamine, by mass	1297		292111
1,3,5-TRIMETHYLBENZENE	2325		290290
TRIMETHYL BORATE	2416		292090
TRIMETHYLCHLOROSILANE	1298		293100
TRIMETHYLCYCLO-HEXYLAMINE	2326		292130
TRIMETHYLHEXAMETHYLENEDIAMINES	2327		292129
TRIMETHYLHEXAMETHYLENE DIISOCYANATE	2328		292910
TRIMETHYL PHOSPHITE	2329		292090
TRINITROANILINE	0153		292142
TRINITROANISOLE	0213		290930
TRINITROBENZENE, dry or wetted with less than 30% water, by mass	0214		290420
TRINITROBENZENE, WETTED with not less than 10% water, by mass	3367		290420
TRINITROBENZENE, WETTED with not less than 30% water, by mass	1354		290420
TRINITROBENZENESULPHONIC ACID	0386		290490
TRINITROBENZOIC ACID, dry or wetted with less than 30% water, by mass	0215		291639
TRINITROBENZOIC ACID, WETTED with not less than 10% water, by mass	3368		291639
TRINITROBENZOIC ACID, WETTED with not less than 30% water, by mass	1355		291639
TRINITROCHLOROBENZENE	0155		290490
TRINITROCHLOROBENZENE WETTED with not less than 10% water, by mass	3365		290490
TRINITRO-m-CRESOL	0216		290899
TRINITROFLUORENONE	0387		291470
TRINITRONAPHTHALENE	0217		290420
TRINITROPHENETOLE	0218		290899
TRINITROPHENOL, dry or wetted with less than 30% water, by mass	0154		290899
TRINITROPHENOL WETTED with not less than 10% water, by mass	3364		290899
TRINITROPHENOL, WETTED with not less than 30% water, by mass	1344		290899

Name and description	UN No	Note	NHM Code
TRINITROPHENYLMETHYLNITRAMINE	0208		292149
TRINITRORESORCINOL, dry or wetted with less than 20% water, or mixture of alcohol and water, by mass	0219		290899
TRINITRORESORCINOL, WETTED with not less than 20% water, or mixture of alcohol and water, by mass	0394		290899
TRINITROTOLUENE AND HEXANITROSTILBENE MIXTURE	0388		290420
TRINITROTOLUENE AND TRINITROBENZENE MIXTURE	0388		290420
TRINITROTOLUENE, dry or wetted with less than 30% water, by mass	0209		290420
TRINITROTOLUENE MIXTURE CONTAINING TRINITROBENZENE AND HEXANITROSTILBENE	0389		290420
TRINITROTOLUENE, WETTED with not less than 10% water, by mass	3366		290420
TRINITROTOLUENE, WETTED with not less than 30% water, by mass	1356		290420
TRIPROPYLAMINE	2260		292119
TRIPROPYLENE	2057		290129
TRIS-(1-AZIRIDINYL) PHOSPHINE OXIDE SOLUTION	2501		293399
TRITONAL	0390		360200
TUNGSTEN HEXAFLUORIDE	2196		282619
TURPENTINE	1299		380510
TURPENTINE SUBSTITUTE	1300		272100
UNDECANE	2330		290110
UREA HYDROGEN PEROXIDE	1511		292419
UREA NITRATE, dry or wetted with less than 20% water, by mass	0220		292419
UREA NITRATE, WETTED with not less than 10% water, by mass	3370		292419
UREA NITRATE, WETTED with not less than 20% water, by mass	1357		292419
VALERALDEHYDE	2058		291219
VALERYL CHLORIDE	2502		291590
VANADIUM COMPOUND, N.O.S.	3285		+++++
VANADIUM OXYTRICHLORIDE	2443		282749
VANADIUM PENTOXIDE, non-fused form	2862		282530
VANADIUM TETRACHLORIDE	2444		282739
VANADIUM TRICHLORIDE	2475		282739
VANADYL SULPHATE	2931		283329
Varnish: see	1263		3208++
Varnish: see	3066		3208++
Varnish: see	3469		3208++
Varnish: see	3470		3208++
Vehicle under coating: see	1139		3208++
VINYL ACETATE, STABILIZED	1301		291532
Vinylbenzene: see	2055		290250
VINYL BROMIDE, STABILIZED	1085		290339
VINYL BUTYRATE, STABILIZED	2838		291560
VINYL CHLORIDE, STABILIZED	1086		290321
VINYL CHLOROACETATE	2589		291540
VINYL ETHYL ETHER, STABILIZED	1302		290919
VINYL FLUORIDE, STABILIZED	1860		290339
VINYLDENE CHLORIDE, STABILIZED	1303		290329
VINYL ISOBUTYL ETHER, STABILIZED	1304		290919
VINYL METHYL ETHER, STABILIZED	1087		290919
VINYLPYRIDINES, STABILIZED	3073		293339
VINYLTOLUENES, STABILIZED	2618		290290
VINYLTRICHLOROSILANE	1305		293100
WARHEADS, ROCKET with burster or expelling charge	0370		930690
WARHEADS, ROCKET with burster or expelling charge	0371		930690
WARHEADS, ROCKET with bursting charge	0286		930690
WARHEADS, ROCKET with bursting charge	0287		930690
WARHEADS, ROCKET with bursting charge	0369		930690
WARHEADS, TORPEDO with bursting charge	0221		930690
Wastes containing flammable liquid, n.o.s. having a flash-point up to 60 °C: see	3175		+++++
WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.	3129		+++++
WATER-REACTIVE LIQUID, N.O.S.	3148		+++++
WATER-REACTIVE LIQUID, TOXIC, N.O.S.	3130		+++++
WATER-REACTIVE SOLID, CORROSIVE, N.O.S.	3131		+++++
WATER-REACTIVE SOLID, FLAMMABLE, N.O.S.	3132		+++++
WATER-REACTIVE SOLID, N.O.S.	2813		+++++
WATER-REACTIVE SOLID, OXIDIZING, N.O.S.	3133	Prohibited	
WATER-REACTIVE SOLID, SELF-HEATING, N.O.S.	3135		+++++
WATER-REACTIVE SOLID, TOXIC, N.O.S.	3134		+++++
WHITE ASBESTOS	2590		252490
White spirit: see	1300		272100
WOOD PRESERVATIVES, LIQUID	1306		+++++
Wool waste, wet	1387	Exempt	5++++
XANTHATES	3342		293090
XENON	2036		280429

Name and description	UN No.	Note	NHM Code
XENON, REFRIGERATED LIQUID	2591		280429
XYLENES	1307		29024+ 270730
XYLENOLS, LIQUID	3430		290719
XYLENOLS, SOLID	2261		290719
XYLIDINES, LIQUID	1711		292149
XYLIDINES, SOLID	3452		292149
XYLYL BROMIDE, LIQUID	1701		290369
XYLYL BROMIDE, SOLID	3417		290369
ZINC AMMONIUM NITRITE	1512		283410
ZINC ARSENATE	1712		284290
ZINC ARSENATE AND ZINC ARSENITE MIXTURE	1712		284290
ZINC ARSENITE	1712		284290
ZINC ASHES	1435		262019
ZINC BROMATE	2469		282990
ZINC CHLORATE	1513		282919
ZINC CHLORIDE, ANHYDROUS	2331		282739
ZINC CHLORIDE SOLUTION	1840		282739
ZINC CYANIDE	1713		283719
ZINC DITHIONITE	1931		283190
ZINC DUST	1436		790310
ZINC FLUOROSILICATE	2855		282690
ZINC HYDROSULPHITE	1931		283190
ZINC NITRATE	1514		283429
ZINC PERMANGANATE	1515		284169
ZINC PEROXIDE	1516		281700
ZINC PHOSPHIDE	1714		284800
ZINC POWDER	1436		790310
ZINC RESINATE	2714		380620
ZIRCONIUM, DRY, coiled wire, finished metal sheets, strip (thinner than 254 microns but not thinner than 18 microns)	2858		810990
ZIRCONIUM, DRY, finished sheets, strip or coiled wire	2009		810990
ZIRCONIUM HYDRIDE	1437		285000
ZIRCONIUM NITRATE	2728		283429
ZIRCONIUM PICRAMATE, dry or wetted with less than 20% water, by mass	0236		292229
ZIRCONIUM PICRAMATE, WETTED with not less than 20% water, by mass	1517		292229
ZIRCONIUM POWDER, DRY	2008		810920
ZIRCONIUM POWDER, WETTED with not less than 25% water	1358		810920
ZIRCONIUM SCRAP	1932		810930
ZIRCONIUM SUSPENDED IN A FLAMMABLE LIQUID	1308		810920
ZIRCONIUM TETRACHLORIDE	2503		282739

### Chapter 3.3

#### Special provisions applicable to certain articles or substances

- 3.3.1** When Column (6) of Table A of Chapter 3.2 indicates that a special provision is relevant to a substance or article, the meaning and requirements of that special provision are as set forth below.
- 16** Samples of new or existing explosive substances or articles may be carried as directed by the competent authorities (see 2.2.1.1.3) for purposes including: testing, classification, research and development, quality control, or as a commercial sample. Explosive samples which are not wetted or desensitized shall be limited to 10 kg in small packages as specified by the competent authorities. Explosive samples which are wetted or desensitized shall be limited to 25 kg.
- 23** Even though this substance has a flammability hazard, it only exhibits such hazard under extreme fire conditions in confined areas.
- 32** This substance is not subject to the requirements of RID when in any other form.
- 37** This substance is not subject to the requirements of RID when coated.
- 38** This substance is not subject to the requirements of RID when it contains not more than 0.1% calcium carbide.
- 39** This substance is not subject to the requirements of RID when it contains less than 30% or not less than 90% silicon.
- 43** When offered for carriage as pesticides, these substances shall be carried under the relevant pesticide entry and in accordance with the relevant pesticide provisions (see 2.2.61.1.10 to 2.2.61.1.11.2).
- 45** Antimony sulphides and oxides which contain not more than 0.5% of arsenic calculated on the total mass are not subject to the requirements of RID.
- 47** Ferricyanides and ferrocyanides are not subject to the requirements of RID.
- 48** The carriage of this substance, when it contains more than 20% hydrocyanic acid, is prohibited.
- 59** These substances are not subject to the requirements of RID when they contain not more than 50% magnesium.
- 60** If the concentration is more than 72%, the carriage of this substance is prohibited.
- 61** The technical name which shall supplement the proper shipping name shall be the ISO common name (see also ISO 1750:1981 "*Pesticides and other agrochemicals - common names*", as amended), other name listed in the WHO "*Recommended Classification of Pesticides by Hazard and Guidelines to Classification*" or the name of the active substance (see also 3.1.2.8.1 and 3.1.2.8.1.1).
- 62** This substance is not subject to the requirements of RID when it contains not more than 4% sodium hydroxide.
- 65** Hydrogen peroxide aqueous solutions with less than 8% hydrogen peroxide are not subject to the requirements of RID.
- 103** The carriage of ammonium nitrites and mixtures of an inorganic nitrite with an ammonium salt is prohibited.
- 105** Nitrocellulose meeting the descriptions of UN No. 2556 or UN No. 2557 may be classified in Class 4.1.
- 113** The carriage of chemically unstable mixtures is prohibited.
- 119** Refrigerating machines include machines or other appliances which have been designed for the specific purpose of keeping food or other items at a low temperature in an internal compartment, and air conditioning units. Refrigerating machines and refrigerating machine components are not subject to the provisions of RID if they contain less than 12 kg of gas in Class 2, group A or O according to 2.2.2.1.3, or if they contain less than 12 litres ammonia solution (UN No. 2672).
- 122** The subsidiary risks, control and emergency temperatures if any, and the UN number (generic entry) for each of the currently assigned organic peroxide formulations are given in 2.2.52.4.
- 127** Other inert material or inert material mixture may be used, provided this inert material has identical phlegmatizing properties.

- 131 The phlegmatized substance shall be significantly less sensitive than dry PETN.
- 135 The dihydrated sodium salt of dichloroisocyanuric acid is not subject to the requirements of RID.
- 138 p-Bromobenzyl cyanide is not subject to the requirements of RID.
- 141 Products which have undergone sufficient heat treatment so that they present no hazard during carriage are not subject to the requirements of RID.
- 142 Solvent extracted soya bean meal containing not more than 1.5% oil and 11% moisture, which is substantially free of flammable solvent, is not subject to the requirements of RID.
- 144 An aqueous solution containing not more than 24% alcohol by volume is not subject to the requirements of RID.
- 145 Alcoholic beverages of packing group III, when carried in receptacles of 250 litres or less, are not subject to the requirements of RID.
- 152 The classification of this substance will vary with particle size and packaging, but borderlines have not been experimentally determined. Appropriate classifications shall be made in accordance with 2.2.1.
- 153 This entry applies only if it is demonstrated, on the basis of tests, that the substances when in contact with water are not combustible nor show a tendency to auto-ignition and that the mixture of gases evolved is not flammable.
- 162 (Deleted)
- 163 A substance mentioned by name in Table A of Chapter 3.2 shall not be carried under this entry. Substances carried under this entry may contain 20% or less nitrocellulose provided the nitrocellulose contains not more than 12.6% nitrogen (by dry mass).
- 168 Asbestos which is immersed or fixed in a natural or artificial binder (such as cement, plastics, asphalt, resins or mineral ore) in such a way that no escape of hazardous quantities of respirable asbestos fibres can occur during carriage is not subject to the requirements of RID. Manufactured articles containing asbestos and not meeting this provision are nevertheless not subject to the requirements of RID when packed so that no escape of hazardous quantities of respirable asbestos fibres can occur during carriage.
- 169 Phthalic anhydride in the solid state and tetrahydrophthalic anhydrides, with not more than 0.05% maleic anhydride, are not subject to the requirements of RID. Phthalic anhydride molten at a temperature above its flash-point, with not more than 0.05% maleic anhydride, shall be classified under UN No. 3256.
- 172 For radioactive material with a subsidiary risk:
- (a) The packages shall be labelled with a label corresponding to each subsidiary risk exhibited by the material; corresponding placards shall be affixed to wagons or large containers in accordance with the relevant provisions of 5.3.1;
  - (b) The radioactive material shall be allocated to packing groups I, II or III, as and if appropriate, by application of the grouping criteria provided in Part 2 corresponding to the nature of the predominant subsidiary risk.
- The description required in 5.4.1.2.5.1 (b) shall include a description of these subsidiary risks (e.g. "SUBSIDIARY RISK: 3, 6.1"), the name of the constituents which most predominantly contribute to this (these) subsidiary risk(s), and where applicable, the packing group.
- 177 Barium sulphate is not subject to the requirements of RID.
- 178 This designation shall be used only when no other appropriate designation exists in Table A of Chapter 3.2, and only with the approval of the competent authority of the country of origin (see 2.2.1.1.3).
- 181 Packages containing this type of substance shall bear a label conforming to model No. 1 (see 5.2.2.2.2) unless the competent authority of the country of origin has permitted this label to be dispensed with for the specific packaging employed because test data have proved that the substance in this packaging does not exhibit explosive behaviour (see 5.2.2.1.9).
- 182 The group of alkali metals includes lithium, sodium, potassium, rubidium and caesium.
- 183 The group of alkaline earth metals includes magnesium, calcium, strontium and barium.
- 186 In determining the ammonium nitrate content, all nitrate ions for which a molecular equivalent of ammonium ions is present in the mixture shall be calculated as ammonium nitrate.



**188** Cells and batteries offered for carriage are not subject to other provisions of RID if they meet the following:

- (a) For a lithium metal or lithium alloy cell, the lithium content is not more than 1 g, and for a lithium-ion cell, the Watt-hour rating is not more than 20 Wh;
- (b) For a lithium metal or lithium alloy battery the aggregate lithium content is not more than 2 g, and for a lithium-ion battery, the Watt-hour rating is not more than 100 Wh. Lithium ion batteries subject to this provision shall be marked with the Watt-hour rating on the outside case, except those manufactured before 1 January 2009 which may be carried in accordance with this special provision and without this marking until 31 December 2010;
- (c) Each cell or battery is of the type proved to meet the requirements of each test in the Manual of Tests and Criteria, Part III, sub-section 38.3;
- (d) Cells and batteries, except when installed in equipment, shall be packed in inner packagings that completely enclose the cell or battery. Cells and batteries shall be protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to a short circuit. The inner packagings shall be packed in strong outer packagings which conform to the provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.5;
- (e) Cells and batteries when installed in equipment shall be protected from damage and short circuit, and the equipment shall be equipped with an effective means of preventing accidental activation. When batteries are installed in equipment, the equipment shall be packed in strong outer packagings constructed of suitable material of adequate strength and design in relation to the packaging's capacity and its intended use unless the battery is afforded equivalent protection by the equipment in which it is contained;
- (f) Except for packages containing no more than four cells installed in equipment or no more than two batteries installed in equipment, each package shall be marked with the following:
  - (i) an indication that the package contains "LITHIUM METAL" or "LITHIUM ION" cells or batteries, as appropriate;
  - (ii) an indication that the package shall be handled with care and that a flammability hazard exists if the package is damaged;
  - (iii) an indication that special procedures shall be followed in the event the package is damaged, to include inspection and repacking if necessary; and
  - (iv) a telephone number for additional information;
- (g) Each consignment of one or more packages marked in accordance with paragraph (f) shall be accompanied with a document including the following:
  - (i) an indication that the package contains "LITHIUM METAL" or "LITHIUM ION" cells or batteries, as appropriate;
  - (ii) an indication that the package shall be handled with care and that a flammability hazard exists if the package is damaged;
  - (iii) an indication that special procedures shall be followed in the event the package is damaged, to include inspection and repacking if necessary; and
  - (iv) a telephone number for additional information;
- (h) Except when batteries are installed in equipment, each package shall be capable of withstanding a 1.2 m drop test in any orientation without damage to cells or batteries contained therein, without shifting of the contents so as to allow battery to battery (or cell to cell) contact and without release of contents; and
- (i) Except when batteries are installed in or packed with equipment, packages shall not exceed 30 kg gross mass.

As used above and elsewhere in RID, "lithium content" means the mass of lithium in the anode of a lithium metal or lithium alloy cell.

Separate entries exist for lithium metal batteries and lithium ion batteries to facilitate the carriage of these batteries for specific modes of carriage and to enable the application of different emergency response actions.

- 190** Aerosol dispensers shall be provided with protection against inadvertent discharge. Aerosols with a capacity not exceeding 50 ml containing only non-toxic constituents are not subject to the requirements of RID.
- 191** Receptacles, small, with a capacity not exceeding 50 ml, containing only non-toxic constituents are not subject to the requirements of RID.
- 194** The UN number (generic entry) for each of the currently assigned self-reactive substances is given in 2.2.41.4.



- 196 Formulations which in laboratory testing neither detonate in the cavitated state nor deflagrate, which show no effect when heated under confinement and which exhibit no explosive power may be carried under this entry. The formulation must also be thermally stable (i.e. the SADT is 60 °C or higher for a 50 kg package). Formulations not meeting these criteria shall be carried under the provisions of Class 5.2, (see 2.2.52.4).
- 198 Nitrocellulose solutions containing not more than 20% nitrocellulose may be carried as paint or printing ink, as applicable (see UN Nos. 1210, 1263, 3066, 3469 and 3470).
- 199 Lead compounds which, when mixed in a ratio of 1:1000 with 0.07M hydrochloric acid and stirred for one hour at a temperature of 23 °C ± 2 °C, exhibit a solubility of 5% or less (see ISO 3711:1990 "Lead chromate pigments and lead chromate – molybdate pigments – Specifications and methods of test") are considered insoluble and are not subject to the requirements of RID unless they meet the criteria for inclusion in another class.
- 201 Lighters and lighter refills shall comply with the provisions of the country in which they were filled. They shall be provided with protection against inadvertent discharge. The liquid portion of the gas shall not exceed 85% of the capacity of the receptacle at 15 °C. The receptacles, including the closures, shall be capable of withstanding an internal pressure of twice the pressure of the liquefied petroleum gas at 55 °C. The valve mechanisms and ignition devices shall be securely sealed, taped or otherwise fastened or designed to prevent operation or leakage of the contents during carriage. Lighters shall not contain more than 10 g of liquefied petroleum gas. Lighter refills shall not contain more than 65 g of liquefied petroleum gas.
- NOTE:** For waste lighters collected separately see Chapter 3.3, special provision 654.
- 203 This entry shall not be used for polychlorinated biphenyls, liquid, UN No. 2315 and polychlorinated biphenyls, solid, UN No. 3432.
- 204 (Deleted)
- 205 This entry shall not be used for UN No. 3155 PENTACHLOROPHENOL.
- 207 Polymeric beads and moulding compounds may be made from polystyrene, poly(methyl methacrylate) or other polymeric material.
- 208 The commercial grade of calcium nitrate fertilizer, when consisting mainly of a double salt (calcium nitrate and ammonium nitrate) containing not more than 10% ammonium nitrate and at least 12% water of crystallization, is not subject to the requirements of RID.
- 210 Toxins from plant, animal or bacterial sources which contain infectious substances, or toxins that are contained in infectious substances, shall be classified in Class 6.2.
- 215 This entry only applies to the technically pure substance or to formulations derived from it having an SADT higher than 75 °C and therefore does not apply to formulations which are self-reactive substances (for self-reactive substances, see 2.2.41.4).
- Homogeneous mixtures containing not more than 35% by mass of azodicarbonamide and at least 65% of inert substance are not subject to the requirements of RID unless criteria of other classes are met.
- 216 Mixtures of solids which are not subject to the requirements of RID and flammable liquids may be carried under this entry without first applying the classification criteria of Class 4.1, provided there is no free liquid visible at the time the substance is loaded or at the time the packaging, wagon or container is closed. Sealed packets and articles containing less than 10 ml of a packing group II or III flammable liquid absorbed into a solid material are not subject to RID provided there is no free liquid in the packet or article.
- 217 Mixtures of solids which are not subject to the requirements of RID and toxic liquids may be carried under this entry without first applying the classification criteria of Class 6.1, provided there is no free liquid visible at the time the substance is loaded or at the time the packaging, wagon or container is closed. This entry shall not be used for solids containing a packing group I liquid.
- 218 Mixtures of solids which are not subject to the requirements of RID and corrosive liquids may be carried under this entry without first applying the classification criteria of Class 8, provided there is no free liquid visible at the time the substance is loaded or at the time the packaging, wagon or container is closed.
- 219 Genetically modified microorganisms and genetically modified organisms which meet the definition of an infectious substance and the criteria for inclusion in Class 6.2 in accordance with section 2.2.62 shall be carried as UN Nos. 2814, UN No. 2900 or UN No. 3373, as appropriate.
- 220 Only the technical name of the flammable liquid component of this solution or mixture shall be shown in parentheses immediately following the proper shipping name.

- 221 Substances included under this entry shall not be of packing group I.
- 224 Unless it can be demonstrated by testing that the sensitivity of the substance in its frozen state is no greater than in its liquid state, the substance shall remain liquid during normal transport conditions. It shall not freeze at temperatures above -15 °C.
- 225 Fire extinguishers under this entry may include installed actuating cartridges (cartridges, power device of classification code 1.4C or 1.4S), without changing the classification of Class 2, group A or O according to 2.2.2.1.3 provided the total quantity of deflagrating (propellant) explosives does not exceed 3.2 g per extinguishing unit.
- 226 Formulations of this substance containing not less than 30% non-volatile, non-flammable phlegmatizer are not subject to the requirements of RID.
- 227 When phlegmatized with water and inorganic inert material the content of urea nitrate may not exceed 75% by mass and the mixture shall not be capable of being detonated by the Series 1, type (a), test in the Manual of Tests and Criteria, Part 1.
- 228 Mixtures not meeting the criteria for flammable gases (see 2.2.2.1.5) shall be carried under UN No. 3163.
- 230 This entry applies to cells and batteries containing lithium in any form, including lithium polymer and lithium ion cells and batteries.
- Lithium cells and batteries may be carried under this entry if they meet the following provisions:
- (a) Each cell or battery is of the type proved to meet the requirements of each test of the Manual of Tests and Criteria, Part III, sub-section 38.3;
  - (b) Each cell and battery incorporates a safety venting device or is designed to preclude a violent rupture under normal conditions of carriage;
  - (c) Each cell and battery is equipped with an effective means of preventing external short circuits;
  - (d) Each battery containing cells or series of cells connected in parallel is equipped with effective means as necessary to prevent dangerous reverse current flow (e.g. diodes, fuses, etc.).
- 235 This entry applies to articles which contain Class 1 explosive substances and which may also contain dangerous goods of other classes. These articles are used as life-saving vehicle air bag inflators or air bag modules or seat-belt pretensioners.
- 236 Polyester resin kits consist of two components: a base material (Class 3, packing group II or III) and an activator (organic peroxide). The organic peroxide shall be type D, E or F, not requiring temperature control. Packing group shall be II or III, according to the criteria for Class 3, applied to the base material. The quantity limit referred to in column (7a) of Table A of Chapter 3.2 applies to the base material.
- 237 The membrane filters, including paper separators, coating or backing materials, etc., that are present in carriage, shall not be liable to propagate a detonation as tested by one of the tests described in the Manual of Tests and Criteria, Part I, Test series 1 (a).

In addition the competent authority may determine, on the basis of the results of suitable burning rate tests taking account of the standard tests in the Manual of Tests and Criteria, Part III, sub-section 33.2.1, that nitrocellulose membrane filters in the form in which they are to be carried are not subject to the requirements applicable to flammable solids in Class 4.1.

- 238 (a) Batteries can be considered as non-spillable, provided that they are capable of withstanding the vibration and pressure differential tests given below, without leakage of battery fluid.
- Vibration test:** The battery is rigidly clamped to the platform of a vibration machine and a simple harmonic motion having an amplitude of 0.8 mm (1.6 mm maximum total excursion) is applied. The frequency is varied at the rate of 1 Hz/min between the limits of 10 Hz and 55 Hz. The entire range of frequencies and return is traversed in  $95 \pm 5$  minutes for each mounting position (direction of vibration) of the battery. The battery is tested in three mutually perpendicular positions (to include testing with fill openings and vents, if any, in an inverted position) for equal time periods.
- Pressure differential test:** Following the vibration test, the battery is stored for six hours at  $24\text{ °C} \pm 4\text{ °C}$  while subjected to a pressure differential of at least 88 kPa. The battery is tested in three mutually perpendicular positions (to include testing with fill openings and vents, if any, in an inverted position) for at least six hours in each position.
- (b) Non-spillable batteries are not subject to the requirements of RID if, at a temperature of 55 °C, the electrolyte will not flow from a ruptured or cracked case and there is no free liquid to flow and if, as packaged for carriage, the terminals are protected from short circuit.
- 239 Batteries or cells shall not contain dangerous substances other than sodium, sulphur and/or polysulphides. Batteries or cells shall not be offered for carriage at a temperature such that liquid elemental sodium is present in the battery or cell unless approved and under the conditions established by the compe-

tent authority of the country of origin. If the country of origin is not a COTIF Member State, the approval and conditions of carriage shall be recognized by the competent authority of the first COTIF Member State reached by the consignment.

Cells shall consist of hermetically sealed metal casings which fully enclose the dangerous substances and which are so constructed and closed as to prevent the release of the dangerous substances under normal conditions of carriage.

Batteries shall consist of cells secured within and fully enclosed by a metal casing so constructed and closed as to prevent the release of the dangerous substances under normal conditions of carriage.

- 241** The formulation shall be prepared so that it remains homogeneous and does not separate during carriage. Formulations with low nitrocellulose contents and not showing dangerous properties when tested for their liability to detonate, deflagrate or explode when heated under defined confinement by tests of Test series 1 (a), 2 (b) and 2 (c) respectively in the Manual of Tests and Criteria, Part I and not being a flammable solid when tested in accordance with test No. 1 in the Manual of Tests and Criteria, Part III, sub-section 33.2.1.4 (chips, if necessary, crushed and sieved to a particle size of less than 1.25 mm) are not subject to the requirements of RID.
- 242** Sulphur is not subject to the requirements of RID when it has been formed to a specific shape (e.g. prills, granules, pellets, pastilles or flakes).
- 243** Gasoline, motor spirit and petrol for use in spark-ignition engines (e.g. in automobiles, stationary engines and other engines) shall be assigned to this entry regardless of variations in volatility.
- 244** This entry includes e.g. aluminium dross, aluminium skimmings, spent cathodes, spent potliner, and aluminium salt slags.
- 247** Alcoholic beverages containing more than 24% alcohol but not more than 70% by volume, when carried as part of the manufacturing process, may be carried in wooden barrels with a capacity of more than 250 litres and not more than 500 litres meeting the general requirements of 4.1.1, as appropriate, on the following conditions:
- (a) The wooden barrels shall be checked and tightened before filling;
  - (b) Sufficient ullage (not less than 3%) shall be left to allow for the expansion of the liquid;
  - (c) The wooden barrels shall be carried with the bungholes pointing upwards;
  - (d) The wooden barrels shall be carried in containers meeting the requirements of the CSC. Each wooden barrel shall be secured in custom-made cradles and be wedged by appropriate means to prevent it from being displaced in any way during carriage.
- 249** Ferrocium, stabilized against corrosion, with a minimum iron content of 10% is not subject to the requirements of RID.
- 250** This entry may only be used for samples of chemicals taken for analysis in connection with the implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction. The carriage of substances under this entry shall be in accordance with the chain of custody and security procedures specified by the Organisation for the Prohibition of Chemical Weapons.
- The chemical sample may only be carried providing prior approval has been granted by the competent authority or the Director General of the Organisation for the Prohibition of Chemical Weapons and providing the sample complies with the following provisions:
- (a) It shall be packed according to packing instruction 623 in the ICAO Technical Instructions (see S-3-8 of the Supplement); and
  - (b) During carriage, a copy of the document of approval for transport, showing the quantity limitations and the packing provisions shall be attached to the transport document.
- 251** The entry CHEMICAL KIT or FIRST AID KIT is intended to apply to boxes, cases etc. containing small quantities of various dangerous goods which are used for example for medical, analytical, testing or repair purposes. Such kits may not contain dangerous goods for which the code "LQ0" has been indicated in column (7a) of Table A of Chapter 3.2.

Components shall not react dangerously (see "dangerous reaction" in 1.2.1). The total quantity of dangerous goods in any one kit shall not exceed either 1 l or 1 kg. The packing group assigned to the kit as a whole shall be the most stringent packing group assigned to any individual substance in the kit.

Kits which are carried on board wagons for first-aid or operating purposes are not subject to the requirements of RID.

Chemical kits and first aid kits containing dangerous goods in inner packagings which do not exceed the quantity limits for limited quantities applicable to individual substances as specified in column (7a) of Ta-

ble A of Chapter 3.2 in accordance with the LQ code defined in 3.4.6 may be carried in accordance with Chapter 3.4.

- 252** Provided the ammonium nitrate remains in solution under all conditions of carriage, aqueous solutions of ammonium nitrate, with not more than 0.2% combustible material, in a concentration not exceeding 80%, are not subject to the requirements of RID.
- 266** This substance, when containing less alcohol, water or phlegmatizer than specified, shall not be carried unless specifically authorized by the competent authority (see 2.2.1.1).
- 267** Any explosives, blasting, type C containing chlorates shall be segregated from explosives containing ammonium nitrate or other ammonium salts.
- 270** Aqueous solutions of Class 5.1 inorganic solid nitrate substances are considered as not meeting the criteria of Class 5.1 if the concentration of the substances in solution at the minimum temperature encountered during carriage is not greater than 80% of the saturation limit.
- 271** Lactose or glucose or similar materials, may be used as a phlegmatizer, provided that the substance contains not less than 90%, by mass, of phlegmatizer. The competent authority may authorize these mixtures to be classified in Class 4.1 on the basis of a test Series 6 (c) of Section 16 of Part I of the Manual of Tests and Criteria on at least three packages as prepared for carriage. Mixtures containing at least 98%, by mass, of phlegmatizer are not subject to the requirements of RID. Packages containing mixtures with not less than 90%, by mass, of phlegmatizer need not bear a label conforming to model No. 6.1.
- 272** This substance shall not be carried under the provisions of Class 4.1 unless specifically authorized by the competent authority (see UN No. 0143).
- 273** Maneb and maneb preparations stabilized against self-heating need not be classified in Class 4.2 when it can be demonstrated by testing that a cubic volume of 1 m<sup>3</sup> of substance does not self-ignite and that the temperature at the centre of the sample does not exceed 200 °C, when the sample is maintained at a temperature of not less than 75 °C ± 2 °C for a period of 24 hours.
- 274** The provisions of 3.1.2.8 apply.
- 278** These substances shall not be classified and carried unless authorized by the competent authority on the basis of results from Series 2 tests and a Series 6 (c) test of Part I of the Manual of Tests and Criteria on packages as prepared for carriage (see 2.2.1.1). The competent authority shall assign the packing group on the basis of 2.2.3 criteria and the package type used for the Series 6 (c) test.
- 279** The substance is assigned to this classification or packing group based on human experience rather than the strict application of classification criteria set out in RID.
- 280** This entry applies to articles which are used as life-saving vehicle air bag inflators, or air bag modules or seat-belt pretensioners and which contain dangerous goods of Class 1 or dangerous goods of other classes and when carried as component parts and when these articles as presented for carriage have been tested in accordance with Test series 6 (c) of Part I of the Manual of Tests and Criteria, with no explosion of the device, no fragmentation of device casing or pressure vessel, and no projection hazard nor thermal effect which would significantly hinder fire-fighting or other emergency response efforts in the immediate vicinity.
- 282** (Deleted)
- 283** Articles, containing gas, intended to function as shock absorbers, including impact energy-absorbing devices, or pneumatic springs are not subject to the requirements of RID provided:
- Each article has a gas space capacity not exceeding 1.6 litres and a charge pressure not exceeding 280 bar where the product of the capacity (litres) and charge pressure (bars) does not exceed 80 (i.e. 0.5 litres gas space and 160 bar charge pressure, 1 litre gas space and 80 bar charge pressure, 1.6 litres gas space and 50 bar charge pressure, 0.28 litres gas space and 280 bar charge pressure);
  - Each article has a minimum burst pressure of 4 times the charge pressure at 20 °C for products not exceeding 0.5 litres gas space capacity and 5 times charge pressure for products greater than 0.5 litres gas space capacity;
  - Each article is manufactured from material which will not fragment upon rupture;
  - Each article is manufactured in accordance with a quality assurance standard acceptable to the competent authority; and
  - The design type has been subjected to a fire test demonstrating that the article relieves its pressure by means of a fire degradable seal or other pressure relief device, such that the article will not fragment and that the article does not rocket.

See also 1.1.3.2 (d) for equipment used for the operation of the vehicle.

- 284** An oxygen generator, chemical, containing oxidizing substances shall meet the following conditions:
- (a) The generator when containing an explosive actuating device shall only be carried under this entry when excluded from Class 1 in accordance with the NOTE under paragraph 2.2.1.1.1 (b);
  - (b) The generator, without its packaging, shall be capable of withstanding a 1.8 m drop test onto a rigid, non-resilient, flat and horizontal surface, in the position most likely to cause damage, without loss of its contents and without actuation;
  - (c) When a generator is equipped with an actuating device, it shall have at least two positive means of preventing unintentional actuation.
- 286** Nitrocellulose membrane filters covered by this entry, each with a mass not exceeding 0.5 g, are not subject to the requirements of RID when contained individually in an article or a sealed packet.
- 288** These substances shall not be classified and carried unless authorized by the competent authority on the basis of results from Series 2 tests and a Series 6 (c) test of Part I of the Manual of tests and Criteria on packages as prepared for carriage (see 2.2.1.1).
- 289** Air bag inflators, air bag modules or seat-belt pretensioners installed in conveyances or in completed conveyance components such as steering columns, door panels, seats, etc. are not subject to the requirements of RID.
- 290** When this material meets the definitions and criteria of other classes as defined in Part 2, it shall be classified in accordance with the predominant subsidiary risk. Such material shall be declared under the proper shipping name and UN number appropriate for the material in that predominant class, with the addition of the name applicable to this material according to Column (2) of Table A of Chapter 3.2, and shall be carried in accordance with the provisions applicable to that UN number. In addition, all other requirements specified in 1.7.1.5 shall apply, except 5.2.1.7.2.
- 291** Flammable liquefied gases shall be contained within refrigerating machine components. These components shall be designed and tested to at least three times the working pressure of the machinery. The refrigerating machines shall be designed and constructed to contain the liquefied gas and preclude the risk of bursting or cracking of the pressure retaining components during normal conditions of carriage. Refrigerating machines and refrigerating-machine components are not subject to the requirements of RID if they contain less than 12 kg of gas.
- 292** Mixtures containing not more than 23.5% oxygen by volume may be carried under this entry when no other oxidizing gases are present. A label conforming to model No. 5.1 is not required for any concentrations within this limit.
- 293** The following definitions apply to matches:
- (a) Fusee matches are matches the heads of which are prepared with a friction-sensitive igniter composition and a pyrotechnic composition which burns with little or no flame, but with intense heat;
  - (b) Safety matches are matches which are combined with or attached to the box, book or card that can be ignited by friction only on a prepared surface;
  - (c) Strike anywhere matches are matches that can be ignited by friction on a solid surface;
  - (d) Wax Vesta matches are matches that can be ignited by friction either on a prepared surface or on a solid surface.
- 295** Batteries need not be individually marked and labelled if the pallet bears the appropriate mark and label.
- 296** These entries apply to life-saving appliances such as life rafts, personal flotation devices and self-inflating slides. UN No. 2990 applies to self-inflating appliances and UN No. 3072 applies to life-saving appliances that are not self-inflating. Life-saving appliances may contain:
- (a) Signal devices (Class 1) which may include smoke and illumination signal flares packed in packagings that prevent them from being inadvertently activated;
  - (b) For UN No. 2990 only, cartridges, power device of Division 1.4, compatibility group S, may be contained for purposes of the self-inflating mechanism and provided that the quantity of explosives per appliance does not exceed 3.2 g;
  - (c) Class 2 compressed gases, group A or O, according to 2.2.2.1.3;
  - (d) Electric storage batteries (Class 8) and lithium batteries (Class 9);
  - (e) First aid kits or repair kits containing small quantities of dangerous goods (e.g. substances of Class 3, 4.1, 5.2, 8 or 9); or
  - (f) "Strike anywhere" matches packed in packagings that prevent them from being inadvertently activated.
- 298** (Deleted)

- 300** Fish meal or fish scrap shall not be loaded if the temperature at the time of loading exceeds 35 °C or 5 °C above the ambient temperature whichever is higher.
- 302** In the proper shipping name, the word "UNIT" means:  
a wagon;  
a container; or  
a tank.
- Fumigated wagons, containers and tanks are only subject to the provisions of 5.5.2.
- 303** Receptacles shall be assigned to the classification code of the gas or mixture of gases contained therein determined in accordance with the provisions of section 2.2.2.
- 304** Batteries, dry, containing corrosive electrolyte which will not flow out of the battery if the battery case is cracked are not subject to the requirements of RID provided the batteries are securely packed and protected against short-circuits. Examples of such batteries are: alkali-manganese, zinc-carbon, nickel-metal hydride and nickel-cadmium batteries.
- 305** These substances are not subject to the requirements of RID when in concentrations of not more than 50 mg/kg.
- 306** This entry may only be used for substances that do not exhibit explosive properties of Class 1 when tested in accordance to Test Series 1 and 2 of Class 1 (see Manual of Tests and Criteria, Part I).
- 307** This entry may only be used for uniform mixtures containing ammonium nitrate as the main ingredient within the following composition limits:
- (a) Not less than 90% ammonium nitrate with not more than 0.2% total combustible/organic material calculated as carbon and with added matter, if any, which is inorganic and inert towards ammonium nitrate; or
  - (b) Less than 90% but more than 70% ammonium nitrate with other inorganic materials or more than 80% but less than 90% ammonium nitrate mixed with calcium carbonate and/or dolomite and/or mineral calcium sulphate and not more than 0.4% total combustible/organic material calculated as carbon; or
  - (c) Nitrogen type ammonium nitrate based fertilizers containing mixtures of ammonium nitrate and ammonium sulphate with more than 45% but less than 70% ammonium nitrate and not more than 0.4% total combustible/organic material calculated as carbon such that the sum of the percentage compositions of ammonium nitrate and ammonium sulphate exceeds 70%.
- 309** This entry applies to non sensitized emulsions, suspensions and gels consisting primarily of a mixture of ammonium nitrate and fuel, intended to produce a Type E blasting explosive only after further processing prior to use.
- The mixture for emulsions typically has the following composition: 60-85% ammonium nitrate, 5-30% water, 2-8% fuel, 0.5-4% emulsifier agent, 0-10% soluble flame suppressants, and trace additives. Other inorganic nitrate salts may replace part of the ammonium nitrate.
- The mixture for suspensions and gels typically has the following composition: 60-85% ammonium nitrate, 0-5% sodium or potassium perchlorate, 0-17% hexamine nitrate or monomethylamine nitrate, 5-30% water, 2-15% fuel, 0.5-4% thickening agent, 0-10% soluble flame suppressants, and trace additives. Other inorganic nitrate salts may replace part of the ammonium nitrate.
- Substances shall satisfactorily pass Test Series 8 of the Manual of Tests and Criteria, Part I, Section 18 and be approved by the competent authority.
- 310** The testing requirements in sub-section 38.3 of the Manual of Tests and Criteria do not apply to production runs consisting of not more than 100 cells and batteries, or to pre-production prototypes of cells and batteries when these prototypes are carried for testing, if:
- (a) the cells and batteries are carried in an outer packaging that is a metal, plastics or plywood drum or a metal, plastics or wooden box and that meets the criteria for packing group I; and
  - (b) each cell and battery is individually packed in an inner packaging inside an outer packaging and is surrounded by cushioning material that is non-combustible, and non-conductive.
- 311** Substances shall not be carried under this entry unless approved by the competent authority on the basis of the results of appropriate tests according to Part I of the Manual of Tests and Criteria. Packaging shall ensure that the percentage of diluent does not fall below that stated in the competent authority approval, at any time during carriage.



- 313 Substances and mixtures meeting the criteria for Class 8 shall bear a subsidiary risk label conforming to model No. 8 (see 5.2.2.2.2).
- 314 (a) These substances are liable to exothermic decomposition at elevated temperatures. Decomposition can be initiated by heat or by impurities (e.g. powdered metals (iron, manganese, cobalt, magnesium) and their compounds);  
(b) During the course of carriage, these substances shall be shaded from direct sunlight and all sources of heat and be placed in adequately ventilated areas.
- 315 This entry shall not be used for Class 6.1 substances which meet the inhalation toxicity criteria for packing group I described in 2.2.61.1.8.
- 316 This entry applies only to calcium hypochlorite, dry, when carried in non friable tablet form.
- 317 "Fissile-excepted" applies only to those packages complying with 6.4.11.2.
- 318 For the purposes of documentation, the proper shipping name shall be supplemented with the technical name (see 3.1.2.8). When the infectious substances to be carried are unknown, but suspected of meeting the criteria for inclusion in Category A and assignment to UN No. 2814 or 2900, the words "suspected Category A infectious substance" shall be shown, in parentheses, following the proper shipping name on the transport document.
- 319 Substances packed and packages marked in accordance with packing instruction P650 are not subject to any other requirements of RID.
- 320 (Deleted)
- 321 These storage systems shall always be considered as containing hydrogen.
- 322 When carried in non-friable tablet form, these goods are assigned to packing group III.
- 323 (Reserved)
- 324 This substance needs to be stabilized when in concentrations of not more than 99%.
- 325 In the case of non-fissile or fissile excepted uranium hexafluoride, the material shall be classified under UN No. 2978.
- 326 In the case of fissile uranium hexafluoride, the material shall be classified under UN No. 2977.
- 327 Waste aerosols consigned in accordance with 5.4.1.1.3 may be carried under this entry for the purposes of reprocessing or disposal. They need not be protected against inadvertent discharge, provided that measures to prevent dangerous build up of pressure and dangerous atmospheres are addressed. Waste aerosols, other than those leaking or severely deformed, shall be packed in accordance with packing instruction P003 and special provision PP87, or packing instruction LP02 and special packing provision L2. Leaking or severely deformed aerosols shall be carried in salvage packagings provided appropriate measures are taken to ensure there is no dangerous build up of pressure.
- NOTE:** For maritime carriage, waste aerosols shall not be carried in closed containers.
- 328 This entry applies to fuel cell cartridges including when contained in equipment or packed with equipment. Fuel cell cartridges installed in or integral to a fuel cell system are regarded as contained in equipment. Fuel cell cartridge means an article that stores fuel for discharge into the fuel cell through (a) valve(s) that control(s) the discharge of fuel into the fuel cell. Fuel cell cartridges, including when contained in equipment, shall be designed and constructed to prevent fuel leakage under normal conditions of carriage.
- Fuel cell cartridge design types using liquids as fuels shall pass an internal pressure test at a pressure of 100 kPa (gauge) without leakage.
- Except for fuel cell cartridges containing hydrogen in metal hydride which shall be in compliance with special provision 339, each fuel cell cartridge design type shall be shown to pass a 1.2 meter drop test onto an unyielding surface in the orientation most likely to result in failure of the containment system with no loss of contents.
- 329 (Reserved)
- 330 (Deleted)
- 331 (Reserved)
- 332 Magnesium nitrate hexahydrate is not subject to the requirements of RID.

- 333** Ethanol and gasoline, motor spirit or petrol mixtures for use in spark-ignition engines (e.g. in automobiles, stationary engines and other engines) shall be assigned to this entry regardless of variations in volatility.
- 334** A fuel cell cartridge may contain an activator provided it is fitted with two independent means of preventing unintended mixing with the fuel during carriage.
- 335** Mixtures of solids which are not subject to the requirements of RID and environmentally hazardous liquids or solids shall be classified as UN 3077 and may be carried under this entry provided there is no free liquid visible at the time the substance is loaded or at the time the packaging or wagon or container is closed. Each wagon or container shall be leakproof when used for carriage in bulk. If free liquid is visible at the time the mixture is loaded or at the time the packaging or wagon or container is closed, the mixture shall be classified as UN 3082. Sealed packets and articles containing less than 10 ml of an environmentally hazardous liquid, absorbed into a solid material but with no free liquid in the packet or article, or containing less than 10 g of an environmentally hazardous solid, are not subject to the requirements of RID.
- 336** A single package of non-combustible solid LSA-II or LSA-III material, if carried by air, shall not contain an activity greater than 3 000 A<sub>2</sub>.
- 337** Type B(U) and Type B(M) packages, if carried by air, shall not contain activities greater than the following:
- (a) For low dispersible radioactive material: as authorized for the package design as specified in the certificate of approval;
  - (b) For special form radioactive material: 3 000 A<sub>1</sub> or 100 000 A<sub>2</sub>, whichever is the lower; or
  - (c) For all other radioactive material: 3 000 A<sub>2</sub>.
- 338** Each fuel cell cartridge carried under this entry and designed to contain a liquefied flammable gas shall:
- (a) Be capable of withstanding, without leakage or bursting, a pressure of at least two times the equilibrium pressure of the contents at 55 °C;
  - (b) Not contain more than 200 ml of liquefied flammable gas with a vapour pressure not exceeding 1 000 kPa at 55 °C; and
  - (c) Pass the hot water bath test prescribed in 6.2.6.3.1.
- 339** Fuel cell cartridges containing hydrogen in a metal hydride carried under this entry shall have a water capacity less than or equal to 120 ml.

The pressure in the fuel cell cartridge shall not exceed 5 MPa at 55 °C. The design type shall withstand, without leaking or bursting, a pressure of twice the design pressure of the cartridge at 55 °C or 200 kPa more than the design pressure of the cartridge at 55 °C, whichever is greater. The pressure at which this test is conducted is referred to in the drop test and the hydrogen cycling test as the "minimum shell burst pressure".

Fuel cell cartridges shall be filled in accordance with procedures provided by the manufacturer. The manufacturer shall provide the following information with each fuel cell cartridge:

- (a) Inspection procedures to be carried out before initial filling and before refilling of the fuel cell cartridge;
- (b) Safety precautions and potential hazards to be aware of;
- (c) Method for determining when the rated capacity has been achieved;
- (d) Minimum and maximum pressure range;
- (e) Minimum and maximum temperature range; and
- (f) Any other requirements to be met for initial filling and refilling including the type of equipment to be used for initial filling and refilling.

The fuel cell cartridges shall be designed and constructed to prevent fuel leakage under normal conditions of carriage. Each cartridge design type, including cartridges integral to a fuel cell, shall be subjected to and shall pass the following tests:

#### Drop test

A 1.8 metre drop test onto an unyielding surface in four different orientations:

- (a) Vertically, on the end containing the shut-off valve assembly;
- (b) Vertically, on the end opposite to the shut-off valve assembly;
- (c) Horizontally, onto a steel apex with a diameter of 38 mm, with the steel apex in the upward position; and
- (d) At a 45° angle on the end containing the shut-off valve assembly.

There shall be no leakage, determined by using a soap bubble solution or other equivalent means on all possible leak locations, when the cartridge is charged to its rated charging pressure. The fuel cell cartridge shall then be hydrostatically pressurized to destruction. The recorded burst pressure shall exceed



85% of the minimum shell burst pressure.

#### Fire test

A fuel cell cartridge filled to rated capacity with hydrogen shall be subjected to a fire engulfment test. The cartridge design, which may include a vent feature integral to it, is deemed to have passed the fire test if:

- (a) The internal pressure vents to zero gauge pressure without rupture of the cartridge; or
- (b) The cartridge withstands the fire for a minimum of 20 minutes without rupture.

#### Hydrogen cycling test

This test is intended to ensure that a fuel cell cartridge design stress limits are not exceeded during use.

The fuel cell cartridge shall be cycled from not more than 5% rated hydrogen capacity to not less than 95% rated hydrogen capacity and back to not more than 5% rated hydrogen capacity. The rated charging pressure shall be used for charging and temperatures shall be held within the operating temperature range. The cycling shall be continued for at least 100 cycles.

Following the cycling test, the fuel cell cartridge shall be charged and the water volume displaced by the cartridge shall be measured. The cartridge design is deemed to have passed the hydrogen cycling test if the water volume displaced by the cycled cartridge does not exceed the water volume displaced by an uncycled cartridge charged to 95% rated capacity and pressurized to 75% of its minimum shell burst pressure.

#### Production leak test

Each fuel cell cartridge shall be tested for leaks at  $15\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$ , while pressurized to its rated charging pressure. There shall be no leakage, determined by using a soap bubble solution or other equivalent means on all possible leak locations.

Each fuel cell cartridge shall be permanently marked with the following information:

- (a) The rated charging pressure in MPa;
- (b) The manufacturer's serial number of the fuel cell cartridges or unique identification number; and
- (c) The date of expiry based on the maximum service life (year in four digits; month in two digits).

**340** Chemical kits, first aid kits and polyester resin kits containing dangerous substances in inner packagings which do not exceed the quantity limits for excepted quantities applicable to individual substances as specified in column (7b) of Table A of Chapter 3.2, may be carried in accordance with Chapter 3.5. Class 5.2 substances, although not individually authorized as excepted quantities in column (7b) of Table A of Chapter 3.2, are authorized in such kits and are assigned Code E2 (see 3.5.1.2).

**341-499** (Reserved)

**500** UN No. 3064 nitroglycerin, solution in alcohol with more than 1% but not more than 5% nitroglycerin, packed in accordance with packing instruction P300 of 4.1.4.1, is a substance of Class 3.

**501** For naphthalene, molten, see UN No. 2304.

**502** UN No. 2006 plastics, nitrocellulose-based, self-heating, n.o.s., and 2002 celluloid scrap are substances of Class 4.2.

**503** For phosphorus, white or yellow, molten, see UN No. 2447.

**504** UN No. 1847 potassium sulphide, hydrated with not less than 30% water of crystallization, UN No. 1849 sodium sulphide, hydrated with not less than 30% water of crystallization and UN No. 2949 sodium hydro-sulphide, hydrated with not less than 25% water of crystallization are substances of Class 8.

**505** UN No. 2004 magnesium diamide is a substance of Class 4.2.

**506** Alkaline earth metals and alkaline earth metal alloys in pyrophoric form are substances of Class 4.2.

UN No. 1869 magnesium or magnesium alloys containing more than 50% magnesium as pellets, turnings or ribbons, are substances of Class 4.1.

**507** UN No. 3048 aluminium phosphide pesticides, with additives inhibiting the emission of toxic flammable gases are substances of Class 6.1.

**508** UN No. 1871 titanium hydride and UN No. 1437 zirconium hydride are substances of Class 4.1. UN No. 2870 aluminium borohydride is a substance of Class 4.2.

- 509** UN No. 1908 chlorite solution is a substance of Class 8.
- 510** UN No. 1755 chromic acid solution is a substance of Class 8.
- 511** UN No. 1625 mercuric nitrate, UN No. 1627 mercurous nitrate and UN No. 2727 thallium nitrate are substances of Class 6.1. Thorium nitrate, solid, uranyl nitrate hexahydrate solution and uranyl nitrate, solid are substances of Class 7.
- 512** UN No. 1730 antimony pentachloride, liquid, UN No. 1731 antimony pentachloride solution, UN No. 1732 antimony pentafluoride and UN No. 1733 antimony trichloride are substances of Class 8.
- 513** UN No. 0224 barium azide, dry or wetted with less than 50% water, by mass, is not permitted for carriage by rail. UN No. 1571 barium azide, wetted with not less than 50% water, by mass, is a substance of Class 4.1. UN No. 1854 barium alloys, pyrophoric, are substances of Class 4.2. UN No. 1445 barium chlorate, solid, UN No. 1446 barium nitrate, UN No. 1447 barium perchlorate, solid, UN No. 1448 barium permanganate, UN No. 1449 barium peroxide, UN No. 2719 barium bromate, UN No. 2741 barium hypochlorite with more than 22% available chlorine, UN No. 3405 barium chlorate, solution and UN No. 3406 barium perchlorate, solution, are substances of Class 5.1. UN No. 1565 barium cyanide and UN No. 1884 barium oxide are substances of Class 6.1.
- 514** UN No. 2464 beryllium nitrate is a substance of Class 5.1.
- 515** UN No. 1581 chloropicrin and methyl bromide mixture and UN No. 1582 chloropicrin and methyl chloride mixture are substances of Class 2.
- 516** UN No. 1912 methyl chloride and methylene chloride mixture is a substance of Class 2.
- 517** UN No. 1690 sodium fluoride, solid, UN No. 1812 potassium fluoride, solid, UN No. 2505 ammonium fluoride, UN No. 2674 sodium fluorosilicate, UN No. 2856 fluorosilicates, n.o.s., UN No. 3415 sodium fluoride, solution and UN No. 3422 potassium fluoride, solution, are substances of Class 6.1.
- 518** UN No. 1463 chromium trioxide, anhydrous (chromic acid, solid) is a substance of Class 5.1.
- 519** UN No. 1048 hydrogen bromide, anhydrous, is a substance of Class 2.
- 520** UN No. 1050 hydrogen chloride, anhydrous, is a substance of Class 2.
- 521** Solid chlorites and hypochlorites are substances of Class 5.1.
- 522** UN No. 1873 perchloric acid aqueous solution with more than 50% but not more than 72% pure acid, by mass are substances of Class 5.1. Perchloric acid solutions containing more than 72% pure acid, by mass, or mixtures of perchloric acid with any liquid other than water, are not to be accepted for carriage.
- 523** UN No. 1382 anhydrous potassium sulphide and UN No. 1385 anhydrous sodium sulphide and their hydrates with less than 30% water of crystallization, and UN No. 2318 sodium hydrosulphide with less than 25% water of crystallization are substances of Class 4.2.
- 524** UN No. 2858 finished zirconium products of a thickness of 18 µm or more are substances of Class 4.1.
- 525** Solutions of inorganic cyanides with a total cyanide ion content of more than 30% shall be classified in packing group I, solutions with a total cyanide ion content of more than 3% and not more than 30% in packing group II and solutions with a cyanide ion content of more than 0.3% and not more than 3% in packing group III.
- 526** UN No. 2000 celluloid is assigned to Class 4.1.
- 527** (Reserved)
- 528** UN No. 1353 fibres or fabrics impregnated with weakly nitrated cellulose, non-self heating are articles of Class 4.1.
- 529** UN No. 0135 mercury fulminate, wetted with not less than 20% water, or mixture of alcohol and water, by mass, is not permitted for carriage by rail. Mercurous chloride (calomel) is a substance of Class 9 (UN No. 3077).
- 530** UN No. 3293 hydrazine, aqueous solution with not more than 37% hydrazine, by mass, is a substance of Class 6.1.
- 531** Mixtures having a flash-point below 23 °C and containing more than 55% nitrocellulose, whatever its nitrogen content or containing not more than 55% nitrocellulose with a nitrogen content above 12.6% (by dry mass), are substances of Class 1 (see UN Nos. 0340 or 0342) or of Class 4.1.

- 532 UN No. 2672 ammonia solution containing not less than 10% but not more than 35% ammonia is a substance of Class 8.
- 533 UN No. 1198 formaldehyde solutions, flammable are substances of Class 3. Formaldehyde solutions, non-flammable, with less than 25% formaldehyde are not subject to the requirements of RID.
- 534 While in some climatic conditions, petrol (gasoline) may have a vapour pressure at 50 °C of more than 110 kPa (1.10 bar) but not more than 150 kPa (1.50 bar) it is to continue to be considered as a substance having a vapour pressure at 50 °C of not more than 110 kPa (1.10 bar).
- 535 UN No. 1469 lead nitrate, UN No. 1470 lead perchlorate, solid and UN No. 3408 lead perchlorate, solution are substances of Class 5.1.
- 536 For naphthalene, solid, see UN No. 1334.
- 537 UN No. 2869 titanium trichloride mixture, not pyrophoric, is a substance of Class 8.
- 538 For sulphur (in the solid state), see UN No. 1350.
- 539 Solutions of isocyanates having a flash-point of not less than 23 °C are substances of Class 6.1.
- 540 UN No. 1326 hafnium powder, wetted, UN No. 1352 titanium powder, wetted or UN No. 1358 zirconium powder, wetted, with not less than 25% water, are substances of Class 4.1.
- 541 Nitrocellulose mixtures with a water content, alcohol content or plasticizer content lower than the stated limits are substances of Class 1.
- 542 Talc containing tremolite and/or actinolite is covered by this entry.
- 543 UN No. 1005 ammonia, anhydrous, UN No. 3318 ammonia solution with more than 50% ammonia and UN No. 2073 ammonia solution, with more than 35% but not more than 50% ammonia, are substances of Class 2. Ammonia solutions with not more than 10% ammonia are not subject to the requirements of RID.
- 544 UN No. 1032 dimethylamine, anhydrous, UN No. 1036 ethylamine, UN No. 1061 methylamine, anhydrous and UN No. 1083 trimethylamine, anhydrous, are substances of Class 2.
- 545 UN No. 0401 dipicryl sulphide, wetted with less than 10% water by mass is a substance of Class 1.
- 546 UN No. 2009 zirconium, dry, finished sheets, strip or coiled wire, in thicknesses of less than 18 µm, is a substance of Class 4.2. Zirconium, dry, finished sheets, strip or coiled wire, in thicknesses of 254 µm or more, is not subject to the requirements of RID.
- 547 UN No. 2210 maneb or UN No. 2210 maneb preparations in self-heating form are substances of Class 4.2.
- 548 Chlorosilanes which, in contact with water, emit flammable gases, are substances of Class 4.3.
- 549 Chlorosilanes having a flash-point of less than 23 °C and which, in contact with water, do not emit flammable gases are substances of Class 3. Chlorosilanes having a flash-point equal to or greater than 23 °C and which, in contact with water, do not emit flammable gases are substances of Class 8.
- 550 UN No. 1333 cerium in slabs, rods or ingots is a substance of Class 4.1.
- 551 Solutions of these isocyanates having a flash-point below 23 °C are substances of Class 3.
- 552 Metals and metal alloys in powdered or other flammable form, liable to spontaneous combustion, are substances of Class 4.2. Metals and metal alloys in powdered or other flammable form which, in contact with water, emit flammable gases are substances of Class 4.3.
- 553 This mixture of hydrogen peroxide and peroxyacetic acid shall, in laboratory testing (see Manual of Tests and Criteria, Part II, section 20), neither detonate in the cavitated state nor deflagrate at all and shall show no effect when heated under confinement nor any explosive power. The formulation shall be thermally stable (self-accelerating decomposition temperature 60 °C or higher for a 50 kg package), and a liquid compatible with peroxyacetic acid shall be used for desensitization. Formulations not meeting these criteria are to be regarded as substances of Class 5.2 (see Manual of Tests and Criteria, Part II, paragraph 20.4.3 (g)).
- 554 Metal hydrides which, in contact with water, emit flammable gases are substances of Class 4.3. UN No. 2870 aluminium borohydride or UN No. 2870 aluminium borohydride in devices is a substance of Class 4.2.

- 555** Dust and powder of metals in non-spontaneously combustible form, non-toxic which nevertheless, in contact with water, emit flammable gases, are substances of Class 4.3.
- 556** Organometallic compounds and their solutions which ignite spontaneously are substances of Class 4.2. Flammable solutions with organometallic compounds in concentrations which, in contact with water, neither emit flammable gases in dangerous quantities nor ignite spontaneously are substances of Class 3.
- 557** Dust and powder of metals in pyrophoric form are substances of Class 4.2.
- 558** Metals and metal alloys in pyrophoric form are substances of Class 4.2. Metals and metal alloys which, in contact with water, do not emit flammable gases and are not pyrophoric or self-heating, but which are easily ignited, are substances of Class 4.1.
- 559** Mixtures of a hypochlorite with an ammonium salt are not to be accepted for carriage. UN No. 1791 hypochlorite solution is a substance of Class 8.
- 560** UN No. 3257 elevated temperature liquid, n.o.s., at or above 100 °C and, for a substance with a flash-point, below its flash-point (including molten metals and molten salts) is a substance of Class 9.
- 561** Chloroformates having predominantly corrosive properties are substances of Class 8.
- 562** Spontaneously combustible organometallic compounds are substances of Class 4.2. Water-reactive organometallic compounds, flammable, are substances of Class 4.3.
- 563** UN No. 1905 selenic acid is a substance of Class 8.
- 564** UN No. 2443 vanadium oxytrichloride, UN No. 2444 vanadium tetrachloride and UN No. 2475 vanadium trichloride are substances of Class 8.
- 565** Unspecified wastes resulting from medical/veterinary treatment of humans/animals or from biological research, and which are unlikely to contain substances of Class 6.2 shall be assigned to this entry. Decontaminated clinical wastes or wastes resulting from biological research which previously contained infectious substances are not subject to the requirements of Class 6.2.
- 566** UN No. 2030 hydrazine aqueous solution, with more than 37% hydrazine, by mass, is a substance of Class 8.
- 567** Mixtures containing more than 21% oxygen by volume shall be classified as oxidizing.
- 568** Barium azide with a water content lower than the stated limit is a substance of Class 1, UN No. 0224 and is not permitted for carriage by rail.
- 569–** (Reserved)
- 579**
- 580** Tank-wagons, specialized wagons and specially equipped wagons for carriage in bulk shall bear on both sides the mark referred to in 5.3.3. Tank-containers, portable tanks, special containers and specially equipped containers for carriage in bulk shall bear this mark on both sides and at each end.
- 581** This entry covers mixtures of methylacetylene and propadiene with hydrocarbons, which as
- Mixture P1, contain not more than 63% methylacetylene and propadiene by volume and not more than 24% propane and propylene by volume, the percentage of C<sub>4</sub>-saturated hydrocarbons being not less than 14% by volume; and as
- Mixture P2, contain not more than 48% methylacetylene and propadiene by volume and not more than 50% propane and propylene by volume, the percentage of C<sub>4</sub>-saturated hydrocarbons being not less than 5% by volume,
- as well as mixtures of propadiene with 1 to 4% methylacetylene.
- When relevant, in order to meet the requirements for the transport document (5.4.1.1), the term "Mixture P1" or "Mixture P2" may be used as technical name.
- 582** This entry covers, inter alia, mixtures of gases indicated by the letter R ..., which as
- Mixture F1, have a vapour pressure at 70 °C not exceeding 1.3 MPa (13 bar) and a density at 50 °C not lower than that of dichlorofluoromethane (1.30 kg/l);
- Mixture F2, have a vapour pressure at 70 °C not exceeding 1.9 MPa (19 bar) and a density at 50 °C not lower than that of dichlorodifluoromethane (1.21 kg/l);

Mixture F3, have a vapour pressure at 70 °C not exceeding 3 MPa (30 bar) and a density at 50 °C not lower than that of chlorodifluoromethane (1.09 kg/l).

**NOTE:** Trichlorofluoromethane (refrigerant gas R 11), 1,1,2-trichloro-1,2,2-trifluoroethane (refrigerant gas R 113), 1,1,1-trichloro-2,2,2-trifluoroethane (refrigerant gas R 113a), 1-chloro-1,2,2-trifluoroethane (refrigerant gas R 133) and 1-chloro-1,1,2-trifluoroethane (refrigerant gas R 133 b) are not substances of Class 2. They may, however, enter into the composition of mixtures F1 to F3.

When relevant, in order to meet the requirements for the transport document (5.4.1.1), the term "Mixture F1", "Mixture F2" or "Mixture F3" may be used as technical name.

**583** This entry covers, inter alia, mixtures which as

Mixture A, have a vapour pressure at 70 °C not exceeding 1.1 MPa (11 bar) and a density at 50 °C not lower than 0.525 kg/l;

Mixture A01, have a vapour pressure at 70 °C not exceeding 1.6 MPa (16 bar) and a relative density at 50 °C not lower than 0.516 kg/l;

Mixture A02, have a vapour pressure at 70 °C not exceeding 1.6 MPa (16 bar) and a relative density at 50 °C not lower than 0.505 kg/l;

Mixture A0, have a vapour pressure at 70 °C not exceeding 1.6 MPa (16 bar) and a density at 50 °C not lower than 0.495 kg/l;

Mixture A1, have a vapour pressure at 70 °C not exceeding 2.1 MPa (21 bar) and a density at 50 °C not lower than 0.485 kg/l;

Mixture B1, have a vapour pressure at 70 °C not exceeding 2.6 MPa (26 bar) and a relative density at 50 °C not lower than 0.474 kg/l;

Mixture B2, have a vapour pressure at 70 °C not exceeding 2.6 MPa (26 bar) and a relative density at 50 °C not lower than 0.463 kg/l;

Mixture B, have a vapour pressure at 70 °C not exceeding 2.6 MPa (26 bar) and a density at 50 °C not lower than 0.450 kg/l;

Mixture C, have a vapour pressure at 70 °C not exceeding 3.1 MPa (31 bar) and a relative density at 50 °C not lower than 0.440 kg/l.

When relevant, in order to meet the requirements for the transport document (5.4.1.1), the following terms may be used as technical name:

- "Mixture A" or "Butane";
- "Mixture A01" or "Butane";
- "Mixture A02" or "Butane";
- "Mixture A0" or "Butane";
- "Mixture A1";
- "Mixture B1";
- "Mixture B2";
- "Mixture B";
- "Mixture C" or "Propane".

For carriage in tanks, the trade names "butane" or "propane" may be used only as a complement.

**584** This gas is not subject to the requirements of RID when:

- it is in the gaseous state;
- it contains not more than 0.5% air;
- it is contained in metal capsules (sodors, sparklets) free from defects which may impair their strength;
- the leakproofness of the closure of the capsule is ensured;
- a capsule contains not more than 25 g of this gas;
- a capsule contains not more than 0.75 g of this gas per cm<sup>3</sup> of capacity.

**585** Cinnabar is not subject to the requirements of RID.

**586** Hafnium, titanium and zirconium powders shall contain a visible excess of water. Hafnium, titanium and zirconium powders, wetted, mechanically produced, of a particle size of 53 µm and over, or chemically produced, of a particle size of 840 µm and over, are not subject to the requirements of RID.

- 587** Barium stearate and barium titanate are not subject to the requirements of RID.
- 588** Solid hydrated forms of aluminium bromide and aluminium chloride are not subject to the requirements of RID.
- 589** Calcium hypochlorite mixtures, dry, containing not more than 10% available chlorine are not subject to the requirements of RID.
- 590** Ferric chloride hexahydrate is not subject to the requirements of RID.
- 591** Lead sulphate with not more than 3% free acid is not subject to the requirements of RID.
- 592** Uncleaned empty packagings (including empty IBCs and large packagings), empty tank-wagons, empty demountable tanks, empty portable tanks, empty tank-containers and empty small containers which have contained this substance are not subject to the requirements of RID.
- 593** This gas, intended for the cooling of e.g. medical or biological specimens, if contained in double wall receptacles which comply with the provisions of packing instruction P203 (12) of 4.1.4.1 is not subject to the requirements of RID.
- 594** The following articles, manufactured and filled according to the regulations of the manufacturing State and packaged in strong outer packagings, are not subject to the requirements of RID:
- UN No. 1044 fire extinguishers provided with protection against inadvertent discharge;
  - UN No. 3164 articles, pressurized pneumatic or hydraulic, designed to withstand stresses greater than the internal gas pressure by virtue of transmission of force, intrinsic strength or construction.
- 596** Cadmium pigments, such as cadmium sulphides, cadmium sulphoselenides and cadmium salts of higher fatty acids (e.g. cadmium stearate), are not subject to the requirements of RID.
- 597** Acetic acid solutions with not more than 10% pure acid by mass, are not subject to the requirements of RID.
- 598** The following are not subject to the requirements of RID:
- (a) New storage batteries when:
    - they are secured in such a way that they cannot slip, fall or be damaged;
    - they are provided with carrying devices, unless they are suitably stacked, e.g. on pallets;
    - there are no dangerous traces of alkalis or acids on the outside;
    - they are protected against short circuits.
  - (b) Used storage batteries when:
    - their cases are undamaged;
    - they are secured in such a way that they cannot leak, slip, fall or be damaged, e.g. by stacking on pallets;
    - there are no dangerous traces of alkalis or acids on the outside of the articles;
    - they are protected against short circuits.
- "Used storage batteries" means storage batteries carried for recycling at the end of their normal service life.
- 599** Manufactured articles or instruments containing not more than 1 kg of mercury are not subject to the requirements of RID.
- 600** Vanadium pentoxide, fused and solidified, is not subject to the requirements of RID.
- 601** Pharmaceutical products (medicines) ready for use, which are substances manufactured and packaged for retail sale or distribution for personal or household consumption are not subject to the requirements of RID.
- 602** Phosphorus sulphides which are not free from yellow and white phosphorus are not to be accepted for carriage.
- 603** Anhydrous hydrogen cyanide not meeting the description for UN No. 1051 or UN No. 1614 is not to be accepted for carriage. Hydrogen cyanide (hydrocyanic acid) containing less than 3% water is stable, if the pH-value is  $2.5 \pm 0.5$  and the liquid is clear and colourless.
- 604** Ammonium bromate and its aqueous solutions and mixtures of a bromate with an ammonium salt are not to be accepted for carriage.

- 605** Ammonium chlorate and its aqueous solutions and mixtures of a chlorate with an ammonium salt are not to be accepted for carriage.
- 606** Ammonium chlorite and its aqueous solutions and mixtures of a chlorite with an ammonium salt are not to be accepted for carriage.
- 607** Mixtures of potassium nitrate and sodium nitrite with an ammonium salt are not to be accepted for carriage.
- 608** Ammonium permanganate and its aqueous solutions and mixtures of a permanganate with an ammonium salt are not to be accepted for carriage.
- 609** Tetranitromethane not free from combustible impurities is not to be accepted for carriage.
- 610** The carriage of this substance, when it contains more than 45% hydrogen cyanide is prohibited.
- 611** Ammonium nitrate containing more than 0.2% combustible substances (including any organic substance calculated as carbon) is not to be accepted for carriage unless it is a constituent of a substance or article of Class 1.
- 612** (Reserved)
- 613** Chloric acid solution containing more than 10% chloric acid and mixtures of chloric acid with any liquid other than water is not to be accepted for carriage.
- 614** 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) in concentrations considered highly toxic according to the criteria in 2.2.61.1 is not to be accepted for carriage.
- 615** (Reserved)
- 616** Substances containing more than 40% liquid nitric esters shall satisfy the exudation test specified in 2.3.1.
- 617** In addition to the type of explosive, the commercial name of the particular explosive shall be marked on the package.
- 618** In receptacles containing 1,2-butadiene, the oxygen concentration in the gaseous phase shall not exceed 50 ml/m<sup>3</sup>.
- ~~**619–**~~ (Reserved)
- ~~**622**~~
- 623** UN No. 1829 sulphur trioxide shall be inhibited. Sulphur trioxide, 99.95% pure or above, shall not be accepted for carriage by rail. Sulphur dioxide, at least 99.95% pure may be carried by road without inhibitor in tanks, provided its temperature is maintained at 32.5 °C or above.
- 625** Packages containing these articles shall be clearly marked as follows: "UN 1950 AEROSOLS".
- ~~**626–**~~ (Reserved)
- ~~**631**~~
- 632** Considered to be spontaneously flammable (pyrophoric).
- 633** Packages and small containers containing this substance shall bear the following marking: "KEEP AWAY FROM ANY SOURCE OF IGNITION". This marking shall be in an official language of the forwarding country, and also, if that language is not English, French, German or Italian, in English, French, German or Italian, unless any agreements concluded between the countries concerned in the transport operation provide otherwise.
- 634** (Deleted)
- 635** Packages containing these articles need not bear a label conforming to model No. 9 unless the article is fully enclosed by packaging, crates or other means that prevent the ready identification of the article.
- 636** (a) Cells contained in equipment shall not be capable of being discharged during carriage to the extent that the open circuit voltage falls below 2 volts or two thirds of the voltage of the undischarged cell, whichever is the lower.
- (b) Used lithium cells and batteries with a gross mass of not more than 500 g each collected and presented for carriage for disposal between the consumer collecting point and the intermediate processing facility, together with other non-lithium cells or batteries, are not subject to the other provisions of RID if they meet the following conditions:
- (i) The provisions of packing instruction P903b are complied with;



(ii) A quality assurance system is in place to ensure that the total amount of lithium cells or batteries per wagon or large container does not exceed 333 kg;

(iii) Packages shall bear the inscription: "USED LITHIUM CELLS".

- 637** Genetically modified microorganisms and genetically modified organisms are those which are not dangerous for humans and animals, but which could alter animals, plants, microbiological substances and ecosystems in such a way as cannot occur naturally.

Genetically modified microorganisms and genetically modified organisms are not subject to the provisions of RID when authorized for use by the competent authorities of the countries of origin, transit and destination.<sup>1</sup>

Live vertebrate or invertebrate animals shall not be used to carry these substances classified under this UN number unless the substance can be carried in no other way.

- 638** Substances related to self-reactive substances (see 2.2.41.1.19).

- 639** See 2.2.2.3, classification code 2F, UN No. 1965, Note 2.

- 640** The physical and technical characteristics mentioned in column (2) of Table A of Chapter 3.2 determine different tank codes for the carriage of substances of the same packing group in RID tanks.

In order to identify these physical and technical characteristics of the product carried in the tank, the following shall be added, to the particulars required in the transport document, only in case of carriage in RID tanks:

"Special provision 640X" where "X" is the applicable capital letter appearing after the reference to special provision 640 in column (6) of Table A of Chapter 3.2.

These particulars may, however, be dispensed with in the case of carriage in the type of tank which, for substances of a specific packing group of a specific UN number, meets at least the most stringent requirements.

- 642** Except as authorized under 1.1.4.2, this entry of the UN Model Regulations shall not be used for the carriage of fertilizer ammoniating solutions with free ammonia.

- 643** Stone or aggregate asphalt mixture is not subject to the requirements for Class 9.

- 644** This substance is admitted for carriage, provided that:

1. The pH is between 5 and 7 measured in an aqueous solution of 10% of the substance carried;
2. The solution does not contain more than 0.2% combustible material or chlorine compounds in quantities such that the chlorine level exceeds 0.02%.

- 645** The classification code as mentioned in Column (3b) of Table A of Chapter 3.2 shall be used only with the approval of the competent authority of a Member State of COTIF prior to carriage. When assignment to a division is made in accordance with the procedure in 2.2.1.1.7.2, the competent authority may require the default classification to be verified on the basis of test data derived from Test Series 6 of the Manual of Tests and Criteria, Part I, Section 16.

- 646** Carbon made by steam activation process is not subject to the requirements of RID.

- 647** The carriage of vinegar and acetic acid food grade with not more than 25% pure acid by mass is subject only to the following requirements:

- (a) Packagings, including IBCs and large packagings, and tanks shall be manufactured from stainless steel or plastic material which is permanently resistant to corrosion of vinegar/acetic acid food grade;
- (b) Packagings, including IBCs and large packagings, and tanks shall be subjected to a visual inspection by the owner at least once a year. The results of the inspections shall be recorded and the records kept for at least one year. Damaged packagings, including IBCs and large packagings, and tanks shall not be filled;
- (c) Packagings, including IBCs and large packagings, and tanks shall be filled in a way that no product is spilled or adheres to the outer surface;
- (d) Seals and closures shall be resistant to vinegar/acetic acid food grade. Packagings, including IBCs and large packagings, and tanks shall be hermetically sealed by the packer or the filler so that under normal conditions of carriage there will be no leakage;

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<sup>1</sup> See in particular Part C of Directive 2001/18/EC of the European Parliament and of the Council on the deliberate release into the environment of genetically modified organisms and repealing Council Directive 90/220/EEC (Official Journal of the European Communities, No. L 106, of 17 April 2001, pp. 8-14), which sets out the authorization procedures for the European Community.



- (e) Combination packagings with inner packaging made of glass or plastic (see packing instruction P001 in 4.1.4.1) which fulfil the general packing requirements of 4.1.1.1, 4.1.1.2, 4.1.1.4, 4.1.1.5, 4.1.1.6, 4.1.1.7 and 4.1.1.8 may be used;

The other provisions of RID do not apply.

- 648** Articles impregnated with this pesticide, such as fibreboard plates, paper strips, cotton-wool balls, sheets of plastics material, in hermetically closed wrappings, are not subject to the provisions of RID.

- 649** To determine the initial boiling point, as mentioned under 2.2.3.1.3 packing group I, the test method according to standard ASTM D86-01<sup>2</sup> is suitable.

Substances which have an initial boiling point above 35 °C determined with this method are substances of packing group II and shall be classified in accordance with the applicable entry of this packing group.

- 650** Waste consisting of packaging residues, solidified residues and liquid residues of paint may be carried under the conditions of packing group II. In addition to the provisions of UN No. 1263, packing group II, the waste may also be packed and carried as follows:

- (a) The waste may be packed in accordance with packing instruction P002 of 4.1.4.1 or to packing instruction IBC06 of 4.1.4.2;
- (b) The waste may be packed in flexible IBCs of types 13H3, 13H4 and 13H5 in overpacks with complete walls;
- (c) Testing of packagings and IBCs indicated under (a) or (b) may be carried out in accordance with the requirements of Chapters 6.1 or 6.5, as appropriate, in relation to solids, at the packing group II performance level.

The tests shall be carried out on packagings and IBCs, filled with a representative sample of the waste, as prepared for carriage;

- (d) Carriage in bulk in sheeted wagons, movable roof wagons, closed containers or sheeted large containers, all with complete walls is allowed. The body of wagons or containers shall be leakproof or rendered leakproof, for example by means of a suitable and sufficiently stout inner lining;

- (e) If the waste is carried under the conditions of this special provision, the goods shall be declared in accordance with 5.4.1.1.3 in the transport document, as follows: "WASTE, UN 1263 PAINT, 3, II".

- 651** (Reserved)

- 652** (Reserved)

- 653** The carriage of this gas in cylinders with a maximum capacity of 0.5 litres, is not subject to the other provisions of RID if the following conditions are met:

- The provisions for construction and testing of cylinders are observed;
- The cylinders are contained in outer packagings which at least meet the requirements of Part 4 for combination packagings. The general provisions of packing of 4.1.1.1, 4.1.1.2 and 4.1.1.5 to 4.1.1.7 shall be observed;
- The cylinders are not packed together with other dangerous goods;
- The total gross mass of a package does not exceed 30 kg; and
- Each package is clearly and durably marked with "UN 1013". This marking is displayed within a diamond-shaped area surrounded by a line that measures at least 100 mm by 100 mm.

- 654** Waste lighters collected separately and consigned in accordance with 5.4.1.1.3 may be carried under this entry for the purposes of disposal. They need not be protected against inadvertent discharge, provided that measures are taken to prevent the dangerous build up of pressure and dangerous atmospheres.

Waste lighters, other than those leaking or severely deformed, shall be packed in accordance with packing instruction P003. In addition the following provisions shall apply:

- only rigid packagings of a maximum capacity of 60 litres shall be used;
- the packagings shall be filled with water or any other appropriate protection material to avoid any ignition;
- under normal conditions of carriage all ignition devices of the lighters shall fully be covered by the protection material;
- the packagings shall be adequately vented to prevent the creation of flammable atmosphere and the build up of pressure;
- the packages shall only be carried in ventilated or open wagons or containers.

<sup>2</sup> Standard Test Method for Distillation of Petroleum Products at Atmospheric Pressure, published September 2001 by ASTM International.

Leaking or severely deformed lighters shall be carried in salvage packagings, provided appropriate measures are taken to ensure there is no dangerous build up of pressure.

**NOTE:** Special provision 201 and special packing provisions PP84 and RR5 of packing instruction P002 in 4.1.4.1 do not apply to waste lighters.

## Chapter 3.4

### **Dangerous goods packed in limited quantities**

#### **3.4.1 General requirements**

**3.4.1.1** Packagings used in accordance with 3.4.3 to 3.4.6 below, need only to conform to the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

**3.4.1.2** The maximum gross mass of a combination packaging shall not exceed 30 kg and for shrink and stretched wrapped trays shall not exceed 20 kg.

**NOTE:** The limit for combination packagings does not apply when LQ5 is assigned.

**3.4.1.3** Subject to the maximum limits in 3.4.1.2 and individual limits in table 3.4.6, dangerous goods may be packed together with other articles or substances, provided they will not react dangerously in the event of leakage.

**3.4.2** When the code "LQ0" is shown in column (7a) of Table A in Chapter 3.2 for a given substance or article, that substance or article is not exempted from any of the applicable provisions of RID when it is packed in limited quantities, unless otherwise specified in RID.

**3.4.3** Unless otherwise provided in this Chapter, when one of the codes "LQ1" or "LQ2" is shown in column (7a) of Table A in Chapter 3.2 for a given substance or article, the provisions of other Chapters of RID do not apply to the carriage of that substance or article, provided:

- (a) The provisions of 3.4.5 (a) to (c) are observed; with respect to these provisions, articles are considered to be inner packagings;
- (b) Inner packagings meet the conditions of 6.2.5.1 and 6.2.6.1 to 6.2.6.3.

**3.4.4** Unless otherwise provided in this Chapter, when the code "LQ3" is shown in column (7a) of Table A in Chapter 3.2 for a given substance, the provisions of other Chapters of RID do not apply to the carriage of that substance, provided:

- (a) The substance is carried in combination packagings, the following outer packagings being allowed:
  - steel or aluminium drums with removable head;
  - steel or aluminium jerricans with removable head;
  - plywood or fibre drums;
  - plastics drums or jerricans with removable head;
  - boxes of natural wood, plywood, reconstituted wood, fibreboard, plastics, steel or aluminium;and be so designed that they meet the relevant construction requirements of 6.1.4;
- (b) The maximum net quantities per inner packaging shown in columns (2) or (4) and per package in columns (3) or (5), where indicated, of table 3.4.6 are not exceeded;
- (c) Each package is clearly and durably marked with:
  - (i) the UN number of the goods contained therein, as given in column (1) of Table A in Chapter 3.2, preceded by the letters "UN";
  - (ii) in the case of different goods with different UN numbers within a single package:
    - the UN numbers of the goods contained therein, preceded by the letters "UN"; or
    - the letters "LQ"<sup>1</sup>.

These markings shall be displayed within a diamond-shaped area surrounded by a line that measures at least 100 mm x 100 mm. The width of the line forming the diamond shall be at least 2 mm; the number shall be at least 6 mm high. Where more than one substance assigned to different UN numbers is included in the package, the diamond shall be large enough to include each relevant UN number. If the size of the package so requires, the dimensions may be reduced, provided the markings remain clearly visible.

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<sup>1</sup> The letters "LQ" are an abbreviation of the English words "Limited Quantities". The letters "LQ" are not permitted by the IMDG Code or the ICAO Technical Instructions.

**3.4.5** Unless otherwise provided in this Chapter, when one of the codes "LQ4" to "LQ19" and "LQ22" to "LQ28" is shown in column (7a) of Table A in Chapter 3.2 for a given substance, the provisions of other Chapters of RID do not apply to the carriage of that substance, provided:

- (a) The substance is carried:
- in combination packagings, corresponding to the prescriptions of 3.4.4 (a); or
  - in metal or plastics inner packagings which are not liable to break or be easily punctured, placed in shrink-wrapped or stretch-wrapped trays;
- (b) The maximum net quantities per inner packaging shown in columns (2) or (4) and per package in columns (3) or (5), where indicated, of table 3.4.6 are not exceeded;
- (c) Each package is clearly and durably marked as indicated in 3.4.4 (c).

**3.4.6 Table**

Code	Combination packagings <sup>(a)</sup> Maximum net quantity		Inner packagings placed in shrink-wrapped or stretch-wrapped trays <sup>(a)</sup> Maximum net quantity	
	per inner packaging	per package <sup>(b)</sup>	per inner packaging	per package <sup>(b)</sup>
(1)	(2)	(3)	(4)	(5)
<b>LQ 0</b>	No exemption under the conditions of 3.4.2.			
<b>LQ 1</b>	120 ml		120 ml	
<b>LQ 2</b>	1 l		1 l	
<b>LQ 3<sup>(c)</sup></b>	500 ml	1 l	Not allowed	Not allowed
<b>LQ 4<sup>(c)</sup></b>	3 l		1 l	
<b>LQ 5<sup>(c)</sup></b>	5 l	Unlimited	1 l	
<b>LQ 6<sup>(c)</sup></b>	5 l		1 l	
<b>LQ 7<sup>(c)</sup></b>	5 l		5 l	
<b>LQ 8</b>	3 kg		500 g	
<b>LQ 9</b>	6 kg		3 kg	
<b>LQ 10</b>	500 ml		500 ml	
<b>LQ 11</b>	500 g		500 g	
<b>LQ 12</b>	1 kg		1 kg	
<b>LQ 13</b>	1 l		1 l	
<b>LQ 14</b>	25 ml		25 ml	
<b>LQ 15</b>	100 g		100 g	
<b>LQ 16</b>	125 ml		125 ml	
<b>LQ 17</b>	500 ml	2 l	100 ml	2 l
<b>LQ 18</b>	1 kg	4 kg	500 g	4 kg
<b>LQ 19</b>	5 kg		5 kg	
<b>LQ 20</b>	(Reserved)	(Reserved)	(Reserved)	(Reserved)
<b>LQ 21</b>	(Reserved)	(Reserved)	(Reserved)	(Reserved)
<b>LQ 22</b>	1 l		500 ml	
<b>LQ 23</b>	3 kg		1 kg	

Code	Combination packagings <sup>(a)</sup> Maximum net quantity		Inner packagings placed in shrink-wrapped or stretch-wrapped trays <sup>(a)</sup> Maximum net quantity	
	per inner packaging	per package <sup>(b)</sup>	per inner packaging	per package <sup>(b)</sup>
(1)	(2)	(3)	(4)	(5)
LQ 24	6 kg		2 kg	
LQ 25 <sup>(d)</sup>	1 kg		1 kg	
LQ 26 <sup>(d)</sup>	500 ml	2 l	500 ml	2 l
LQ 27	6 kg		6 kg	
LQ 28	3 l		3 l	

(a) See 3.4.1.2.

(b) See 3.4.1.3.

(c) In the case of homogenous mixtures of Class 3 containing water, the quantities specified relate only to the substance of Class 3 contained in those mixtures.

(d) For UN Nos. 2315, 3151, 3152 and 3432 when carried in apparatus, the inner packaging quantities shall not be exceeded per piece of apparatus. The apparatus shall be carried in a leakproof packaging and the complete package shall conform to 3.4.4 (c). Shrink-wrapped and stretch-wrapped trays shall not be used for apparatus.

**3.4.7** Overpacks containing packages conforming to 3.4.3, 3.4.4 or 3.4.5 shall be marked, as required by 3.4.4(c) for each item of dangerous goods contained in the overpack, unless markings representative of all dangerous goods contained in the overpack are visible.

#### **3.4.8 The requirements**

(a) of 5.2.1.9 on the placement of orientation arrows on packages;

(b) of 5.1.2.1 (b) on the placement of orientation arrows on overpacks; and

(c) of 7.5.1.5 on the orientation of packages

shall be applicable also to packages and overpacks carried in accordance with this chapter.

**3.4.9** Consignors of dangerous goods packed in limited quantities shall inform the carrier of the total gross mass of such goods to be consigned, in advance of carriage not involving maritime transport.

Loaders of dangerous goods packed in limited quantities shall observe the provisions of 3.4.10 to 3.4.12 concerning marking.

**3.4.10** (a) Wagons carrying packages with dangerous goods in limited quantities shall be marked in accordance with 3.4.12 on both sides except when placards are already affixed in accordance with 5.3.1.

(b) Large containers carrying packages with dangerous goods in limited quantities shall be marked in accordance with 3.4.12 on all four sides except when placards are already affixed in accordance with 5.3.1.

If the marking affixed to the large containers is not visible from outside the carrying wagon, the same marking shall also be affixed to both sides of the wagon.

**3.4.11** Markings specified in 3.4.10 may be dispensed with, if the total gross mass of the packages containing dangerous goods packed in limited quantities carried does not exceed 8 tonnes per wagon or large container.

**3.4.12** The marking shall consist of "LTD QTY"<sup>2</sup> in black letters not less than 65 mm high on a white background.

**3.4.13** Markings according to chapter 3.4 of the IMDG Code are also acceptable for carriage in a transport chain including maritime carriage.

<sup>2</sup> The letters "LTD QTY" are an abbreviation of the English words "Limited Quantity".

## Chapter 3.5

### Dangerous Goods packed in excepted quantities

#### 3.5.1 Excepted quantities

**3.5.1.1** Excepted quantities of dangerous goods of certain classes, other than articles, meeting the provisions of this Chapter are not subject to any other provisions of RID except for:

- (a) The training requirements in Chapter 1.3;
- (b) The classification procedures and packing group criteria in Part 2;
- (c) The packaging requirements of 4.1.1.1, 4.1.1.2, 4.1.1.4 and 4.1.1.6.

**NOTE:** In the case of radioactive material, the requirements for radioactive material in excepted packages in 1.7.1.5 apply.

**3.5.1.2** Dangerous goods which may be carried as excepted quantities in accordance with the provisions of this Chapter are shown in column (7b) of Table A of Chapter 3.2 list by means of an alphanumeric code as follows:

Code	Maximum net quantity per inner packaging (in grams for solids and ml for liquids and gases)	Maximum net quantity per outer packaging (in grams for solids and ml for liquids and gases, or sum of grams and ml in the case of mixed packing)
E0	Not permitted as Excepted Quantity	
E1	30	1000
E2	30	500
E3	30	300
E4	1	500
E5	1	300

For gases, the volume indicated for inner packagings refers to the water capacity of the inner receptacle and the volume indicated for outer packagings refers to the combined water capacity of all inner packagings within a single outer packaging.

**3.5.1.3** Where dangerous goods in excepted quantities for which different codes are assigned are packaged together the total quantity per outer packaging shall be limited to that corresponding to the most restrictive code.

#### 3.5.2 Packagings

Packagings used for the carriage of dangerous goods in excepted quantities shall be in compliance with the following:

- (a) There shall be an inner packaging and each inner packaging shall be constructed of plastic (with a minimum thickness of 0.2 mm when used for liquids), or of glass, porcelain, stoneware, earthenware or metal (see also 4.1.1.2) and the closure of each inner packaging shall be held securely in place with wire, tape or other positive means; any receptacle having a neck with moulded screw threads shall have a leak proof threaded type cap. The closure shall be resistant to the contents;
- (b) Each inner packaging shall be securely packed in an intermediate packaging with cushioning material in such a way that, under normal conditions of carriage, they cannot break, be punctured or leak their contents. The intermediate packaging shall completely contain the contents in case of breakage or leakage, regardless of package orientation. For liquids, the intermediate packaging shall contain sufficient absorbent material to absorb the entire contents of the inner packaging. In such cases, the absorbent material may be the cushioning material. Dangerous goods shall not react dangerously with cushioning, absorbent material and packaging material or reduce the integrity or function of the materials;
- (c) The intermediate packaging shall be securely packed in a strong, rigid outer packaging (wooden, fibre-board or other equally strong material);
- (d) Each package type shall be in compliance with the provisions in 3.5.3;
- (e) Each package shall be of such a size that there is adequate space to apply all necessary markings; and
- (f) Overpacks may be used and may also contain packages of dangerous goods or goods not subject to the requirements of RID.

#### 3.5.3 Tests for packages

**3.5.3.1** The complete package as prepared for carriage, with inner packagings filled to not less than 95% of their capacity for solids or 98% for liquids, shall be capable of withstanding, as demonstrated by testing which is appropriately documented, without breakage or leakage of any inner packaging and without significant reduction in effectiveness:

(a) Drops onto a rigid, non-resilient flat and horizontal surface from a height of 1.8 m:

(i) Where the sample is in the shape of a box, it shall be dropped in each of the following orientations:

- flat on the base;
- flat on the top;
- flat on the longest side;
- flat on the shortest side;
- on a corner;

(ii) Where the sample is in the shape of a drum, it shall be dropped in each of the following orientations:

- diagonally on the top chime, with the centre of gravity directly above the point of impact;
- diagonally on the base chime;
- flat on the side;

**NOTE:** Each of the above drops may be performed on different but identical packages.

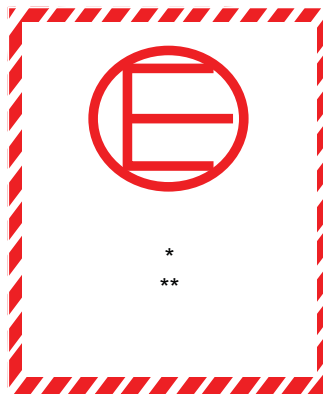
(b) A force applied to the top surface for a duration of 24 hours, equivalent to the total weight of identical packages if stacked to a height of 3 m (including the sample).

**3.5.3.2** For the purposes of testing, the substances to be carried in the packaging may be replaced by other substances except where this would invalidate the results of the tests. For solids, when another substance is used, it must have the same physical characteristics (mass, grain size, etc.) as the substance to be carried. In the drop tests for liquids, when another substance is used, its relative density (specific gravity) and viscosity should be similar to those of the substance to be carried.

#### **3.5.4 Marking of packages**

**3.5.4.1** Packages containing excepted quantities of dangerous goods prepared in accordance with this Chapter shall be durably and legibly marked with the mark shown in 3.5.4.2. The first or only label number indicated in column (5) of Table A of Chapter 3.2 for each of the dangerous goods contained in the package shall be shown in the mark. Where the name of the consignor or consignee is not shown elsewhere on the package this information shall be included within the mark.

**3.5.4.2** The dimensions of the mark shall be a minimum of 100 mm × 100 mm.



Excepted quantities mark

Hatching and symbol of the same colour, black or red,  
on white or suitable contrasting background

\* The first or only label number indicated in column (5) of Table A of Chapter 3.2 shall be shown in this location.

\*\* The name of the consignor or of the consignee shall be shown in this location if not shown elsewhere on the package.

**3.5.4.3** An overpack containing dangerous goods in excepted quantities shall display the markings required by 3.5.4.1, unless such markings on packages within the overpack are clearly visible.

#### **3.5.5 Maximum number of packages in any wagon or container**

The number of packages in any wagon or container shall not exceed 1 000.

**3.5.6 Documentation**

If a document or documents (such as a bill of lading, air waybill or CMR/CIM consignment note) accompanies dangerous goods in excepted quantities, at least one of these documents shall include the statement "DANGEROUS GOODS IN EXCEPTED QUANTITIES" and indicate the number of packages.



**Part 4**

**Use of packagings, intermediate bulk containers (IBCs), large packagings and tanks**

## Chapter 4.1

### Use of packagings, including intermediate bulk containers (IBCs) and large packagings

#### 4.1.1 General requirements for the packing of dangerous goods in packagings, including IBCs and large packagings

**NOTE:** For the packing of goods of Classes 2, 6.2 and 7, the general provisions of this section only apply as indicated in 4.1.8.2 (Class 6.2), 4.1.9.1.5 (Class 7) and in the applicable packing instructions of 4.1.4 (P201 and LP02 for Class 2 and P620, P621, IBC620 and LP621 for Class 6.2).

**4.1.1.1** Dangerous goods shall be packed in good quality packagings, including IBCs and large packagings, which shall be strong enough to withstand the shocks and loadings normally encountered during carriage, including trans-shipment between transport units and between transport units and warehouses as well as any removal from a pallet or overpack for subsequent manual or mechanical handling. Packagings, including IBCs and large packagings, shall be constructed and closed so as to prevent any loss of contents when prepared for transport which might be caused under normal conditions of transport, by vibration, or by changes in temperature, humidity or pressure (resulting from altitude, for example). Packagings, including IBCs and large packagings, shall be closed in accordance with the information provided by the manufacturer. No dangerous residue shall adhere to the outside of packagings, IBCs and large packagings during carriage. These provisions apply, as appropriate, to new, reused, reconditioned or remanufactured packagings and to new, reused, repaired or remanufactured IBCs, and to new or reused large packagings.

**4.1.1.2** Parts of packagings, including IBCs and large packagings, which are in direct contact with dangerous goods:

- (a) shall not be affected or significantly weakened by those dangerous goods; and
- (b) shall not cause a dangerous effect e.g. catalysing a reaction or reacting with the dangerous goods.

Where necessary, they shall be provided with a suitable inner coating or treatment.

**NOTE:** For chemical compatibility of plastics packagings, including IBCs, made from polyethylene, see 4.1.1.19.

**4.1.1.3** Unless otherwise provided elsewhere in RID, each packaging, including IBCs and large packagings, except inner packagings, shall conform to a design type successfully tested in accordance with the requirements of 6.1.5, 6.3.2, 6.5.6 or 6.6.5, as applicable. The packagings for which the test is not required are mentioned under 6.1.1.3.

**4.1.1.4** When filling packagings, including IBCs and large packagings, with liquids, sufficient ullage (outage) shall be left to ensure that neither leakage nor permanent distortion of the packaging occurs as a result of an expansion of the liquid caused by temperatures likely to occur during transport. Unless specific requirements are prescribed, liquids shall not completely fill a packaging at a temperature of 55 °C. However, sufficient ullage shall be left in an IBC to ensure that at the mean bulk temperature of 50 °C it is not filled to more than 98% of its water capacity. For a filling temperature of 15 °C, the maximum degree of filling shall be determined as follows, unless otherwise provided, either:

(a)

Boiling point (initial boiling point) of the substance in °C	< 60	≥ 60 < 100	≥ 100 < 200	≥ 200 < 300	≥ 300
Degree of filling as a percentage of the capacity of the packaging	90	92	94	96	98

or

(b) degree of filling =  $\frac{98}{1 + \alpha(50 - t_f)}$  % of the capacity of the packaging

In this formula  $\alpha$  represents the mean coefficient of cubic expansion of the liquid substance between 15 °C and 50 °C; that is to say, for a maximum rise in temperature of 35 °C,

$\alpha$  is calculated according to the formula:  $\alpha = \frac{d_{15} - d_{50}}{35 \times d_{50}}$

$d_{15}$  and  $d_{50}$  being the relative densities<sup>1</sup> of the liquid at 15 °C and 50 °C and  $t_f$  the mean temperature of the liquid at the time of filling.

<sup>1</sup> Relative density (d) is considered to be synonymous with specific gravity (SG) and will be used throughout this Chapter.

- 4.1.1.4.1** For air transport, packagings intended to contain liquids shall also be capable of withstanding a pressure differential without leakage as specified in the international regulations for air transport.
- 4.1.1.5** Inner packagings shall be packed in an outer packaging in such a way that, under normal conditions of carriage, they cannot break, be punctured or leak their contents into the outer packaging. Inner packagings containing liquids shall be packed with their closures upward and placed within outer packagings consistent with the orientation markings prescribed in 5.2.1.9. Inner packagings that are liable to break or be punctured easily, such as those made of glass, porcelain or stoneware or of certain plastics materials, etc., shall be secured in outer packagings with suitable cushioning material. Any leakage of the contents shall not substantially impair the protective properties of the cushioning material or of the outer packaging.
- 4.1.1.5.1** Where an outer packaging of a combination packaging or a large packaging has been successfully tested with different types of inner packagings, a variety of such different inner packagings may also be assembled in this outer packaging or large packaging. In addition, provided an equivalent level of performance is maintained, the following variations in inner packagings are allowed without further testing of the package:
- (a) Inner packagings of equivalent or smaller size may be used provided:
- (i) the inner packagings are of similar design to the tested inner packagings (e.g. shape - round, rectangular, etc.);
  - (ii) the material of construction of the inner packagings (glass, plastics, metal, etc.) offers resistance to impact and stacking forces equal to or greater than that of the originally tested inner packaging;
  - (iii) the inner packagings have the same or smaller openings and the closure is of similar design (e.g. screw cap, friction lid, etc.);
  - (iv) sufficient additional cushioning material is used to take up void spaces and to prevent significant movement of the inner packagings; and
  - (v) inner packagings are oriented within the outer packaging in the same manner as in the tested package.
- (b) A lesser number of the tested inner packagings, or of the alternative types of inner packagings identified in (a) above, may be used provided sufficient cushioning is added to fill the void space(s) and to prevent significant movement of the inner packagings.
- 4.1.1.6** Dangerous goods shall not be packed together in the same outer packaging or in large packagings, with dangerous or other goods if they react dangerously with each other (see definition of "dangerous reaction" in 1.2.1).
- NOTE:** For mixed packing special provisions, see 4.1.10.
- 4.1.1.7** The closures of packagings containing wetted or diluted substances shall be such that the percentage of liquid (water, solvent or phlegmatizer) does not fall below the prescribed limits during transport.
- 4.1.1.7.1** Where two or more closure systems are fitted in series on an IBC, that nearest to the substance being carried shall be closed first.
- 4.1.1.8** Where pressure may develop in a package by the emission of gas from the contents (as a result of temperature increase or other causes), the packaging or IBC may be fitted with a vent provided that the gas emitted will not cause danger on account of its toxicity, its flammability or the quantity released, for example.
- A venting device shall be fitted if dangerous overpressure may develop due to normal decomposition of substances. The vent shall be so designed that, when the packaging or IBC is in the attitude in which it is intended to be carried, leakages of liquid and the penetration of foreign substances are prevented under normal conditions of carriage.
- NOTE:** Venting of the package is not permitted for air carriage.
- 4.1.1.8.1** Liquids may only be filled into inner packagings which have an appropriate resistance to internal pressure that may be developed under normal conditions of carriage.
- 4.1.1.9** New, remanufactured or reused packagings, including IBCs and large packagings, or reconditioned packagings and repaired or routinely maintained IBCs shall be capable of passing the tests prescribed in 6.1.5, 6.3.2, 6.5.6 or 6.6.5, as applicable. Before being filled and handed over for carriage, every packaging, including IBCs and large packagings, shall be inspected to ensure that it is free from corrosion, contamination or other damage and every IBC shall be inspected with regard to the proper functioning of any service equipment. Any packaging which shows signs of reduced strength as compared with the approved design type shall no longer be used or shall be so reconditioned, that it is able to withstand the design type tests. Any IBC which shows signs of reduced strength as compared with the tested design type shall no longer be used or shall be so repaired or routinely maintained that it is able to withstand the design type tests.
- 4.1.1.10** Liquids shall be filled only into packagings, including IBCs, which have an appropriate resistance to the internal pressure that may develop under normal conditions of carriage. Packagings and IBCs marked with the hydraulic test pressure prescribed in 6.1.3.1 (d) and 6.5.2.2.1, respectively shall be filled only with a liquid having a vapour pressure:

- (a) such that the total gauge pressure in the packaging or IBC (i.e. the vapour pressure of the filling substance plus the partial pressure of air or other inert gases, less 100 kPa) at 55 °C, determined on the basis of a maximum degree of filling in accordance with 4.1.1.4 and a filling temperature of 15 °C, will not exceed two-thirds of the marked test pressure; or
- (b) at 50 °C less than four-sevenths of the sum of the marked test pressure plus 100 kPa; or
- (c) at 55 °C less than two-thirds of the sum of the marked test pressure plus 100 kPa.

IBCs intended for the carriage of liquids shall not be used to carry liquids having a vapour pressure of more than 110 kPa (1.1 bar) at 50 °C or 130 kPa (1.3 bar) at 55 °C.

**Examples of required marked test pressures for packagings, including IBCs, calculated as in 4.1.1.10 (c)**

UN No	Name	Class	Packing group	V <sub>p55</sub> (kPa)	(V <sub>p55</sub> × 1,5) (kPa)	(V <sub>p55</sub> × 1,5) minus 100 (kPa)	Required minimum test pressure gauge under 6.1.5.5.4 (c) (kPa)	Minimum test pressure (gauge) to be marked on the packaging (kPa)
2056	Tetrahydrofuran	3	II	70	105	5	100	100
2247	n-Decane	3	III	1,4	2,1	– 97,9	100	100
1593	Dichloromethane	6.1	III	164	246	146	146	150
1155	Diethyl ether	3	I	199	299	199	199	250

**NOTE 1:** For pure liquids the vapour pressure at 55 °C (V<sub>p55</sub>) can often be obtained from scientific tables.

**2:** The table refers to the use of 4.1.1.10 (c) only, which means that the marked test pressure shall exceed 1.5 times the vapour pressure at 55 °C less 100 kPa. When, for example, the test pressure for n-decane is determined according to 6.1.5.5.4 (a), the minimum marked test pressure may be lower.

**3:** For diethyl ether the required minimum test pressure under 6.1.5.5.5 is 250 kPa.

**4.1.1.11** Empty packagings, including IBCs and large packagings, that have contained a dangerous substance are subject to the same requirements as those for a filled packaging, unless adequate measures have been taken to nullify any hazard.

**4.1.1.12** Every packagings as specified in Chapter 6.1 intended to contain liquids shall successfully undergo a suitable leakproofness test, and be capable of meeting the appropriate test level indicated in 6.1.5.4.3:

- (a) before it is first used for carriage;
- (b) after remanufacturing or reconditioning of any packaging, before it is re-used for carriage.

For this test the packaging need not have its closures fitted. The inner receptacle of a composite packaging may be tested without the outer packaging, provided the test results are not affected.

This test is not required for:

- inner packagings of combination packagings or large packagings;
- inner receptacles of composite packagings (glass, porcelain or stoneware) marked with the symbol "RID/ADR" in accordance with 6.1.3.1 (a) (ii);
- light gauge metal packagings marked with the symbol "RID/ADR" in accordance with 6.1.3.1 (a) (ii).

**4.1.1.13** Packagings, including IBCs, used for solids which may become liquid at temperatures likely to be encountered during carriage shall also be capable of containing the substance in the liquid state.

**4.1.1.14** Packagings, including IBCs, used for powdery or granular substances shall be sift-proof or shall be provided with a liner.

**4.1.1.15** For plastics drums and jerricans, rigid plastics IBCs and composite IBCs with plastics inner receptacles, unless otherwise approved by the competent authority, the period of use permitted for the carriage of dangerous substances shall be five years from the date of manufacture of the receptacles, except where a shorter period of use is prescribed because of the nature of the substance to be carried.

**4.1.1.16** Packagings, including IBCs and large packagings, marked in accordance with 6.1.3, 6.2.2.7, 6.2.2.8, 6.3.1, 6.5.2 or 6.6.3, but which are approved in a State which is not a COTIF Member State, may nevertheless be used for carriage under RID.

**4.1.1.17 Explosives, self-reactive substances and organic peroxides**

Unless specific provision to the contrary is made in RID, the packagings, including IBCs and large packagings, used for goods of Class 1, self-reactive substances of Class 4.1 and organic peroxides of Class 5.2 shall comply with the provisions for the medium danger group (packing group II).

**4.1.1.18 Use of salvage packagings**

**4.1.1.18.1** Damaged, defective, leaking or non-conforming packages, or dangerous goods that have spilled or leaked may be carried in salvage packagings mentioned in 6.1.5.1.11. This does not prevent the use of a bigger size packaging of appropriate type and performance level under the conditions of 4.1.1.18.2 and 4.1.1.18.3.

**4.1.1.18.2** Appropriate measures shall be taken to prevent excessive movement of the damaged or leaking packages within a salvage packaging. When the salvage packaging contains liquids, sufficient inert absorbent material shall be added to eliminate the presence of free liquid.

**4.1.1.18.3** Appropriate measures shall be taken to ensure that there is no dangerous build up of pressure.

**4.1.1.19 Verification of the chemical compatibility of plastics packagings, including IBCs, by assimilation of filling substances to standard liquids****4.1.1.19.1 Scope**

For polyethylene packagings as specified in 6.1.5.2.6 and for polyethylene IBCs as specified in 6.5.6.3.5, the chemical compatibility with filling substances may be verified by assimilation to standard liquids following the procedures as set out in 4.1.1.19.3 to 4.1.1.19.5 and using the list in table 4.1.1.19.6, provided that the particular design types have been tested with these standard liquids in accordance with 6.1.5 or 6.5.6, taking into account 6.1.6 and that the conditions in 4.1.1.19.2 are met. When assimilation in accordance with this sub-section is not possible, the chemical compatibility needs to be verified by design type testing in accordance with 6.1.5.2.5 or by laboratory tests in accordance with 6.1.5.2.7 for packagings, and in accordance with 6.5.6.3.3 or 6.5.6.3.6 for IBCs, respectively.

**NOTE:** Irrespective of the provisions of this sub-section, the use of packagings, including IBCs, for a specific filling substance is subject to the limitations of Table A of Chapter 3.2, and the packing instructions in Chapter 4.1.

**4.1.1.19.2 Conditions**

The relative densities of the filling substances shall not exceed that used to determine the height for the drop test performed successfully according to 6.1.5.3.5 or 6.5.6.9.4 and the mass for the stacking test performed successfully according to 6.1.5.6 or where necessary according to 6.5.6.6 with the assimilated standard liquid(s). The vapour pressures of the filling substances at 50 °C or 55 °C shall not exceed that used to determine the pressure for the internal pressure (hydraulic) test performed successfully according to 6.1.5.5.4 or 6.5.6.8.4.2 with the assimilated standard liquid(s). In case that filling substances are assimilated to a combination of standard liquids, the corresponding values of the filling substances shall not exceed the minimum values derived from the applied drop heights, stacking masses and internal test pressures.

*Example: UN 1736 Benzoyl chloride is assimilated to the combination of standard liquids "Mixture of hydrocarbons and wetting solution". It has a vapour pressure of 0.34 kPa at 50 °C and a relative density of approximately 1.2. Design type tests for plastics drums and jerricans were frequently performed at minimum required test levels. In practice this means that the stacking test is commonly performed with stacking loads considering only a relative density of 1.0 for the "Mixture of hydrocarbons" and a relative density of 1.2 for the "Wetting solution" (see definition of standard liquids in 6.1.6). As a consequence chemical compatibility of such tested design types would not be verified for benzoyl chloride by reason of the inadequate test level of the design type with the standard liquid "mixture of hydrocarbons". (Due to the fact that in the majority of cases the applied internal hydraulic test pressure is not less than 100 kPa, the vapour pressure of benzoyl chloride would be covered by such test level according to 4.1.1.10).*

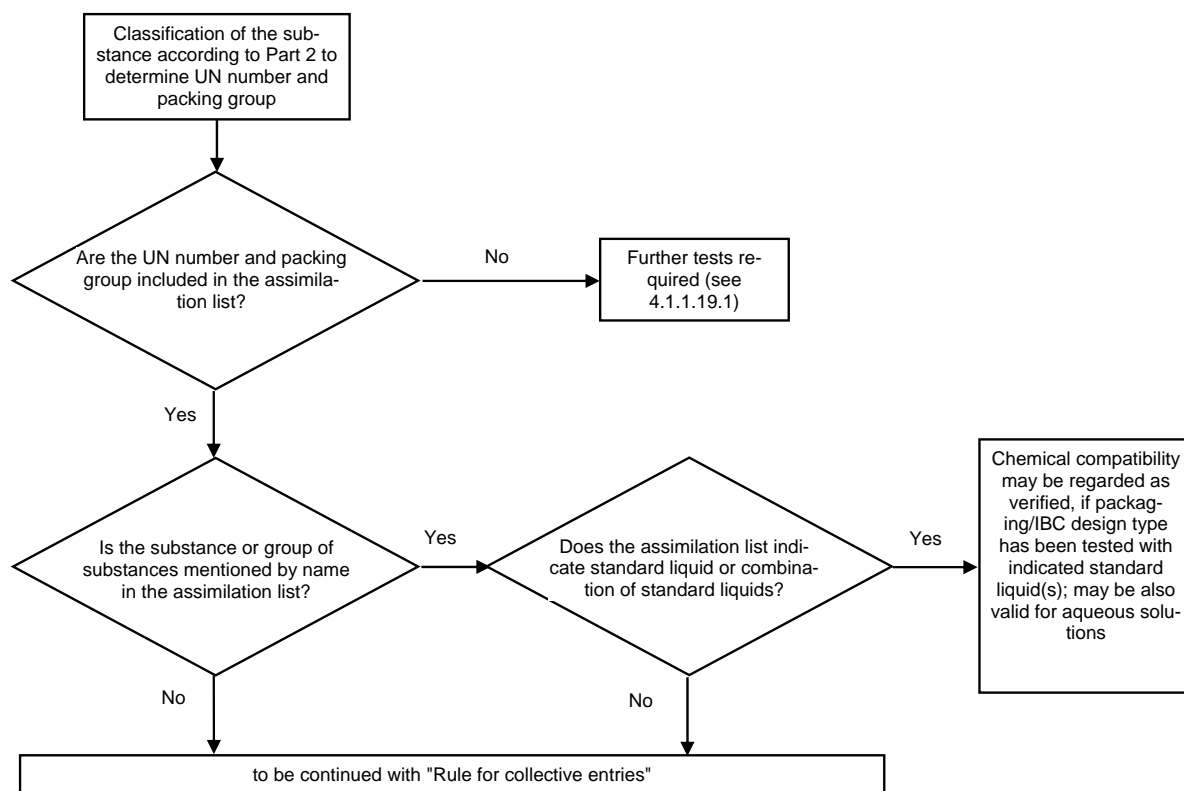
All components of a filling substance, which may be a solution, mixture or preparation, such as wetting agents in detergents and disinfectants, irrespective of whether dangerous or non-dangerous, shall be included in the assimilation procedure.

#### 4.1.1.19.3 Assimilation procedure

The following steps shall be taken to assign filling substances to listed substances or groups of substances in table 4.1.1.19.6 (see also scheme in Figure 4.1.1.19.1):

- Classify the filling substance in accordance with the procedures and criteria of Part 2 (determination of the UN number and packing group);
- If it is included there, go to the UN number in column (1) of table 4.1.1.19.6;
- Select the line that corresponds in terms of packing group, concentration, flashpoint, the presence of non-dangerous components etc. by means of the information given in columns (2a), (2b) and (4), if there is more than one entry for this UN number.  
If this is not possible, the chemical compatibility shall be verified in accordance with 6.1.5.2.5 or 6.1.5.2.7 for packagings, and in accordance with 6.5.6.3.3 or 6.5.6.3.6 for IBCs (however, in the case of aqueous solutions, see 4.1.1.19.4);
- If the UN number and packing group of the filling substance determined in accordance with (a) is not included in the assimilation list, the chemical compatibility shall be proved in accordance with 6.1.5.2.5 or 6.1.5.2.7 for packagings, and in accordance with 6.5.6.3.3 or 6.5.6.3.6 for IBCs;
- Apply the "Rule for collective entries", as described in 4.1.1.19.5, if this is indicated in column (5) of the selected line;
- The chemical compatibility of the filling substance may be regarded as verified taking into account 4.1.1.19.1 and 4.1.1.19.2, if a standard liquid or a combination of standard liquids is assimilated in column (5) and the design type is approved for that/those standard liquid(s).

**Figure 4.1.1.19.1: Scheme for the assimilation of filling substances to standard liquids**



**4.1.1.19.4 Aqueous solutions**

Aqueous solutions of substances and groups of substances assimilated to specific standard liquid(s) in accordance with 4.1.1.19.3 may also be assimilated to that (those) standard liquid(s) provided the following conditions are met:

- (a) the aqueous solution can be assigned to the same UN number as the listed substance in accordance with the criteria of 2.1.3.3, and
- (b) the aqueous solution is not specifically mentioned by name otherwise in the assimilation list in 4.1.1.19.6, and
- (c) no chemical reaction is taking place between the dangerous substance and the solvent water.

*Example: Aqueous solutions of UN 1120 tert-Butanol:*

- *Pure tert-Butanol itself is assigned to the standard liquid "acetic acid" in the assimilation list.*
- *Aqueous solutions of tert-Butanol can be classified under the entry UN 1120 BUTANOLS in accordance with 2.1.3.3, because the aqueous solution of tert-Butanol does not differ from the entries of the pure substances relating to the class, the packing group(s) and the physical state. Furthermore, the entry "1120 BUTANOLS" is not explicitly limited to the pure substances, and aqueous solutions of these substances are not specifically mentioned by name otherwise in Table A of Chapter 3.2 as well as in the assimilation list.*
- *UN 1120 BUTANOLS do not react with water under normal conditions of carriage.*

*As a consequence, aqueous solutions of UN 1120 tert-Butanol may be assigned to the standard liquid "acetic acid".*

**4.1.1.19.5 Rule for collective entries**

For the assimilation of filling substances for which "Rule for collective entries" is indicated in column (5), the following steps shall be taken and conditions be met (see also scheme in Figure 4.1.1.19.2):

- (a) Perform the assimilation procedure for each dangerous component of the solution, mixture or preparation in accordance with 4.1.1.19.3 taking into account the conditions in 4.1.1.19.2. In the case of generic entries, components may be neglected, that are known to have no damaging effect on high density polyethylene (e.g. solid pigments in UN 1263 PAINT or PAINT RELATED MATERIAL);
- (b) A solution, mixture or preparation cannot be assimilated to a standard liquid, if:
  - (i) the UN number and packing group of one or more of the dangerous components does not appear in the assimilation list; or
  - (ii) "Rule for collective entries" is indicated in column (5) of the assimilation list for one or more of the dangerous components; or
  - (iii) (with the exception of UN 2059 NITROCELLULOSE SOLUTION, FLAMMABLE) the classification code of one or more of its dangerous components differs from that of the solution, mixture or preparation.
- (c) If all dangerous components are listed in the assimilation list, and its classification codes are in accordance with the classification code of the solution, mixture or preparation itself, and all dangerous components are assimilated to the same standard liquid or combination of standard liquids in column (5), the chemical compatibility of the solution, mixture or preparation may be regarded as verified taking into account 4.1.1.19.1 and 4.1.1.19.2;
- (d) If all dangerous components are listed in the assimilation list and its classification codes are in accordance with the classification code of the solution, mixture or preparation itself, but different standard liquids are indicated in column (5), the chemical compatibility may only be regarded as verified for the following combinations of standard liquids taking into account 4.1.1.19.1 and 4.1.1.19.2:
  - (i) water/nitric acid 55%; with the exception of inorganic acids with classification code C1, which are assigned to standard liquid "water";
  - (ii) water/wetting solution;
  - (iii) water/acetic acid;
  - (iv) water/mixture of hydrocarbons;
  - (v) water/n-butyl acetate – n-butyl acetate-saturated wetting solution.
- (e) In the context of this rule, chemical compatibility is not regarded as verified for other combinations of standard liquids than those specified in (d) and for all cases specified in (b). In such cases the chemical compatibility shall be verified by other means (see 4.1.1.19.3 (d)).

*Example 1: Mixture of UN 1940 THIOGLYCOLIC ACID (50%) and UN 2531 METHACRYLIC ACID, STABILIZED (50%); classification of the mixture: UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S*

- *Both the UN numbers of the components and the UN number of the mixture are included in the assimilation list;*
- *Both the components and the mixture have the same classification code: C3;*

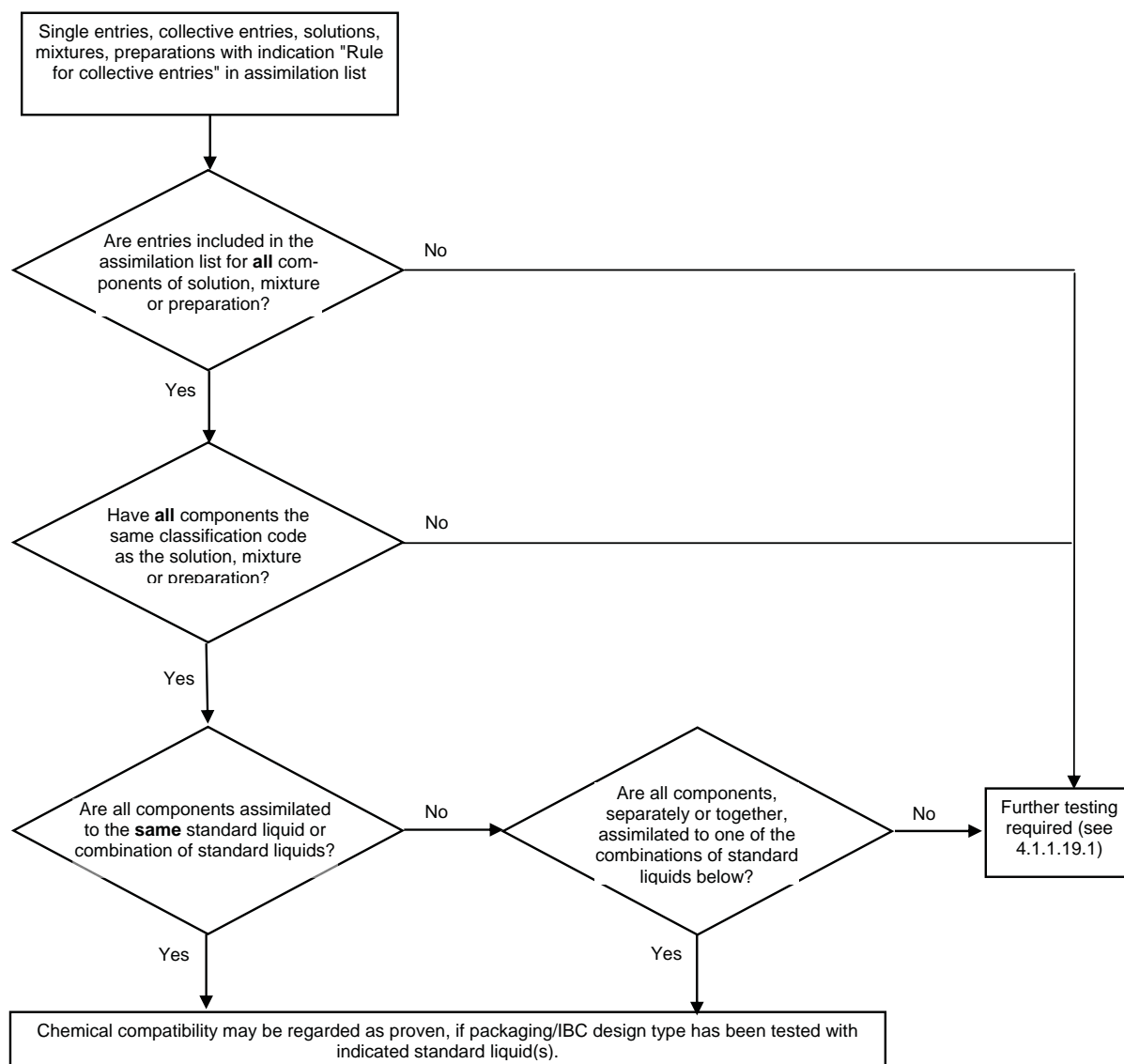
- UN 1940 THIOGLYCOLIC ACID is assimilated to standard liquid "acetic acid", and UN 2531 METHACRYLIC ACID, STABILIZED is assimilated to standard liquid "n-butyl acetate/n-butyl acetate-saturated wetting solution". According to paragraph (d) this is not an acceptable combination of standard liquids. The chemical compatibility of the mixture has to be verified by other means.

*Example 2: Mixture of UN 1793 ISOPROPYL ACID PHOSPHATE (50%) and UN 1803 PHENOLSULPHONIC ACID, LIQUID (50%); classification of the mixture: UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.*

- Both the UN numbers of the components and the UN number of the mixture are included in the assimilation list;
- Both the components and the mixture have the same classification code: C3;
- UN 1793 ISOPROPYL ACID PHOSPHATE is assimilated to standard liquid "wetting solution", and UN 1803 PHENOLSULPHONIC ACID, LIQUID is assimilated to standard liquid "water". According to paragraph (d) this is one of the acceptable combinations of standard liquids. As a consequence the chemical compatibility may be regarded as verified for this mixture, provided the packaging design type is approved for the standard liquids "wetting solution" and "water".



Figure 4.1.1.19.2: Scheme "Rules for collective entries"

**Acceptable combinations of standard liquids:**

- water/nitric acid (55%), with the exception of inorganic acids of classification code C1 which are assigned to standard liquid "water";
- water/wetting solution;
- water/acetic acid;
- water/mixture of hydrocarbons;
- water/n-butyl acetate – n-butyl acetate saturated wetting solution

**4.1.1.19.6 Assimilation list**

In the following table (assimilation list) dangerous substances are listed in the numerical order of their UN numbers. As a rule, each line deals with a dangerous substance, single entry or collective entry covered by a specific UN number. However, several consecutive lines may be used for the same UN number, if substances belonging to the same UN number have different names (e.g. individual isomers of a group of substances), different chemical properties, different physical properties and/or different transport conditions. In such cases the single entry or collective entry within the particular packing group is the last one of such consecutive lines.

Columns (1) to (4) of table 4.1.1.19.6, following a structure similar to that of Table A of Chapter 3.2, are used to identify the substance for the purpose of this sub-section. The last column indicates the standard liquid(s) to which the substance can be assimilated.

Explanatory notes for each column:

**Column (1) UN No.**

Contains the UN number

- of the dangerous substance, if the substance has been assigned its own specific UN number, or
- of the collective entry to which dangerous substances not listed by name have been assigned in accordance with the criteria ("decision trees") of Part 2.

**Column (2a) Proper shipping name or technical name**

Contains the name of the substance, the name of the single entry, which may cover various isomers, or the name of the collective entry itself.

The indicated name can deviate from the applicable proper shipping name.

**Column (2b) Description**

Contains a descriptive text to clarify the scope of the entry in those cases when the classification, the transport conditions and/or the chemical compatibility of the substance may be variable.

**Column (3a) Class**

Contains the number of the class, whose heading covers the dangerous substance. This class number is assigned in accordance with the procedures and criteria of Part 2.

**Column (3b) Classification code**

Contains the classification code of the dangerous substance in accordance with the procedures and criteria of Part 2.

**Column (4) Packing group**

Contains the packing group number(s) (I, II or III) assigned to the dangerous substance. These packing group numbers are assigned in accordance with the procedures and criteria of Part 2. Certain substances are not assigned to packing groups.

**Column (5) Standard liquid**

This column indicates, as definite information, either a standard liquid or a combination of standard liquids to which the substance can be assimilated, or a reference to the rule for collective entries in 4.1.1.19.5.

Table 4.1.1.19.6: Assimilation list

UN No.	Proper shipping name or technical name	Description	Class	Classification code	Packing group	Standard liquid
(1)	3.1.2 (2a)	3.1.2 (2b)	2.2 (3a)	2.2 (3b)	2.1.1.3 (4)	(5)
1090	Acetone		3	F1	II	Mixture of hydrocarbons <b>Remark:</b> applicable only, if it is proved that the permeability of the substance out of the package intended for carriage has an acceptable level
1093	Acrylonitrile, stabilized		3	FT1	I	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1104	Amyl acetates	pure isomers and isomeric mixture	3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1105	Pentanol	pure isomers and isomeric mixture	3	F1	II/III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1106	Amylamines	pure isomers and isomeric mixture	3	FC	II/III	Mixture of hydrocarbons <b>and</b> wetting solution
1109	Amyl formates	pure isomers and isomeric mixture	3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1120	Butanol	pure isomers and isomeric mixture	3	F1	II/III	Acetic acid
1123	Butyl acetates	pure isomers and isomeric mixture	3	F1	II/III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1125	n-Butylamine		3	FC	II	Mixture of hydrocarbons <b>and</b> wetting solution
1128	n-Butyl formate		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1129	Butyraldehyde		3	F1	II	Mixture of hydrocarbons
1133	Adhesives	containing flammable liquid	3	F1	I/II/III	Rule for collective entries
1139	Coating solution	includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining	3	F1	I/II/III	Rule for collective entries
1145	Cyclohexane		3	F1	II	Mixture of hydrocarbons
1146	Cyclopentane		3	F1	II	Mixture of hydrocarbons
1153	Ethylene glycol diethyl ether		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution <b>and</b> mixture of hydrocarbons
1154	Diethylamine		3	FC	II	Mixture of hydrocarbons <b>and</b> wetting solution
1158	Diisopropylamine		3	FC	II	Mixture of hydrocarbons <b>and</b> wetting solution
1160	Dimethylamine aqueous solution		3	FC	II	Mixture of hydrocarbons <b>and</b> wetting solution
1165	Dioxane		3	F1	II	Mixture of hydrocarbons

UN No.	Proper shipping name or technical name	Description	Class	Classification code	Packing group	Standard liquid
(1)	3.1.2 (2a)	3.1.2 (2b)	2.2 (3a)	2.2 (3b)	2.1.1.3 (4)	(5)
1169	<b>Extracts, aromatic, liquid</b>		3	F1	I/II/III	Rule for collective entries
1170	<b>Ethanol or Ethanol solution</b>	aqueous solution	3	F1	II/III	Acetic acid
1171	<b>Ethylene glycol monoethyl ether</b>		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution <b>and</b> mixture of hydrocarbons
1172	<b>Ethylene glycol monoethyl ether acetate</b>		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution <b>and</b> mixture of hydrocarbons
1173	<b>Ethyl acetate</b>		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1177	<b>2-Ethylbutyl acetate</b>		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1178	<b>2-Ethylbutyraldehyde</b>		3	F1	II	Mixture of hydrocarbons
1180	<b>Ethyl butyrate</b>		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1188	<b>Ethylene glycol mono-methyl ether</b>		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution <b>and</b> mixture of hydrocarbons
1189	<b>Ethylene glycol mono-methyl ether acetate</b>		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution <b>and</b> mixture of hydrocarbons
1190	<b>Ethyl formate</b>		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1191	<b>Octyl aldehydes</b>	pure isomers and isomeric mixture	3	F1	III	Mixture of hydrocarbons
1192	<b>Ethyl lactate</b>		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1195	<b>Ethyl propionate</b>		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1197	<b>Extracts, flavouring, liquid</b>		3	F1	I/II/III	Rule for collective entries
1198	<b>Formaldehyde solution, flammable</b>	aqueous solution, flashpoint between 23 °C and 60 °C	3	FC	III	Acetic acid
1202	<b>Diesel fuel</b>	complying with EN 590:2004 or with a flashpoint not more than 100 °C	3	F1	III	Mixture of hydrocarbons
1202	<b>Gas oil</b>	flashpoint not more than 100 °C	3	F1	III	Mixture of hydrocarbons
1202	<b>Heating oil, light</b>	extra light	3	F1	III	Mixture of hydrocarbons
1202	<b>Heating oil, light</b>	complying with EN 590:2004 or with a flashpoint not more than 100 °C	3	F1	III	Mixture of hydrocarbons
1203	<b>Motor spirit or gasoline or petrol</b>		3	F1	II	Mixture of hydrocarbons

UN No.	Proper shipping name or technical name	Description	Class	Classification code	Packing group	Standard liquid
(1)	3.1.2 (2a)	3.1.2 (2b)	2.2 (3a)	2.2 (3b)	2.1.1.3 (4)	(5)
1206	Heptanes	pure isomers and isomeric mixture	3	F1	II	Mixture of hydrocarbons
1207	Hexaldehyde	n-Hexaldehyde	3	F1	III	Mixture of hydrocarbons
1208	Hexanes	pure isomers and isomeric mixture	3	F1	II	Mixture of hydrocarbons
1210	Printing ink or Printing ink related material	flammable, including printing ink thinning or reducing compound	3	F1	I/II/III	Rule for collective entries
1212	Isobutanol		3	F1	III	Acetic acid
1213	Isobutyl acetate		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1214	Isobutylamine		3	FC	II	Mixture of hydrocarbons and wetting solution
1216	Isooctenes	pure isomers and isomeric mixture	3	F1	II	Mixture of hydrocarbons
1219	Isopropanol		3	F1	II	Acetic acid
1220	Isopropyl acetate		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1221	Isopropylamine		3	FC	I	Mixture of hydrocarbons and wetting solution
1223	Kerosene		3	F1	III	Mixture of hydrocarbons
1224	3,3-Dimethyl-2-butanone		3	F1	II	Mixture of hydrocarbons
1224	Ketones, liquid, n.o.s.		3	F1	II/III	Rule for collective entries
1230	Methanol		3	FT1	II	Acetic acid
1231	Methyl acetate		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1233	Methylamyl acetate		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1235	Methylamine, aqueous solution		3	FC	II	Mixture of hydrocarbons and wetting solution
1237	Methyl butyrate		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1247	Methyl methacrylate monomer, stabilized		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1248	Methyl propionate		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1262	Octanes	pure isomers and isomeric mixture	3	F1	II	Mixture of hydrocarbons
1263	Paint or Paint related material	including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base or including paint thinning and reducing compound	3	F1	I/II/III	Rule for collective entries
1265	Pentanes	n-Pentane	3	F1	II	Mixture of hydrocarbons
1266	Perfumery products	with flammable solvents	3	F1	I/II/III	Rule for collective entries
1268	Coal tar naphtha	vapour pressure at 50 °C not more than 110 kPa	3	F1	II	Mixture of hydrocarbons

UN No.	Proper shipping name or technical name	Description	Class	Classifi- cation code	Packing group	Standard liquid
(1)	3.1.2 (2a)	3.1.2 (2b)	2.2 (3a)	2.2 (3b)	2.1.1.3 (4)	(5)
1268	Petroleum distillates, n.o.s. or Petroleum products, n.o.s.		3	F1	I/II/III	Rule for collective entries
1274	n-Propanol		3	F1	II/III	Acetic acid
1275	Propionaldehyde		3	F1	II	Mixture of hydrocarbons
1276	n-Propyl acetate		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1277	Propylamine	n-Propylamine	3	FC	II	Mixture of hydrocarbons and wetting solution
1281	Propyl formates	pure isomers and iso- meric mixture	3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1282	Pyridine		3	F1	II	Mixture of hydrocarbons
1286	Rosin oil		3	F1	I/II/III	Rule for collective entries
1287	Rubber solution		3	F1	I/II/III	Rule for collective entries
1296	Triethylamine		3	FC	II	Mixture of hydrocarbons and wetting solution
1297	Trimethylamine, aqueous solution	not more than 50% trimethylamine, by mass	3	FC	I/II/III	Mixture of hydrocarbons and wetting solution
1301	Vinyl acetate, stabilized		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1306	Wood preservatives, liquid		3	F1	II/III	Rule for collective entries
1547	Aniline		6.1	T1	II	Acetic acid
1590	Dichloroanilines, liquid	pure isomers and iso- meric mixture	6.1	T1	II	Acetic acid
1602	Dye, liquid, toxic, n.o.s. or Dye intermediate, liquid, toxic, n.o.s.		6.1	T1	I/II/III	Rule for collective entries
1604	Ethylenediamine		8	CF1	II	Mixture of hydrocarbons and wetting solution
1715	Acetic anhydride		8	CF1	II	Acetic acid
1717	Acetyl chloride		3	FC	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1718	Butyl acid phosphate		8	C3	III	Wetting solution
1719	Hydrogen sulphide	aqueous solution	8	C5	III	Acetic acid
1719	Caustic alkali liquid, n.o.s.	inorganic	8	C5	II/III	Rule for collective entries
1730	Antimony pentachloride, liquid	pure	8	C1	II	Water
1736	Benzoyl chloride		8	C3	II	Mixture of hydrocarbons and wetting solution
1750	Chloroacetic acid solution	aqueous solution	6.1	TC1	II	Acetic acid
1750	Chloroacetic acid solution	mixtures of mono- and dichloroacetic acid	6.1	TC1	II	Acetic acid
1752	Chloroacetyl chloride		6.1	TC1	I	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1755	Chromic acid solution	aqueous solution with not more than 30% chromic acid	8	C1	II/III	Nitric acid
1760	Cyanamide	aqueous solution with not more than 50% cy- anamide	8	C9	II	Water

UN No.	Proper shipping name or technical name	Description	Class	Classification code	Packing group	Standard liquid
(1)	3.1.2 (2a)	3.1.2 (2b)	2.2 (3a)	2.2 (3b)	2.1.1.3 (4)	(5)
1760	O,O-Diethyl-dithiophosphoric acid		8	C9	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1760	O,O-Diisopropyl-dithiophosphoric acid		8	C9	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1760	O,O-Di-n-propyl-dithiophosphoric acid		8	C9	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1760	<b>Corrosive liquid, n.o.s.</b>	flashpoint more than 60 °C	8	C9	I/II/III	Rule for collective entries
1761	<b>Cupriethylenediamine solution</b>	aqueous solution	8	CT1	II/III	Mixture of hydrocarbons <b>and</b> wetting solution
1764	<b>Dichloroacetic acid</b>		8	C3	II	Acetic acid
1775	<b>Fluoroboric acid</b>	aqueous solution with not more than 50% fluoroboric acid	8	C1	II	Water
1778	<b>Fluorosilicic acid</b>		8	C1	II	Water
1779	<b>Formic acid</b>	with more than 85% acid by mass	8	C3	II	Acetic acid
1783	<b>Hexamethylenediamine solution</b>	aqueous solution	8	C7	II/III	Mixture of hydrocarbons <b>and</b> wetting solution
1787	<b>Hydriodic acid</b>	aqueous solution	8	C1	II/III	Water
1788	<b>Hydrobromic acid</b>	aqueous solution	8	C1	II/III	Water
1789	<b>Hydrochloric acid</b>	not more than 38% aqueous solution	8	C1	II/III	Water
1790	<b>Hydrofluoric acid</b>	with not more than 60% hydrofluoric acid	8	CT1	II	Water the permissible period of use: not more than 2 years
1791	<b>Hypochlorite solution</b>	aqueous solution, containing wetting agents as customary in trade	8	C9	II/III	Nitric acid <b>and</b> wetting solution <sup>(*)</sup>
1791	<b>Hypochlorite solution</b>	aqueous solution	8	C9	II/III	Nitric acid <sup>(*)</sup>
(*) For UN 1791: Test to be carried out only with vent. If the test is carried out with nitric acid as the standard liquid, an acid-resistant vent and gasket shall be used. If the test is carried out with hypochlorite solutions themselves, vents and gaskets of the same design type, resistant to hypochlorite (e.g. of silicone rubber) but not resistant to nitric acid, are also permitted.						
1793	<b>Isopropyl acid phosphate</b>		8	C3	III	Wetting solution
1802	<b>Perchloric acid</b>	aqueous solution with not more than 50% acid, by mass	8	CO1	II	Water
1803	<b>Phenolsulphonic acid, liquid</b>	isomeric mixture	8	C3	II	Water
1805	<b>Phosphoric acid, solution</b>		8	C1	III	Water
1814	<b>Potassium hydroxide solution</b>	aqueous solution	8	C5	II/III	Water
1824	<b>Sodium hydroxide solution</b>	aqueous solution	8	C5	II/III	Water
1830	<b>Sulphuric acid</b>	with more than 51% pure acid	8	C1	II	Water
1832	<b>Sulphuric acid, spent</b>	chemical stable	8	C1	II	Water
1833	<b>Sulphurous acid</b>		8	C1	II	Water
1835	<b>Tetramethylammonium hydroxide, solution</b>	aqueous solution, flashpoint more than 60 °C	8	C7	II	Water
1840	<b>Zinc chloride solution</b>	aqueous solution	8	C1	III	Water
1848	<b>Propionic acid</b>	with not less than 10% and less than 90% acid by mass	8	C3	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution

UN No.	Proper shipping name or technical name	Description	Class	Classification code	Packing group	Standard liquid
(1)	3.1.2 (2a)	3.1.2 (2b)	2.2 (3a)	2.2 (3b)	2.1.1.3 (4)	(5)
1862	Ethyl crotonate		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1863	Fuel, aviation, turbine engine		3	F1	I/II/III	Mixture of hydrocarbons
1866	Resin solution	flammable	3	F1	I/II/III	Rule for collective entries
1902	Diisooctyl acid phosphate		8	C3	III	Wetting solution
1906	Sludge acid		8	C1	II	Nitric acid
1908	Chlorite solution	aqueous solution	8	C9	II/III	Acetic acid
1914	Butyl propionates		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1915	Cyclohexanone		3	F1	III	Mixture of hydrocarbons
1917	Ethyl acrylate, stabilized		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1919	Methyl acrylate, stabilized		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1920	Nonanes	pure isomers and iso- meric mixture, flashpoint between 23 °C and 60 °C	3	F1	III	Mixture of hydrocarbons
1935	Cyanide solution, n.o.s.	inorganic	6.1	T4	I/II/III	Water
1940	Thioglycolic acid		8	C3	II	Acetic acid
1986	Alcohols, flammable, toxic, n.o.s.		3	FT1	I/II/III	Rule for collective entries
1987	Cyclohexanol	technical pure	3	F1	III	Acetic acid
1987	Alcohols, n.o.s.		3	F1	II/III	Rule for collective entries
1988	Aldehydes, flammable, toxic, n.o.s.		3	FT1	I/II/III	Rule for collective entries
1989	Aldehydes, n.o.s.		3	F1	I/II/III	Rule for collective entries
1992	2,6-cis-Dimethyl-morpholine		3	FT1	III	Mixture of hydrocarbons
1992	Flammable liquid, toxic, n.o.s.		3	FT1	I/II/III	Rule for collective entries
1993	Propionic acid vinyl ester		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1993	(1-Methoxy-2-propyl) acetate		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
1993	Flammable liquid, n.o.s.		3	F1	I/II/III	Rule for collective entries
2014	Hydrogen peroxide, aqueous solution	with not less than 20% but not more than 60% hydrogen peroxide, sta- bilized as necessary	5.1	OC1	II	Nitric acid
2022	Cresylic acid	liquid mixture containing cresols, xlenols and methyl phenols	6.1	TC1	II	Acetic acid
2030	Hydrazine aqueous solu- tion	with not less than 37% but not more than 64% hydrazine, by mass	8	CT1	II	Water
2030	Hydrazine hydrate	aqueous solution with 64% hydrazine	8	CT1	II	Water
2031	Nitric acid	other than red fuming, with not more than 55% pure acid	8	CO1	II	Nitric acid
2045	Isobutyraldehyde		3	F1	II	Mixture of hydrocarbons
2050	Diisobutylene isomeric compounds		3	F1	II	Mixture of hydrocarbons



UN No.	Proper shipping name or technical name	Description	Class	Classification code	Packing group	Standard liquid
(1)	3.1.2 (2a)	3.1.2 (2b)	2.2 (3a)	2.2 (3b)	2.1.1.3 (4)	(5)
2053	Methyl isobutyl carbinol		3	F1	III	Acetic acid
2054	Morpholine		8	CF1	I	Mixture of hydrocarbons
2057	Tripropylene		3	F1	II/III	Mixture of hydrocarbons
2058	Valeraldehyde	pure isomers and isomeric mixture	3	F1	II	Mixture of hydrocarbons
2059	Nitrocellulose solution, flammable		3	D	I/II/III	Rule for collective entries: Deviating from the general procedure this rule may be applied to solvents of classification code F1
2075	Chloral, anhydrous, stabilized		6.1	T1	II	Wetting solution
2076	Cresols, liquid	pure isomers and isomeric mixture	6.1	TC1	II	Acetic acid
2078	Toluene diisocyanate	liquid	6.1	T1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2079	Diethylenetriamine		8	C7	II	Mixture of hydrocarbons
2209	Formaldehyde solution	aqueous solution with 37% Form-aldehyde, methanol content: 8-10%	8	C9	III	Acetic acid
2209	Formaldehyde solution	aqueous solution, with not less than 25% formaldehyde	8	C9	III	Water
2218	Acrylic acid, stabilized		8	CF1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2227	n-Butyl methacrylate, stabilized		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2235	Chlorobenzyl chlorides, liquid	para-Chlorobenzyl chloride	6.1	T2	III	Mixture of hydrocarbons
2241	Cycloheptane		3	F1	II	Mixture of hydrocarbons
2242	Cycloheptene		3	F1	II	Mixture of hydrocarbons
2243	Cyclohexyl acetate		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2244	Cyclopentanol		3	F1	III	Acetic acid
2245	Cyclopentanone		3	F1	III	Mixture of hydrocarbons
2247	n-Decane		3	F1	III	Mixture of hydrocarbons
2248	Di-n-butylamine		8	CF1	II	Mixture of hydrocarbons
2258	1,2-Propylenediamine		8	CF1	II	Mixture of hydrocarbons and wetting solution
2259	Triethylenetetramine		8	C7	II	Water
2260	Tripropylamine		3	FC	III	Mixture of hydrocarbons and wetting solution
2263	Dimethylcyclohexanes	pure isomers and isomeric mixture	3	F1	II	Mixture of hydrocarbons
2264	N,N-Dimethyl-cyclohexylamine		8	CF1	II	Mixture of hydrocarbons and wetting solution
2265	N,N-Dimethyl-formamide		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2266	Dimethyl-N-propylamine		3	FC	II	Mixture of hydrocarbons and wetting solution

UN No.	Proper shipping name or technical name	Description	Class	Classification code	Packing group	Standard liquid
(1)	3.1.2 (2a)	3.1.2 (2b)	2.2 (3a)	2.2 (3b)	2.1.1.3 (4)	(5)
2269	3,3'-Imino-dipropylamine		8	C7	III	Mixture of hydrocarbons <b>and</b> wetting solution
2270	Ethylamine, aqueous solution	with not less than 50% but not more than 70% ethylamine, flashpoint below 23 °C, corrosive or slightly corrosive	3	FC	II	Mixture of hydrocarbons <b>and</b> wetting solution
2275	2-Ethylbutanol		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2276	2-Ethylhexylamine		3	FC	III	Mixture of hydrocarbons <b>and</b> wetting solution
2277	Ethyl methacrylate, stabilized		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2278	n-Heptene		3	F1	II	Mixture of hydrocarbons
2282	Hexanols	pure isomers and isomeric mixture	3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2283	Isobutyl methacrylate, stabilized		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2286	Pentamethylheptane		3	F1	III	Mixture of hydrocarbons
2287	Isoheptenes		3	F1	II	Mixture of hydrocarbons
2288	Isohexenes		3	F1	II	Mixture of hydrocarbons
2289	Isophoronediamine		8	C7	III	Mixture of hydrocarbons <b>and</b> wetting solution
2293	4-Methoxy-4-methylpentan-2-one		3	F1	III	Mixture of hydrocarbons
2296	Methylcyclohexane		3	F1	II	Mixture of hydrocarbons
2297	Methylcyclohexanone	pure isomers and isomeric mixture	3	F1	III	Mixture of hydrocarbons
2298	Methylcyclopentane		3	F1	II	Mixture of hydrocarbons
2302	5-Methylhexan-2-one		3	F1	III	Mixture of hydrocarbons
2308	Nitrosylsulphuric acid, liquid		8	C1	II	Water
2309	Octadienes		3	F1	II	Mixture of hydrocarbons
2313	Picolines	pure isomers and isomeric mixture	3	F1	III	Mixture of hydrocarbons
2317	Sodium cuprocyanide solution	aqueous solution	6.1	T4	I	Water
2320	Tetraethylenepentamine		8	C7	III	Mixture of hydrocarbons <b>and</b> wetting solution
2324	Triisobutylene	mixture of C12-monoolefines, flashpoint between 23 °C and 60 °C	3	F1	III	Mixture of hydrocarbons
2326	Trimethylcyclohexylamine		8	C7	III	Mixture of hydrocarbons <b>and</b> wetting solution
2327	Trimethylhexamethylenediamines	pure isomers and isomeric mixture	8	C7	III	Mixture of hydrocarbons <b>and</b> wetting solution
2330	Undecane		3	F1	III	Mixture of hydrocarbons

UN No.	Proper shipping name or technical name	Description	Class	Classification code	Packing group	Standard liquid
(1)	3.1.2 (2a)	3.1.2 (2b)	2.2 (3a)	2.2 (3b)	2.1.1.3 (4)	(5)
2336	Allyl formate		3	FT1	I	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2348	Butyl acrylates, stabilized	pure isomers and isomeric mixture	3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2357	Cyclohexylamine	flashpoint between 23 °C and 60 °C	8	CF1	II	Mixture of hydrocarbons <b>and</b> wetting solution
2361	Diisobutylamine		3	FC	III	Mixture of hydrocarbons <b>and</b> wetting solution
2366	Diethyl carbonate		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2367	alpha-Methylvaleraldehyde		3	F1	II	Mixture of hydrocarbons
2370	1-Hexene		3	F1	II	Mixture of hydrocarbons
2372	1,2-Di-(dimethylamino)-ethane		3	F1	II	Mixture of hydrocarbons <b>and</b> wetting solution
2379	1,3-Dimethylbutylamine		3	FC	II	Mixture of hydrocarbons <b>and</b> wetting solution
2383	Dipropylamine		3	FC	II	Mixture of hydrocarbons <b>and</b> wetting solution
2385	Ethyl isobutyrate		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2393	Isobutyl formate		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2394	Isobutyl propionate	flashpoint between 23 °C and 60 °C	3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2396	Methacrylaldehyde, stabilized		3	FT1	II	Mixture of hydrocarbons
2400	Methyl isovalerate		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2401	Piperidine		8	CF1	I	Mixture of hydrocarbons <b>and</b> wetting solution
2403	Isopropenyl acetate		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2405	Isopropyl butyrate		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2406	Isopropyl isobutyrate		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2409	Isopropyl propionate		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2410	1,2,3,6-Tetrahydropyridine		3	F1	II	Mixture of hydrocarbons
2427	Potassium chlorate, aqueous solution		5.1	O1	II/III	Water
2428	Sodium chlorate, aqueous solution		5.1	O1	II/III	Water

UN No.	Proper shipping name or technical name	Description	Class	Classification code	Packing group	Standard liquid
(1)	3.1.2 (2a)	3.1.2 (2b)	2.2 (3a)	2.2 (3b)	2.1.1.3 (4)	(5)
2429	Calcium chlorate, aqueous solution		5.1	O1	II/III	Water
2436	Thioacetic acid		3	F1	II	Acetic acid
2457	2,3-Dimethylbutane		3	F1	II	Mixture of hydrocarbons
2491	Ethanolamine		8	C7	III	Wetting solution
2491	Ethanolamine solution	aqueous solution	8	C7	III	Wetting solution
2496	Propionic anhydride		8	C3	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2524	Ethyl orthoformate		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2526	Furfurylamine		3	FC	III	Mixture of hydrocarbons and wetting solution
2527	Isobutyl acrylate, stabilized		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2528	Isobutyl isobutyrate		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2529	Isobutyric acid		3	FC	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2531	Methacrylic acid, stabilized		8	C3	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2542	Tributylamine		6.1	T1	II	Mixture of hydrocarbons
2560	2-Methylpentan-2-ol		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2564	Trichloroacetic acid solution	aqueous solution	8	C3	II/III	Acetic acid
2565	Dicyclohexylamine		8	C7	III	Mixture of hydrocarbons and wetting solution
2571	Ethylsulphuric acid		8	C3	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2571	Alkylsulphuric acids		8	C3	II	Rule for collective entries
2580	Aluminium bromide solution	aqueous solution	8	C1	III	Water
2581	Aluminium chloride solution	aqueous solution	8	C1	III	Water
2582	Ferric chloride solution	aqueous solution	8	C1	III	Water
2584	Methane sulphonic acid	with more than 5% free sulphuric acid	8	C1	II	Water
2584	Alkylsulphonic acids, liquid	with more than 5% free sulphuric acid	8	C1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2584	Benzene sulphonic acid	with more than 5% free sulphuric acid	8	C1	II	Water
2584	Toluene sulphonic acids	with more than 5% free sulphuric acid	8	C1	II	Water
2584	Arylsulphonic acids, liquid	with more than 5% free sulphuric acid	8	C1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2586	Methane sulphonic acid	with not more than 5% free sulphuric acid	8	C3	III	Water

UN No.	Proper shipping name or technical name	Description	Class	Classification code	Packing group	Standard liquid
(1)	3.1.2 (2a)	3.1.2 (2b)	2.2 (3a)	2.2 (3b)	2.1.1.3 (4)	(5)
2586	Alkylsulphonic acids, liquid	with not more than 5% free sulphuric acid	8	C3	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2586	Benzene sulphonic acid	with not more than 5% free sulphuric acid	8	C3	III	Water
2586	Toluene sulphonic acids	liquid, with not more than 5% free sulphuric acid	8	C3	III	Water
2586	Arylsulphonic acids, liquid	with not more than 5% free sulphuric acid	8	C3	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2610	Triallylamine		3	FC	III	Mixture of hydrocarbons and wetting solution
2614	Methallyl alcohol		3	F1	III	Acetic acid
2617	Methylcyclohexanols	pure isomers and isomeric mixture, flashpoint between 23 °C and 60 °C	3	F1	III	Acetic acid
2619	Benzyldimethylamine		8	CF1	II	Mixture of hydrocarbons and wetting solution
2620	Amyl butyrates	pure isomers and isomeric mixture, flashpoint between 23 °C and 60 °C	3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2622	Glycidaldehyde	flashpoint below 23 °C	3	FT1	II	Mixture of hydrocarbons
2626	Chloric acid, aqueous solution	with not more than 10% chloric acid	5.1	O1	II	Nitric acid
2656	Quinoline	flashpoint more than 60 °C	6.1	T1	III	Water
2672	Ammonia solution	relative density between 0.880 and 0.957 at 15 °C in water, with more than 10% but not more than 35% ammonia	8	C5	III	Water
2683	Ammonium sulphide solution	aqueous solution, flashpoint between 23 °C and 60 °C	8	CFT	II	Acetic acid
2684	3-Diethylaminopropylamine		3	FC	III	Mixture of hydrocarbons and wetting solution
2685	N,N-Diethylethylenediamine		8	CF1	II	Mixture of hydrocarbons and wetting solution
2693	Bisulphites, aqueous solution, n.o.s.	inorganic	8	C1	III	Water
2707	Dimethyldioxanes	pure isomers and isomeric mixture	3	F1	II/III	Mixture of hydrocarbons
2733	Amines, flammable, corrosive, n.o.s. or Polyamines, flammable, corrosive, n.o.s.		3	FC	I/II/III	Mixture of hydrocarbons and wetting solution
2734	Di-sec-butylamine		8	CF1	II	Mixture of hydrocarbons
2734	Amines, liquid, corrosive, flammable, n.o.s. or Polyamines, liquid, corrosive, flammable, n.o.s.		8	CF1	I/II	Mixture of hydrocarbons and wetting solution

UN No.	Proper shipping name or technical name	Description	Class	Classification code 2.2	Packing group 2.1.1.3	Standard liquid
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
2735	Amines, liquid, corrosive, n.o.s. or Polyamines, liquid, corrosive, n.o.s.		8	C7	I/II/III	Mixture of hydrocarbons and wetting solution
2739	Butyric anhydride		8	C3	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2789	Acetic acid, glacial or Acetic acid solution	aqueous solution, more than 80% acid, by mass	8	CF1	II	Acetic acid
2790	Acetic acid solution	aqueous solution, more than 10% but not more than 80% acid, by mass	8	C3	II/III	Acetic acid
2796	Sulphuric acid	with not more than 51% pure acid	8	C1	II	Water
2797	Battery fluid, alkali	Potassium/Sodium hydroxide, aqueous solution	8	C5	II	Water
2810	2-Chloro-6-fluorobenzyl chloride	stabilized	6.1	T1	III	Mixture of hydrocarbons
2810	2-Phenylethanol		6.1	T1	III	Acetic acid
2810	Ethylene glycol monohexyl ether		6.1	T1	III	Acetic acid
2810	Toxic liquid, organic, n.o.s.		6.1	T1	I/II/III	Rule for collective entries
2815	N-Aminoethylpiperazine		8	C7	III	Mixture of hydrocarbons and wetting solution
2818	Ammonium polysulphide solution	aqueous solution	8	CT1	II/III	Acetic acid
2819	Amyl acid phosphate		8	C3	III	Wetting solution
2820	Butyric acid	n-Butyric acid	8	C3	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2821	Phenol solution	aqueous solution, toxic, non-alkaline	6.1	T1	II/III	Acetic acid
2829	Caproic acid	n-Caproic acid	8	C3	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2837	Bisulphates, aqueous solution		8	C1	II/III	Water
2838	Vinyl butyrate, stabilized		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2841	Di-n-amylamine		3	FT1	III	Mixture of hydrocarbons and wetting solution
2850	Propylene tetramer	mixture of C12-monoolefines, flashpoint between 23 °C and 60 °C	3	F1	III	Mixture of hydrocarbons
2873	Dibutylaminoethanol	N,N-Di-n-butylaminoethanol	6.1	T1	III	Acetic acid
2874	Furfuryl alcohol		6.1	T1	III	Acetic acid
2920	O,O-Diethyl-dithiophosphoric acid	flashpoint between 23 °C and 60 °C	8	CF1	II	n-Butyl acetate/n-butyl acetate-saturated wetting solution
2920	O,O-Dimethyl-dithiophosphoric acid	flashpoint between 23 °C and 60 °C	8	CF1	II	Wetting solution
2920	Hydrogen bromide	33% solution in glacial acetic acid	8	CF1	II	Wetting solution

UN No.	Proper shipping name or technical name	Description	Class	Classification code 2.2	Packing group 2.1.1.3	Standard liquid
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
2920	Tetramethylammonium hydroxide	aqueous solution, flash-point between 23 °C and 60 °C	8	CF1	II	Water
2920	<b>Corrosive liquid, flammable, n.o.s.</b>		8	CF1	I/II	Rule for collective entries
2922	Ammonium sulphide	aqueous solution, flash-point more than 60 °C	8	CT1	II	Water
2922	Cresols	aqueous alkaline solution, mixture of sodium and potassium cresolate	8	CT1	II	Acetic acid
2922	Phenol	aqueous alkaline solution, mixture of sodium and potassium phenolate	8	CT1	II	Acetic acid
2922	Sodium hydrogen difluoride	aqueous solution	8	CT1	III	Water
2922	<b>Corrosive liquid, toxic, n.o.s.</b>		8	CT1	I/II/III	Rule for collective entries
2924	<b>Flammable liquid, corrosive, n.o.s.</b>	slightly corrosive	3	FC	I/II/III	Rule for collective entries
2927	<b>Toxic liquid, corrosive, organic, n.o.s.</b>		6.1	TC1	I/II	Rule for collective entries
2933	<b>Methyl 2-chloropropionate</b>		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2934	<b>Isopropyl 2-chloropropionate</b>		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2935	<b>Ethyl 2-chloropropionate</b>		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2936	<b>Thiolactic acid</b>		6.1	T1	II	Acetic acid
2941	<b>Fluoroanilines</b>	pure isomers and isomeric mixture	6.1	T1	III	Acetic acid
2943	<b>Tetrahydrofurfurylamine</b>		3	F1	III	Mixture of hydrocarbons
2945	<b>N-Methylbutylamine</b>		3	FC	II	Mixture of hydrocarbons and wetting solution
2946	<b>2-Amino-5-diethylaminopentane</b>		6.1	T1	III	Mixture of hydrocarbons and wetting solution
2947	<b>Isopropyl chloroacetate</b>		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
2984	<b>Hydrogen peroxide, aqueous solution</b>	with not less than 8% but less than 20% hydrogen peroxide, stabilized as necessary	5.1	O1	III	Nitric acid
3056	<b>n-Heptaldehyde</b>		3	F1	III	Mixture of hydrocarbons
3065	<b>Alcoholic beverages</b>	with more than 24% alcohol by volume	3	F1	II/III	Acetic acid
3066	<b>Paint or Paint related material</b>	including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base or including paint thinning and reducing compound	8	C9	II/III	Rule for collective entries
3079	<b>Methacrylonitrile, stabilized</b>		3	FT1	I	n-Butyl acetate/ n-butyl acetate-saturated wetting solution

UN No.	Proper shipping name or technical name	Description	Class	Classification code	Packing group	Standard liquid
(1)	3.1.2 (2a)	3.1.2 (2b)	2.2 (3a)	2.2 (3b)	2.1.1.3 (4)	(5)
3082	sec-Alcohol C <sub>6</sub> -C <sub>17</sub> poly (3-6) ethoxylate		9	M6	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution <b>and</b> mixture of hydrocarbons
3082	Alcohol C <sub>12</sub> -C <sub>15</sub> poly (1-3) ethoxylate		9	M6	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution <b>and</b> mixture of hydrocarbons
3082	Alcohol C <sub>13</sub> -C <sub>15</sub> poly (1-6) ethoxylate		9	M6	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution <b>and</b> mixture of hydrocarbons
3082	Aviation turbine fuel JP-5	flashpoint more than 60 °C	9	M6	III	Mixture of hydrocarbons
3082	Aviation turbine fuel JP-7	flashpoint more than 60 °C	9	M6	III	Mixture of hydrocarbons
3082	Coal tar	flashpoint more than 60 °C	9	M6	III	Mixture of hydrocarbons
3082	Coal tar naphtha	flashpoint more than 60 °C	9	M6	III	Mixture of hydrocarbons
3082	Creosote produced of coal tar	flashpoint more than 60 °C	9	M6	III	Mixture of hydrocarbons
3082	Creosote produced of wood tar	flashpoint more than 60 °C	9	M6	III	Mixture of hydrocarbons
3082	Cresyl diphenyl phosphate		9	M6	III	Wetting solution
3082	Decyl acrylate		9	M6	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution <b>and</b> mixture of hydrocarbons
3082	Diisobutyl phthalate		9	M6	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution <b>and</b> mixture of hydrocarbons
3082	Di-n-butyl phthalate		9	M6	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution <b>and</b> mixture of hydrocarbons
3082	Hydrocarbons	liquid, flashpoint more than 60 °C, environmentally hazardous	9	M6	III	Rule for collective entries
3082	Isodecyl diphenyl phosphate		9	M6	III	Wetting solution
3082	Methylnaphthalenes	isomeric mixture, liquid	9	M6	III	Mixture of hydrocarbons
3082	Triaryl phosphates	n.o.s.	9	M6	III	Wetting solution
3082	Tricresyl phosphate	with not more than 3% ortho-isomer	9	M6	III	Wetting solution
3082	Trixylenyl phosphate		9	M6	III	Wetting solution
3082	Zinc alkyl dithiophosphate	C3-C14	9	M6	III	Wetting solution
3082	Zinc aryl dithiophosphate	C7-C16	9	M6	III	Wetting solution
3082	<b>Environmentally hazardous substance, liquid, n.o.s.</b>		9	M6	III	Rule for collective entries
3099	<b>Oxidizing liquid, toxic, n.o.s.</b>		5.1	OT1	I/II/III	Rule for collective entries



UN No.	Proper shipping name or technical name	Description	Class	Classification code	Packing group	Standard liquid
(1)	3.1.2 (2a)	3.1.2 (2b)	2.2 (3a)	2.2 (3b)	2.1.1.3 (4)	(5)
3101 3103 3105 3107 3109 3111 3113 3115 3117 3119	<b>Organic Peroxide, Type B, C, D, E or F, liquid or Organic Peroxide, Type B, C, D, E or F, liquid, temperature controlled</b>		5.2	P1		n-Butyl acetate/ n-butyl acetate-saturated wetting solution <b>and</b> mixture of hydrocarbons <b>and</b> nitric acid <sup>(**)</sup>
<sup>(**)</sup> For UN Nos. 3101, 3103, 3105, 3107, 3109, 3111, 3113, 3115, 3117, 3119 (tert-butyl hydroperoxide with more than 40 % peroxide content and peroxyacetic acids are excluded): All organic peroxides in a technically pure form or in solution in solvents which, as far as their compatibility is concerned, are covered by the standard liquid "mixture of hydrocarbons" in this list. Compatibility of vents and gaskets with organic peroxides may be verified, also independently of the design type test, by laboratory tests with nitric acid. Organic peroxides of UN Nos 3111, 3113, 3115, 3117 and 3119 are not accepted for carriage by rail.						
3145	Butylphenols	liquid, n.o.s.	8	C3	I/II/III	Acetic acid
3145	Alkylphenols, liquid, n.o.s.	including C2 to C12 homologues	8	C3	I/II/III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3149	Hydrogen peroxide and peroxyacetic acid mixture, stabilized	with UN 2790 acetic acid, UN 2796 sulphuric acid and/or UN 1805 phosphoric acid, water and not more than 5% peroxyacetic acid	5.1	OC1	II	Wetting solution <b>and</b> nitric acid
3210	Chlorates, inorganic, aqueous solution, n.o.s.		5.1	O1	II/III	Water
3211	Perchlorates, inorganic, aqueous solution, n.o.s.		5.1	O1	II/III	Water
3213	Bromates, inorganic, aqueous solution, n.o.s.		5.1	O1	II/III	Water
3214	Permanganates, inorganic, aqueous solution, n.o.s.		5.1	O1	II	Water
3216	Persulphates, inorganic, aqueous solution, n.o.s.		5.1	O1	III	Wetting solution
3218	Nitrates, inorganic, aqueous solution, n.o.s.		5.1	O1	II/III	Water
3219	Nitrites, inorganic, aqueous solution, n.o.s.		5.1	O1	II/III	Water
3264	Cupric chloride	aqueous solution, slightly corrosive	8	C1	III	Water
3264	Hydroxylamine sulphate	25% aqueous solution	8	C1	III	Water
3264	Phosphorous acid	aqueous solution	8	C1	III	Water
3264	Corrosive liquid, acidic, inorganic, n.o.s.	flashpoint more than 60 °C	8	C1	I/II/III	Rule for collective entries; not applicable to mixtures having components of UN Nos.: 1830, 1832, 1906 and 2308
3265	Methoxyacetic acid		8	C3	I	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3265	Allyl succinic acid anhydride		8	C3	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3265	Dithioglycolic acid		8	C3	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution

UN No.	Proper shipping name or technical name	Description	Class	Classification code	Packing group	Standard liquid
(1)	3.1.2 (2a)	3.1.2 (2b)	2.2 (3a)	2.2 (3b)	2.1.1.3 (4)	(5)
3265	Butyl phosphate	mixture of mono- and di-butyl phosphate	8	C3	III	Wetting solution
3265	Caprylic acid		8	C3	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3265	Isovaleric acid		8	C3	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3265	Pelargonic acid		8	C3	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3265	Pyruvic acid		8	C3	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3265	Valeric acid		8	C3	III	Acetic acid
3265	<b>Corrosive liquid, acidic, organic, n.o.s.</b>	flashpoint more than 60 °C	8	C3	I/II/III	Rule for collective entries
3266	Sodium hydrosulphide	aqueous solution	8	C5	II	Acetic acid
3266	Sodium sulphide	aqueous solution, slightly corrosive	8	C5	III	Acetic acid
3266	<b>Corrosive liquid, basic, inorganic, n.o.s.</b>	flashpoint more than 60 °C	8	C5	I/II/III	Rule for collective entries
3267	2,2'-(Butylimino)-bisethanol		8	C7	II	Mixture of hydrocarbons <b>and</b> wetting solution
3267	<b>Corrosive liquid, basic, organic, n.o.s.</b>	flashpoint more than 60 °C	8	C7	I/II/III	Rule for collective entries
3271	Ethylene glycol monobutyl ether	flashpoint 60 °C	3	F1	III	Acetic acid
3271	<b>Ether, n.o.s.</b>		3	F1	II/III	Rule for collective entries
3272	Acrylic acid tert-butyl ester		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3272	Isobutyl propionate	flashpoint below 23 °C	3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3272	Methyl valerate		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3272	Trimethyl ortho-formate		3	F1	II	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3272	Ethyl valerate		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3272	Isobutyl isovalerate		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3272	n-Amyl propionate		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3272	n-Butylbutyrate		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3272	Methyl lactate		3	F1	III	n-Butyl acetate/ n-butyl acetate-saturated wetting solution
3272	<b>Ester, n.o.s.</b>		3	F1	II/III	Rule for collective entries
3287	Sodium nitrite	40% aqueous solution	6.1	T4	III	Water
3287	<b>Toxic liquid, inorganic, n.o.s.</b>		6.1	T4	I/II/III	Rule for collective entries

UN No.	Proper shipping name or technical name	Description	Class	Classification code	Packing group	Standard liquid
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
3291	Clinical waste, unspecified, n.o.s.	liquid	6.2	I3	II	Water
3293	Hydrazine, aqueous solution	with not more than 37% hydrazine, by mass	6.1	T4	III	Water
3295	Heptenes	n.o.s.	3	F1	II	Mixture of hydrocarbons
3295	Nonanes	flashpoint below 23 °C	3	F1	II	Mixture of hydrocarbons
3295	Decanes	n.o.s.	3	F1	III	Mixture of hydrocarbons
3295	1,2,3-Trimethylbenzene		3	F1	III	Mixture of hydrocarbons
3295	Hydrocarbons, liquid, n.o.s.		3	F1	I/II/III	Rule for collective entries
3405	Barium chlorate, solution	aqueous solution	5.1	OT1	II/III	Water
3406	Barium perchlorate, solution	aqueous solution	5.1	OT1	II/III	Water
3408	Lead perchlorate, solution	aqueous solution	5.1	OT1	II/III	Water
3413	Potassium cyanide, solution	aqueous solution	6.1	T4	I/II/III	Water
3414	Sodium cyanide, solution	aqueous solution	6.1	T4	I/II/III	Water
3415	Sodium fluoride, solution	aqueous solution	6.1	T4	III	Water
3422	Potassium fluoride, solution	aqueous solution	6.1	T4	III	Water

#### 4.1.2 Additional general provisions for the use of IBCs

**4.1.2.1** When IBCs are used for the carriage of liquids with a flashpoint of 60 °C (closed cup) or lower, or of powders liable to dust explosion, measures shall be taken to prevent a dangerous electrostatic discharge.

**4.1.2.2** Every metal, rigid plastics and composite IBC, shall be inspected and tested, as relevant, in accordance with 6.5.4.4 or 6.5.4.5:

- before it is put into service;
- thereafter at intervals not exceeding two and a half and five years, as appropriate;
- after the repair or remanufacture, before it is re-used for carriage.

An IBC shall not be filled and offered for carriage after the date of expiry of the last periodic test or inspection. However, an IBC filled prior to the date of expiry of the last periodic test or inspection may be carried for a period not to exceed three months beyond the date of expiry of the last periodic test or inspection. In addition, an IBC may be carried after the date of expiry of the last periodic test or inspection:

- (a) after emptying but before cleaning, for purposes of performing the required test or inspection prior to re-filling; and
- (b) unless otherwise approved by the competent authority, for a period not to exceed six months beyond the date of expiry of the last periodic test or inspection in order to allow the return of dangerous goods or residues for proper disposal or recycling.

**NOTE:** For the particulars in the transport document, see 5.4.1.1.11.

**4.1.2.3** IBCs of type 31HZ2 shall be filled to at least 80% of the volume of the outer casing.

**4.1.2.4** Except for routine maintenance of metal, rigid plastics, composite and flexible IBCs performed by the owner of the IBC, whose State and name or authorized symbol is durably marked on the IBC, the party performing routine maintenance shall durably mark the IBC near the manufacturer's UN design type marking to show:

- (a) The State in which the routine maintenance was carried out; and
- (b) The name or authorized symbol of the party performing the routine maintenance.

#### 4.1.3 General provisions concerning packing instructions

**4.1.3.1** Packing instructions applicable to dangerous goods of Classes 1 to 9 are specified in Section 4.1.4. They are subdivided in three sub-sections depending on the type of packagings to which they apply:

Sub-section 4.1.4.1 for packagings other than IBCs and large packagings; these packing instructions are designated by an alphanumeric code starting with the letter "P" or "R" for packagings specific to RID and ADR;

Sub-section 4.1.4.2 for IBCs; these are designated by an alphanumeric code starting with the letters "IBCs";

Sub-section 4.1.4.3 for large packagings; these are designated by an alphanumeric code starting with the letters "LP".

Generally, packing instructions specify that the general provisions of 4.1.1, 4.1.2 or 4.1.3, as appropriate, are applicable. They may also require compliance with the special provisions of Sections 4.1.5, 4.1.6, 4.1.7, 4.1.8 or 4.1.9 when appropriate. Special packing provisions may also be specified in the packing instruction for individual substances or articles. They are also designated by an alphanumeric code comprising the letters:

"PP" for packagings other than IBCs and large packagings, or "RR" for special provisions specific to RID and ADR;

"B" for IBCs or "BB" for special packing provisions specific to RID and ADR;

"L" for large packagings.

Unless otherwise specified, each packaging shall conform to the applicable requirements of Part 6. Generally packing instructions do not provide guidance on compatibility and the user shall not select a packaging without checking that the substance is compatible with the packaging material selected (e.g. glass receptacles are unsuitable for most fluorides). Where glass receptacles are permitted in the packing instructions porcelain, earthenware and stoneware packagings are also allowed.

**4.1.3.2** Column (8) of Table A of Chapter 3.2 shows for each article or substance the packing instruction(s) that shall be used. Columns (9a) and (9b) indicate the special packing provisions and the mixed packing provisions (see 4.1.10) applicable to specific substances or articles.

**4.1.3.3** Each packing instruction shows, where applicable, the acceptable single and combination packagings. For combination packagings, the acceptable outer packagings, inner packagings and when applicable the maximum quantity permitted in each inner or outer packaging, are shown. Maximum net mass and maximum capacity are as defined in 1.2.1.

**4.1.3.4** The following packagings shall not be used when the substances being carried are liable to become liquid during carriage:

Packagings

Drums:	1D and 1G
Boxes:	4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H1 and 4H2
Bags:	5L1, 5L2, 5L3, 5H1, 5H2, 5H3, 5H4, 5M1 and 5M2
Composite packagings:	6HC, 6HD2, 6HG1, 6HG2, 6HD1, 6PC, 6PD1, 6PD2, 6PG1, 6PG2 and 6PH1

Large packagings

Flexible plastics:	51H (outer packaging)
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IBCs

For substances of packing group I:	All types of IBC
For substances of packing groups II and III:	
Wooden:	11C, 11D and 11F
Fibreboard:	11G
Flexible:	13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 and 13M2
Composite:	11HZ2 and 21HZ2

For the purposes of this paragraph, substances and mixtures of substances having a melting point equal to or less than 45 °C shall be treated as solids liable to become liquid during transport.

**4.1.3.5** Where the packing instructions in this Chapter authorize the use of a particular type of packaging (e.g. 4G, 1A2), packagings bearing the same packaging identification code followed by the letters "V", "U" or "W" marked in accordance with the requirements of Part 6 (e.g. 4GV, 4GU or 4GW; 1A2V, 1A2U or 1A2W) may also be used under the same conditions and limitations applicable to the use of that type of packaging according to the relevant packing instructions. For example, a combination packaging marked with the packaging code "4GV" may be used whenever a combination packaging marked "4G" is authorized, provided the requirements in the relevant packing instruction regarding types of inner packagings and quantity limitations are respected.

**4.1.3.6 Pressure receptacles for liquids and solids**

**4.1.3.6.1** Unless otherwise indicated in RID, pressure receptacles conforming to:

- (a) the applicable requirements of Chapter 6.2 or
- (b) the national or international standards on the design, construction, testing, manufacturing and inspection, as applied by the country in which the pressure receptacles are manufactured, provided that the provisions of 4.1.3.6 are met and that, for metallic cylinders, tubes, pressure drums and bundles of cylinders, the construction is such that the minimum burst ratio (burst pressure divided by test pressure) is:
  - (i) 1.50 for refillable pressure receptacles;
  - (ii) 2.00 for non-refillable pressure receptacles;

are authorized for the carriage of any liquid or solid substance other than explosives, thermally unstable substances, organic peroxides, self-reactive substances, substances where significant pressure may develop by evolution of chemical reaction and radioactive material (unless permitted in 4.1.9).

This sub-section is not applicable to the substances mentioned in 4.1.4.1, packing instruction P200, table 3.

**4.1.3.6.2** Every design type of pressure receptacle shall be approved by the competent authority of the country of manufacture or as indicated in Chapter 6.2.

**4.1.3.6.3** Unless otherwise indicated, pressure receptacles having a minimum test pressure of 0.6 MPa shall be used.

**4.1.3.6.4** Unless otherwise indicated, pressure receptacles may be provided with an emergency pressure relief device designed to avoid bursting in case of overfill or fire accidents.

Pressure receptacle valves shall be designed and constructed in such a way that they are inherently able to withstand damage without release of the contents or shall be protected from damage which could cause inadvertent release of the contents of the pressure receptacle, by one of the methods as given in 4.1.6.8 (a) to (e).

**4.1.3.6.5** The level of filling shall not exceed 95% of the capacity of the pressure receptacle at 50 °C. Sufficient ullage (outage) shall be left to ensure that the pressure receptacle will not be liquid full at a temperature of 55 °C.

**4.1.3.6.6** Unless otherwise indicated pressure receptacles shall be subjected to a periodic inspection and test every 5 years. The periodic inspection shall include an external examination, an internal examination or alternative method as approved by the competent authority, a pressure test or equivalent effective non-destructive testing with the agreement of the competent authority including an inspection of all accessories (e.g. tightness of valves, emergency relief valves or fusible elements). Pressure receptacles shall not be filled after they become due for periodic inspection and test but may be carried after the expiry of the time limit. Pressure receptacle repairs shall meet the requirements of 4.1.6.11.

**4.1.3.6.7** Prior to filling, the packer shall perform an inspection of the pressure receptacle and ensure that the pressure receptacle is authorized for the substances to be carried and that the requirements of RID have been met. Shut-off valves shall be closed after filling and remain closed during carriage. The consignor shall verify that the closures and equipment are not leaking.

**4.1.3.6.8** Refillable pressure receptacles shall not be filled with a substance different from that previously contained unless the necessary operations for change of service have been performed.

**4.1.3.6.9** Marking of pressure receptacles for liquids and solids according to 4.1.3.6 (not conforming to the requirements of Chapter 6.2) shall be in accordance with the requirements of the competent authority of the country of manufacturing.

**4.1.3.7** Packagings or IBCs not specifically authorized in the applicable packing instruction shall not be used for the carriage of a substance or article unless specifically allowed under a temporary derogation agreed between COTIF Member States in accordance with 1.5.1.

**4.1.3.8 Unpackaged articles other than Class 1 articles**

**4.1.3.8.1** Where large and robust articles cannot be packaged in accordance with the requirements of Chapters 6.1 or 6.6 and they have to be carried empty, uncleaned and unpackaged, the competent authority of the country of origin<sup>2</sup> may approve such carriage. In doing so the competent authority shall take into account that:

- (a) Large and robust articles shall be strong enough to withstand the shocks and loadings normally encountered during carriage including trans-shipment between transport units and between transport units and warehouses, as well as any removal from a pallet for subsequent manual or mechanical handling;
- (b) All closures and openings shall be sealed so that there can be no loss of contents which might be caused under normal conditions of carriage, by vibration, or by changes in temperature, humidity or pressure (resulting from altitude, for example). No dangerous residue shall adhere to the outside of the large and robust articles;
- (c) Parts of large and robust articles, which are in direct contact with dangerous goods:
  - (i) shall not be affected or significantly weakened by those dangerous goods; and
  - (ii) shall not cause a dangerous effect e.g. catalysing a reaction or reacting with the dangerous goods;
- (d) Large and robust articles containing liquids shall be stowed and secured to ensure that neither leakage nor permanent distortion of the article occurs during carriage;
- (e) They shall be fixed in cradles or crates or other handling devices or to the wagon or container in such a way that they will not become loose during normal conditions of carriage.

**4.1.3.8.2** Unpackaged articles approved by the competent authority in accordance with the provisions of 4.1.3.8.1 shall be subject to the consignment procedures of Part 5. In addition the consignor of such articles shall ensure that a copy of any such approval is attached to the transport document.

**NOTE:** A large and robust article may include flexible fuel containment systems, military equipment, machinery or equipment containing dangerous goods above the limited quantities according to 3.4.6.

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<sup>2</sup> If the country of origin is not a COTIF Member State, the competent authority of the first COTIF Member State reached by the consignment.

**4.1.4 List of packing instructions**

**NOTE:** Although the following packing instructions use the same numbering system as used in the IMDG Code and the UN Model Regulations, readers should be aware that some of the details may be different in the case of RID.

**4.1.4.1 Packing instructions concerning the use of packagings (except IBCs and large packagings)**

P 001		PACKING INSTRUCTION (LIQUIDS)			P 001	
The following packagings are authorized provided the general provisions of 4.1.1 and 4.1.3 are met:						
Combination packagings		Maximum capacity/Net mass (see 4.1.3.3)				
Inner packagings	Outer packagings	Packing group I	Packing group II	Packing group III		
Glass 10 l Plastics 30 l Metal 40 l	<b>Drums</b>					
	steel (1A2)	250 kg	400 kg	400 kg		
	aluminium (1B2)	250 kg	400 kg	400 kg		
	metal other than steel or aluminium (1N2)	250 kg	400 kg	400 kg		
	plastics (1H2)	250 kg	400 kg	400 kg		
	plywood (1D)	150 kg	400 kg	400 kg		
	fibre (1G)	75 kg	400 kg	400 kg		
	<b>Boxes</b>					
	steel (4A)	250 kg	400 kg	400 kg		
	aluminium (4B)	250 kg	400 kg	400 kg		
	natural wood (4C1, 4C2)	150 kg	400 kg	400 kg		
	plywood (4D)	150 kg	400 kg	400 kg		
	reconstituted wood (4F)	75 kg	400 kg	400 kg		
	fibreboard (4G)	75 kg	400 kg	400 kg		
	expanded plastics (4H1)	60 kg	60 kg	60 kg		
	solid plastics (4H2)	150 kg	400 kg	400 kg		
	<b>Jerricans</b>					
	steel (3A2)	120 kg	120 kg	120 kg		
	aluminium (3B2)	120 kg	120 kg	120 kg		
	plastics (3H2)	120 kg	120 kg	120 kg		
<b>Single packagings</b>						
<b>Drums</b>						
steel, non-removable head (1A1)		250 l	450 l	450 l		
steel, removable head (1A2)		250 l <sup>(a)</sup>	450 l	450 l		
aluminium, non-removable head (1B1)		250 l	450 l	450 l		
aluminium, removable head (1B2)		250 l <sup>(a)</sup>	450 l	450 l		
metal other than steel or aluminium, non-removable head (1N1)		250 l	450 l	450 l		
metal other than steel or aluminium, removable head (1N2)		250 l <sup>(a)</sup>	450 l	450 l		
plastics, non-removable head (1H1)		250 l	450 l	450 l		
plastics, removable head (1H2)		250 l <sup>(a)</sup>	450 l	450 l		
<b>Jerricans</b>						
steel, non-removable head (3A1)		60 l	60 l	60 l		
steel, removable head (3A2)		60 l <sup>(a)</sup>	60 l	60 l		
aluminium, non-removable head (3B1)		60 l	60 l	60 l		
aluminium, removable head (3B2)		60 l <sup>(a)</sup>	60 l	60 l		
plastics, non-removable head (3H1)		60 l	60 l	60 l		
plastics, removable head (3H2)		60 l <sup>(a)</sup>	60 l	60 l		

Single packagings (cont'd)			
Composite packagings			
plastics receptacle with outer steel or aluminium drum (6HA1, 6HB1)	250 l	250 l	250 l
plastics receptacle with outer fibre, plastics or plywood drum (6HG1, 6HH1, 6HD1)	120 l	250 l	250 l
plastics receptacle with outer steel or aluminium crate or box or plastics receptacle with outer wooden, plywood, fibreboard or solid plastics box (6HA2, 6HB2, 6HC, 6HD2, 6HG2 or 6HH2)	60 l	60 l	60 l
glass receptacle with outer steel, aluminium, fibreboard, plywood, solid plastics or expanded plastics drum (6PA1, 6PB1, 6PG1, 6PD1, 6PH1 or 6PH2) or with outer steel or aluminium crate or box or with outer wooden or fibreboard box or with outer wickerwork hamper (6PA2, 6PB2, 6PC, 6PG2 or 6PD2)	60 l	60 l	60 l
Pressure receptacles, provided that the general provisions of 4.1.3.6 are met.			
Additional requirement			
For substances of Class 3, packing group III, which give off small quantities of carbon dioxide or nitrogen, the packagings shall be vented.			
Special packing provisions			
PP 1	For UN Nos. 1133, 1210, 1263 and 1866 and for adhesives, printing inks, printing ink related materials, paints, paint related materials and resin solutions which are assigned to UN 3082, metal or plastics packagings for substances of packing groups II and III in quantities of 5 litres or less per packaging are not required to meet the performance tests in Chapter 6.1 when carried: (a) in palletized loads, a pallet box or unit load device, e.g. individual packagings placed or stacked and secured by strapping, shrink or stretch-wrapping or other suitable means to a pallet; or (b) as inner packagings of combination packagings with a maximum net mass of 40 kg.		
PP 2	For UN No. 3065, wooden barrels with a maximum capacity of 250 litres and which do not meet the provisions of Chapter 6.1 may be used.		
PP 4	For UN No. 1774, packagings shall meet the packing group II performance level.		
PP 5	For UN No. 1204, packagings shall be so constructed that explosion is not possible by reason of increased internal pressure. Cylinders, tubes and pressure drums shall not be used for these substances.		
PP 6	(Deleted)		
PP 10	For UN No. 1791, packing group II, the packaging shall be vented.		
PP 31	For UN No. 1131, packagings shall be hermetically sealed.		
PP 33	For UN No. 1308, packing groups I and II, only combination packagings with a maximum gross mass of 75 kg allowed.		
PP 81	For UN No. 1790 with more than 60% but not more than 85% hydrogen fluoride and UN No. 2031 with more than 55% nitric acid, the permitted use of plastics drums and jerricans as single packagings shall be two years from their date of manufacture.		
Special packing provision specific to RID and ADR			
RR 2	For UN No. 1261, removable head packagings are not permitted.		

(a) Only substances with a viscosity of more than 2 680 mm<sup>2</sup>/s are authorized.



P 002		PACKING INSTRUCTION (SOLIDS)			P 002	
The following packagings are authorized provided the general provisions of 4.1.1 and 4.1.3 are met:						
Combination packagings		Maximum net mass (see 4.1.3.3)				
Inner packagings	Outer packagings	Packing group I	Packing group II	Packing group III		
Glass 10 kg	<b>Drums</b> steel (1A2) aluminium (1B2) metal, other than steel or aluminium (1N2) plastics (1H2) plywood (1D) fibre (1G)	400 kg	400 kg	400 kg		
Plastics <sup>(a)</sup> 50 kg		400 kg	400 kg	400 kg		
Metal 50 kg		400 kg	400 kg	400 kg		
Paper <sup>(a),(b),(c)</sup> 50 kg		400 kg	400 kg	400 kg		
Fibre <sup>(a),(b),(c)</sup> 50 kg		400 kg	400 kg	400 kg		
		400 kg	400 kg	400 kg		
(a) These inner packagings shall be sift-proof.	<b>Boxes</b> steel (4A) aluminium (4B) natural wood (4C1) natural wood with sift proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) expanded plastics (4H1) solid plastics (4H2)	400 kg	400 kg	400 kg		
(b) These inner packagings shall not be used when the substances being carried may become liquid during carriage (see 4.1.3.4).		400 kg	400 kg	400 kg		
		250 kg	400 kg	400 kg		
		250 kg	400 kg	400 kg		
		250 kg	400 kg	400 kg		
(c) These inner packagings shall not be used for substances of packing group I.		250 kg	400 kg	400 kg		
		125 kg	400 kg	400 kg		
		125 kg	400 kg	400 kg		
		60 kg	60 kg	60 kg		
		250 kg	400 kg	400 kg		
		<b>Jerricans</b> steel (3A2) aluminium (3B2) plastics (3H2)	120 kg	120 kg	120 kg	
			120 kg	120 kg	120 kg	
	120 kg		120 kg	120 kg		
<b>Single packagings</b>						
<b>Drums</b> steel (1A1 oder 1A2 <sup>(d)</sup> ) aluminium (1B1 oder 1B2 <sup>(d)</sup> ) metal, other than steel or aluminium (1N1 oder 1N2 <sup>(d)</sup> ) plastics (1H1 oder 1H2 <sup>(d)</sup> ) fibre (1G) <sup>(e)</sup> plywood (1D) <sup>(e)</sup>		400 kg 400 kg 400 kg 400 kg 400 kg 400 kg	400 kg 400 kg 400 kg 400 kg 400 kg 400 kg	400 kg 400 kg 400 kg 400 kg 400 kg 400 kg		
<b>Jerricans</b> steel (3A1 oder 3A2 <sup>(d)</sup> ) aluminium (3B1 oder 3B2 <sup>(d)</sup> ) plastics (3H1 oder 3H2 <sup>(d)</sup> )		120 kg 120 kg 120 kg	120 kg 120 kg 120 kg	120 kg 120 kg 120 kg		
<b>Boxes</b> steel (4A) <sup>(e)</sup> aluminium (4B) <sup>(e)</sup> natural wood (4C1) <sup>(e)</sup> plywood (4D) <sup>(e)</sup> reconstituted wood (4F) <sup>(e)</sup> natural wood with sift-proof walls (4C2) <sup>(e)</sup> fibreboard (4G) <sup>(e)</sup> solid plastics (4H2) <sup>(e)</sup>		Not allowed Not allowed Not allowed Not allowed Not allowed Not allowed Not allowed Not allowed	400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg	400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg		
<b>Bags</b> bags (5H3, 5H4, 5L3, 5M2) <sup>(e)</sup>		Not allowed	50 kg	50 kg		
(d) These packagings shall not be used for substances of packing group I that may become liquid during carriage (see 4.1.3.4).						
(e) These packagings shall not be used when substances being carried may become liquid during carriage (see 4.1.3.4).						

Single packagings (cont'd)			
<b>Composite packagings</b>			
plastics receptacle with outer steel, aluminium, plywood, fibre or plastics drum (6HA1, 6HB1, 6HG1 <sup>(e)</sup> , 6HD1 <sup>(e)</sup> or 6HH1)	400 kg	400 kg	400 kg
plastics receptacle with outer steel or aluminium crate or box, wooden box, plywood box, fibreboard box or solid plastics box (6HA2, 6HB2, 6HC, 6HD2 <sup>(e)</sup> , 6HG2 <sup>(e)</sup> or 6HH2)	75 kg	75 kg	75 kg
glass receptacle with outer steel, aluminium plywood or fibre drum (6PA1, 6PB1, 6PD1 <sup>(e)</sup> or 6PG1 <sup>(e)</sup> ) or with outer steel or aluminium crate or box or with outer wooden, or fibreboard box or with outer wickerwork hamper (6PA2, 6PB2, 6PC, 6PG2 <sup>(e)</sup> or 6PD2 <sup>(e)</sup> ) or with outer solid plastics or expanded plastics packaging (6PH2 or 6PH1 <sup>(e)</sup> )	75 kg	75 kg	75 kg
<sup>(e)</sup> These packagings shall not be used when the substances being carried may become liquid during carriage (see 4.1.3.4).			
<b>Pressure receptacles</b> , provided that the general provisions of 4.1.3.6 are met.			
<b>Special packing provisions</b>			
PP 6	(Deleted)		
PP 7	For UN No. 2000, celluloid may also be transported unpacked on pallets, wrapped in plastic film and secured by appropriate means, such as steel bands as a wagon load or as a full load in covered wagons or in closed containers. Each pallet shall not exceed 1 000 kg.		
PP 8	For UN No. 2002, packagings shall be so constructed that explosion is not possible by reason of increased internal pressure. Cylinders, tubes and pressure drums shall not be used for these substances.		
PP 9	For UN Nos. 3175, 3243 and 3244, packagings shall conform to a design type that has passed a leakproofness test at the packing group II performance level. For UN No. 3175, the leakproofness test is not required when the liquids are fully absorbed in solid material contained in sealed bags.		
PP 11	For UN No. 1309, packing group III, and UN No. 1362, 5H1, 5L1 and 5M1 bags are allowed if they are overpacked in plastic bags and are wrapped in shrink or stretch wrap on pallets.		
PP 12	For UN Nos. 1361, 2213 and UN No. 3077, 5H1, 5L1 and 5M1 bags are allowed when carried in covered wagons or closed containers.		
PP 13	For articles classified under UN No. 2870, only combination packagings meeting the packing group I performance level are authorized.		
PP 14	For UN Nos. 2211, 2698 and 3314, packagings are not required to meet the performance tests in Chapter 6.1.		
PP 15	For UN Nos. 1324 and 2623, packagings shall meet the packing group III performance level.		
PP 20	For UN No. 2217, any sift-proof, tearproof receptacle may be used.		
PP 30	For UN No. 2471, paper or fibre inner packagings are not permitted.		
PP 34	For UN No. 2969 (as whole beans), 5H1, 5L1 and 5M1 bags are permitted.		
PP 37	For UN Nos. 2590 and 2212, 5M1 bags are permitted. All bags of any type shall be carried in closed wagons or containers or be placed in closed rigid overpacks.		
PP 38	For UN No. 1309, packing group II, bags are permitted only in covered wagons or closed containers.		
PP 84	For UN No. 1057, rigid outer packagings meeting the packing group II performance level shall be used. The packagings shall be designed and constructed and arranged to prevent movement, inadvertent ignition of the devices or inadvertent release of flammable gas or liquid. <b>NOTE:</b> For waste lighters collected separately see Chapter 3.3, special provision 654.		
<b>Special packing provision specific to RID and ADR</b>			
RR 5	Notwithstanding special packing provision PP84, only the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.5 to 4.1.1.7 need be complied with if the gross mass of the package is not more than 10 kg. <b>NOTE:</b> For waste lighters collected separately see Chapter 3.3, special provision 654.		

P 003	PACKING INSTRUCTION		P 003
Dangerous goods shall be placed in suitable outer packagings. The packagings shall meet the provisions of 4.1.1.1, 4.1.1.2, 4.1.1.4, 4.1.1.8 and 4.1.3 and be so designed that they meet the construction requirements of 6.1.4. Outer packagings constructed of suitable material of adequate strength and design in relation to the packaging capacity and its intended use shall be used. Where this packing instruction is used for the transport of articles or inner packagings of combination packagings, the packaging shall be designed and constructed to prevent inadvertent discharge of articles during normal conditions of carriage.			
Special packing provisions			
PP 16	For UN No. 2800, batteries shall be protected from short circuits and shall be securely packed in strong outer packagings. <b>NOTE</b> 1: Non-spillable batteries which are an integral part of, and necessary for, the operation of mechanical or electronic equipment shall be securely fastened in the battery holder on the equipment and protected in such a manner as to prevent damage and short circuits. 2: For used batteries (UN No. 2800), see P801a.		
PP 17	For UN Nos. 1950 and 2037, packages shall not exceed 55 kg net mass for fibreboard packagings or 125 kg net mass for other packagings.		
PP 19	For UN Nos. 1364 and 1365, carriage as bales is authorized.		
PP 20	For UN Nos. 1363, 1386, 1408 and 2793 any sift-proof, tearproof receptacle may be used.		
PP 32	UN Nos. 2857 and 3358 may be carried unpackaged, in crates or in appropriate overpacks.		
PP 87	For UN 1950 waste aerosols carried in accordance with special provision 327, the packagings shall have a means of retaining any free liquid that might escape during carriage, e.g. absorbent material. The packaging shall be adequately ventilated to prevent the creation of flammable atmosphere and the build-up of pressure.		
PP 88	(Deleted)		
Special packing provision specific to RID and ADR			
RR 6	For UN Nos. 1950 and 2037, in the case of carriage by wagon load or full load, metal articles may also be packed as follows: The articles shall be grouped together in units on trays and held in position with an appropriate plastics cover; these units shall be stacked and suitably secured on pallets.		

P 004	PACKING INSTRUCTION	P 004
This instruction applies to UN Nos. 3473, 3476, 3477, 3478 and 3479.		
The following packagings are authorized provided the general provisions of 4.1.1.1, 4.1.1.2, 4.1.1.3, 4.1.1.6 and 4.1.3 are met:		
(1)	For fuel cell cartridges, packagings conforming to the packing group II performance level; and	
(2)	<p>For fuel cell cartridges contained in equipment or packed with equipment, strong outer packagings. Large robust equipment (see 4.1.3.8) containing fuel cell cartridges may be carried unpackaged. When fuel cell cartridges are packed with equipment, they shall be packed in inner packagings or placed in the outer packaging with cushioning material or divider(s) so that the fuel cell cartridges are protected against damage that may be caused by the movement or placement of the contents within the outer packaging. Fuel cell cartridges which are installed in equipment shall be protected against short circuit and the entire system shall be protected against inadvertent operation.</p>	

P 010	PACKING INSTRUCTION		P 010
The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:			
Combination packagings		Maximum net mass (see 4.1.3.3)	
Inner packagings	Outer packagings		
Glass 1 l	Drums	steel (1A2)	400 kg
Steel 40 l		plastics (1H2)	400 kg
		plywood (1D)	400 kg
		fibre (1G)	400 kg
	Boxes	steel (4A)	400 kg
		natural wood (4C1, 4C2)	400 kg
		plywood (4D)	400 kg
		reconstituted wood (4F)	400 kg
		fibreboard (4G)	400 kg
		expanded plastics (4H1)	60 kg
		solid plastics (4H2)	400 kg
Single packagings		Maximum capacity (see 4.1.3.3)	
Drums		steel, non-removable head (1A1)	450 l
Jerricans		steel, non-removable head (3A1)	60 l
Composite packagings		plastics receptacle in steel drums (6HA1)	250 l

P 099	PACKING INSTRUCTION	P 099
Only packagings which are approved for these goods by the competent authority may be used. A copy of the competent authority approval shall accompany each consignment or the transport document shall include an indication that the packaging was approved by the competent authority.		

P 101	PACKING INSTRUCTION	P 101
<p>Only packagings which are approved by the competent authority of the country of origin may be used. If the country of origin is not a COTIF Member State, the packaging shall be approved by the competent authority of the first COTIF Member State reached by the consignment.</p> <p><b>NOTE:</b> For the information in the transport document, see 5.4.1.2.1(e)</p>		

P 111	PACKING INSTRUCTION	P 111
<p>The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:</p>		
Inner packagings and arrangements	Intermediate packagings and arrangements	Outer packagings and arrangements
<p><b>Bags</b> paper, waterproofed plastics textile, rubberized</p> <p><b>Sheets</b> plastics textile, rubberized</p>	Not necessary	<p><b>Boxes</b> steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, expanded (4H1) plastics, solid (4H2)</p> <p><b>Drums</b> steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibreboard (1G) plastics, removable head (1H2)</p>
<b>Special packing provision</b>		
<b>PP 43</b>	For UN No. 0159, inner packagings are not required when metal (1A2 or 1B2) or plastics (1H2) drums are used as outer packagings.	

P 112a		PACKING INSTRUCTION		P 112a	
(Solid wetted, 1.1D)					
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:					
Inner packagings and arrangements		Intermediate packagings and arrangements		Outer packagings and arrangements	
<b>Bags</b> paper, multiwall, water resistant plastics textile textile, rubberized woven plastics  <b>Receptacles</b> metal plastics		<b>Bags</b> plastics textile, plastic coated or lined  <b>Receptacles</b> metal plastics		<b>Boxes</b> steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, expanded (4H1) plastics, solid (4H2)  <b>Drums</b> steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)	
<b>Additional requirement</b>  Intermediate packagings are not required if leakproof removable head drums are used as the outer packaging.					
<b>Special packing provisions</b>					
<b>PP 26</b>	For UN Nos. 0004, 0076, 0078, 0154, 0219 and 0394, packagings shall be lead free.				
<b>PP 45</b>	For UN Nos. 0072 and 0226, intermediate packagings are not required.				

P 112b		PACKING INSTRUCTION		P 112b	
(Solid dry, other than powder 1.1D)					
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:					
Inner packagings and arrangements		Intermediate packagings and arrangements		Outer packagings and arrangements	
<b>Bags</b> paper, kraft paper, multiwall, water resistant plastics textile textile, rubberized woven plastics		<b>Bags</b> (for UN No. 0150 only) plastics textile, plastic coated or lined		<b>Bags</b> woven plastics, sift-proof (5H2) woven plastics, water-resistant (5H3) plastics, film (5H4) textile, sift-proof (5L2) textile, water resistant (5L3) paper, multiwall, water resistant (5M2)  <b>Boxes</b> steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, expanded (4H1) plastics, solid (4H2)  <b>Drums</b> steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)	
<b>Special packing provisions</b>					
PP 26	For UN Nos. 0004, 0076, 0078, 0154, 0216, 0219 and 0386, packagings shall be lead free.				
PP 46	For UN Nos. 0209, bags, sift-proof (5H2) are recommended for flake or prilled TNT in the dry state and a maximum net mass of 30 kg.				
PP 47	For UN No. 0222, inner packagings are not required when the outer packaging is a bag.				

P 112c	PACKING INSTRUCTION (Solid dry powder 1.1D)		P 112c
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:			
Inner packagings and arrangements	Intermediate packagings and arrangements	Outer packagings and arrangements	
<b>Bags</b> paper, multiwall, water resistant plastics woven plastics  <b>Receptacles</b> fibreboard metal plastics wood	<b>Bags</b> paper, multiwall, water resistant with inner lining plastics  <b>Receptacles</b> metal plastics	<b>Boxes</b> steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2)  <b>Drums</b> steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibreboard (1G) plastics, removable head (1H2)	
<b>Additional requirements</b> 1. Inner packagings are not required if drums are used as the outer packaging. 2. The packaging shall be sift-proof.			
<b>Special packing provisions</b>			
PP 26	For UN Nos. 0004, 0076, 0078, 0154, 0216, 0219 and 0386, packagings shall be lead free.		
PP 46	For UN No. 0209, bags, sift-proof (5H2) are recommended for flake or prilled TNT in the dry state and a maximum net mass of 30 kg.		
PP 48	For UN No. 0504, metal packagings shall not be used.		



P 113		PACKING INSTRUCTION	P 113
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:			
Inner packagings and arrangements		Intermediate packagings and arrangements	Outer packagings and arrangements
<b>Bags</b> paper plastics textile, rubberized  <b>Receptacles</b> fibreboard metal plastics wood		Not necessary	<b>Boxes</b> steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2)  <b>Drums</b> steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibreboard (1G) plastics, removable head (1H2)
<b>Additional requirement</b> The packaging shall be sift-proof.			
<b>Special packing provisions</b>			
<b>PP 49</b>	For UN Nos. 0094 and 0305, no more than 50 g of substance shall be packed in an inner packaging.		
<b>PP 50</b>	For UN No. 0027, inner packagings are not necessary when drums are used as outer packagings.		
<b>PP 51</b>	For UN No. 0028, paper kraft or waxed paper sheets may be used as inner packagings.		

P 114a		PACKING INSTRUCTION		P 114a
(Solid wetted)				
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:				
Inner packagings and arrangements		Intermediate packagings and arrangements		Outer packagings and arrangements
<b>Bags</b> plastics textile woven plastics  <b>Receptacles</b> metal plastics		<b>Bags</b> plastics textile, plastic coated or lined  <b>Receptacles</b> metal plastics		<b>Boxes</b> steel (4A) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2)  <b>Drums</b> steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)
<b>Additional requirement</b>				
Intermediate packagings are not required if leakproof removable head drums are used as outer packagings.				
<b>Special packing provisions</b>				
PP 26	For UN Nos. 0077, 0132, 0234, 0235 and 0236, packagings shall be lead free.			
PP 43	For UN No. 0342, inner packagings are not required when metal (1A2 or 1B2) or plastics (1H2) drums are used as outer packagings.			

P 114b		PACKING INSTRUCTION (Solid dry)		P 114b	
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:					
Inner packagings and arrangements		Intermediate packagings and arrangements		Outer packagings and arrangements	
<b>Bags</b> paper, kraft plastics textile, sift-proof woven plastics, sift-proof  <b>Receptacles</b> fibreboard metal paper plastics woven plastics, sift-proof		Not necessary		<b>Boxes</b> natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G)  <b>Drums</b> steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)	
<b>Special packing provisions</b>					
PP 26	For UN Nos. 0077, 0132, 0234, 0235 and 0236, packagings shall be lead free.				
PP 48	For UN No. 0508, metal packagings shall not be used.				
PP 50	For UN Nos. 0160, 0161 and 0508, inner packagings are not necessary if drums are used as outer packagings.				
PP 52	For UN Nos. 0160 and 0161, when metal drums (1A2 or 1B2) are used as outer packagings, metal packagings shall be so constructed that the risk of explosion, by reason of increased internal pressure from internal or external causes is prevented.				

P 115		PACKING INSTRUCTION		P 115
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:				
Inner packagings and arrangements		Intermediate packagings and arrangements		Outer packagings and arrangements
Receptacles plastics		Bags plastics in metal receptacles  Drums metal		Boxes natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F)  Drums steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)
Special packing provisions				
PP 45	For UN No. 0144, intermediate packagings are not required.			
PP 53	For UN Nos. 0075, 0143, 0495 and 0497, when boxes are used as outer packagings, inner packagings shall have taped screw cap closures and be not more than 5 litres capacity each. Inner packagings shall be surrounded with non-combustible absorbent cushioning materials. The amount of absorbent cushioning material shall be sufficient to absorb the liquid contents. Metal receptacles shall be cushioned from each other. Net mass of propellant is limited to 30 kg for each package when outer packagings are boxes.			
PP 54	For UN Nos. 0075, 0143, 0495 and 0497, when drums are used as outer packagings and when intermediate packagings are drums, they shall be surrounded with non-combustible cushioning material in a quantity sufficient to absorb the liquid contents. A composite packaging consisting of a plastics receptacle in a metal drum may be used instead of the inner and intermediate packagings. The net volume of propellant in each package shall not exceed 120 litres.			
PP 55	For UN No. 0144, absorbent cushioning material shall be inserted.			
PP 56	For UN No. 0144, metal receptacles may be used as inner packagings.			
PP 57	For UN Nos. 0075, 0143, 0495 and 0497, bags shall be used as intermediate packagings when boxes are used as outer packagings.			
PP 58	For UN Nos. 0075, 0143, 0495 and 0497, drums shall be used as intermediate packagings when drums are used as outer packagings.			
PP 59	For UN No. 0144, fibreboard boxes (4G) may be used as outer packagings.			
PP 60	For UN No. 0144, aluminium drums, removable head (1B2) shall not be used.			

P 116		PACKING INSTRUCTION	P 116
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:			
Inner packagings and arrangements		Intermediate packagings and arrangements	Outer packagings and arrangements
<b>Bags</b> paper, water and oil resistant plastics textile, plastic coated or lined woven plastics, sift-proof  <b>Receptacles</b> fibreboard, water resistant metal plastics wood, sift-proof  <b>Sheets</b> paper, water resistant paper, waxed plastics		Not necessary	<b>Bags</b> woven plastics (5H1) paper, multiwall, water resistant (5M2) plastics, film (5H4) textile, sift-proof (5L2) textile, water resistant (5L3)  <b>Boxes</b> steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2)  <b>Drums</b> steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)  <b>Jerricans</b> steel, removable head (3A2) plastics, removable head (3H2)
<b>Special packing provisions</b>			
<b>PP 61</b>	For UN Nos. 0082, 0241, 0331 and 0332, inner packagings are not required if leakproof removable head drums are used as outer packagings.		
<b>PP 62</b>	For UN Nos. 0082, 0241, 0331 and 0332, inner packagings are not required when the explosive is contained in a material impervious to liquid.		
<b>PP 63</b>	For UN No. 0081, inner packagings are not required when contained in rigid plastic which is impervious to nitric esters.		
<b>PP 64</b>	For UN No. 0331, inner packagings are not required when bags (5H2), (5H3) or (5H4) are used as outer packagings.		
<b>PP 65</b>	For UN Nos. 0082, 0241, 0331 and 0332, bags (5H2 or 5H3) may be used as outer packagings.		
<b>PP 66</b>	For UN No. 0081, bags shall not be used as outer packagings.		

P 130		PACKING INSTRUCTION		P 130	
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:					
Inner packagings and arrangements		Intermediate packagings and arrangements		Outer packagings and arrangements	
Not necessary		Not necessary		<b>Boxes</b> steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, expanded (4H1) plastics, solid (4H2)  <b>Drums</b> steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)	
Special packing provision					
PP 67	The following applies to UN Nos. 0006, 0009, 0010, 0015, 0016, 0018, 0019, 0034, 0035, 0038, 0039, 0048, 0056, 0137, 0138, 0168, 0169, 0171, 0181, 0182, 0183, 0186, 0221, 0243, 0244, 0245, 0246, 0254, 0280, 0281, 0286, 0287, 0297, 0299, 0300, 0301, 0303, 0321, 0328, 0329, 0344, 0345, 0346, 0347, 0362, 0363, 0370, 0412, 0424, 0425, 0434, 0435, 0436, 0437, 0438, 0451, 0488 and 0502: Large and robust explosives articles, normally intended for military use, without their means of initiation or with their means of initiation containing at least two effective protective features, may be carried unpackaged. When such articles have propelling charges or are self-propelled, their ignition systems shall be protected against stimuli encountered during normal conditions of carriage. A negative result in Test Series 4 on an unpackaged article indicates that the article can be considered for carriage unpackaged. Such unpackaged articles may be fixed to cradles or contained in crates or other suitable handling devices.				

P 131 PACKING INSTRUCTION P 131		
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:		
Inner packagings and arrangements	Intermediate packagings and arrangements	Outer packagings and arrangements
<b>Bags</b> paper plastics  <b>Receptacles</b> fibreboard metal plastics wood  <b>Reels</b>	Not necessary	<b>Boxes</b> steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G)  <b>Fässer</b> steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)
<b>Special packing provision</b>		
<b>PP 68</b> For UN Nos. 0029, 0267 and 0455, bags and reels shall not be used as inner packagings.		

P 132a PACKING INSTRUCTION P 132a		
(Articles consisting of closed metal, plastics or fibreboard casings that contain a detonating explosive, or consisting of plastics-bonded detonating explosives)		
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:		
Inner packagings and arrangements	Intermediate packagings and arrangements	Outer packagings and arrangements
Not necessary	Not necessary	<b>Boxes</b> steel (4A) aluminium (4B) wood, natural, ordinary (4C1) wood, natural, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2)

P 132b PACKING INSTRUCTION P 132b (Articles without closed casings)		
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:		
Inner packagings and arrangements	Intermediate packagings and arrangements	Outer packagings and arrangements
<b>Receptacles</b> fibreboard metal plastics  <b>Sheets</b> paper plastics	Not necessary	<b>Boxes</b> steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2)

P 133 PACKING INSTRUCTION P 133		
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:		
Inner packagings and arrangements	Intermediate packagings and arrangements	Outer packagings and arrangements
<b>Receptacles</b> fibreboard metal plastics wood  <b>Trays, fitted with dividing partitions</b> fibreboard plastics wood	<b>Receptacles</b> fibreboard metal plastics wood	<b>Boxes</b> steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2)
<b>Additional requirement</b> Receptacles are only required as intermediate packagings when the inner packagings are trays.		
<b>Special packing provision</b>		
<b>PP 69</b> For UN Nos. 0043, 0212, 0225, 0268 and 0306, trays shall not be used as inner packagings.		



P 134 PACKING INSTRUCTION P 134		
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:		
Inner packagings and arrangements	Intermediate packagings and arrangements	Outer packagings and arrangements
<b>Bags</b> water resistant  <b>Receptacles</b> fibreboard metal plastics wood  <b>Sheets</b> fibreboard, corrugated  <b>Tubes</b> fibreboard	Not necessary	<b>Boxes</b> steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, expanded (4H1) plastics, solid (4H2)  <b>Fässer</b> steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre(1G) plastics, removable head (1H2)

P 135 PACKING INSTRUCTION P 135		
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:		
Inner packagings and arrangements	Intermediate packagings and arrangements	Outer packagings and arrangements
<b>Bags</b> paper plastics  <b>Receptacles</b> fibreboard metal plastics wood  <b>Sheets</b> paper plastics	Not necessary	<b>Boxes</b> steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, expanded (4H1) plastics, solid (4H2)  <b>Drums</b> steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)

P 136 PACKING INSTRUCTION P 136		
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:		
Inner packagings and arrangements	Intermediate packagings and arrangements	Outer packagings and arrangements
<b>Bags</b> plastics textile  <b>Boxes</b> fibreboard plastics wood  <b>Dividing partitions in the outer packagings</b>	Not necessary	<b>Boxes</b> steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2)  <b>Drums</b> steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)

P 137 PACKING INSTRUCTION P 137		
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:		
Inner packagings and arrangements	Intermediate packagings and arrangements	Outer packagings and arrangements
<b>Bags</b> plastics  <b>Boxes</b> fibreboard  <b>Tubes</b> fibreboard metal plastics  <b>Dividing partitions in the outer packagings</b>	Not necessary	<b>Boxes</b> steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G)  <b>Drums</b> steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)
<b>Special packing provision</b>		
<b>PP 70</b>	For UN Nos. 0059, 0439, 0440 and 0441, when the shaped charges are packed singly, the conical cavity shall face downwards and the package marked "THIS SIDE UP". When the shaped charges are packed in pairs, the conical cavities shall face inwards to minimize the jetting effect in the event of accidental initiation.	

P 138 PACKING INSTRUCTION P 138		
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:		
Inner packagings and arrangements	Intermediate packagings and arrangements	Outer packagings and arrangements
<b>Bags</b> plastics	Not necessary	<b>Boxes</b> steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2)  <b>Drums</b> steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)
<b>Additional requirement</b> If the ends of the articles are sealed, inner packagings are not necessary.		

P 139 PACKING INSTRUCTION P 139		
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:		
Inner packagings and arrangements	Intermediate packagings and arrangements	Outer packagings and arrangements
<b>Bags</b> plastics  <b>Receptacles</b> fibreboard metal plastics wood  <b>Reels</b>  <b>Sheets</b> paper plastics	Not necessary	<b>Boxes</b> steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2)  <b>Drums</b> steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)
<b>Special packing provisions</b>		
<b>PP 71</b>	For UN Nos. 0065, 0102, 0104, 0289 and 0290, the ends of the detonating cord shall be sealed, for example, by a plug firmly fixed so that the explosive cannot escape. The ends of flexible detonating cord shall be fastened securely.	
<b>PP 72</b>	For UN Nos. 0065 and 0289, inner packagings are not required when they are in coils.	

P 140		PACKING INSTRUCTION		P 140
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:				
Inner packagings and arrangements		Intermediate packagings and arrangements	Outer packagings and arrangements	
<b>Bags</b> plastics  <b>Reels</b>  <b>Sheets</b> paper, kraft plastics		Not necessary	<b>Boxes</b> steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2)  <b>Drums</b> steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)	
<b>Special packing provisions</b>				
PP 73	For UN No. 0105, no inner packagings are required if the ends are sealed.			
PP 74	For UN No. 0101, the packaging shall be sift-proof except when the fuse is covered by a paper tube and both ends of the tube are covered with removable caps.			
PP 75	For UN No. 0101, steel or aluminium boxes or drums shall not be used.			

P 141		PACKING INSTRUCTION		P 141
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:				
Inner packagings and arrangements		Intermediate packagings and arrangements	Outer packagings and arrangements	
<b>Receptacles</b> fibreboard metal plastics wood  <b>Trays, fitted with dividing partitions</b> plastics wood  <b>Dividing partitions in the outer packagings</b>		Not necessary	<b>Boxes</b> steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2)  <b>Drums</b> steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)	

P 142 PACKING INSTRUCTION P 142		
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:		
Inner packagings and arrangements	Intermediate packagings and arrangements	Outer packagings and arrangements
<b>Bags</b> paper plastics  <b>Receptacles</b> fibreboard metal plastics wood  <b>Sheets</b> paper  <b>Trays, fitted with dividing partitions</b> plastics	Not necessary	<b>Boxes</b> steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2)  <b>Drums</b> steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)

P 143 PACKING INSTRUCTION P 143		
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:		
Inner packagings and arrangements	Intermediate packagings and arrangements	Outer packagings and arrangements
<b>Bags</b> paper, kraft plastics textile textile, rubberized  <b>Receptacles</b> fibreboard metal plastics  <b>Trays, fitted with dividing partitions</b> plastics wood	Not necessary	<b>Boxes</b> steel (4A) aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) plastics, solid (4H2)  <b>Drums</b> steel, removable head (1A2) aluminium, removable head (1B2) plywood (1D) fibre (1G) plastics, removable head (1H2)
<b>Additional requirement</b>  Instead of the above inner and outer packagings, composite packagings (6HH2) (plastics receptacle with outer solid plastics box) may be used.		
<b>Special packing provision</b>		
<b>PP 76</b>	For UN Nos. 0271, 0272, 0415 and 0491, when metal packagings are used, metal packagings shall be so constructed that the risk of explosion, by reason of increase in internal pressure from internal or external causes is prevented.	

P 144		PACKING INSTRUCTION		P 144
The following packagings are authorized, provided the general packing provisions of 4.1.1, 4.1.3 and special packing provisions of 4.1.5 are met:				
Inner packagings and arrangements		Intermediate packagings and arrangements	Outer packagings and arrangements	
<b>Receptacles</b> fibreboard metal plastics  <b>Dividing partitions in the outer packagings</b>		Not necessary	<b>Boxes</b> steel (4A) aluminium (4B) natural wood, ordinary with metal liner plywood (4D) with metal liner reconstituted wood (4F) with metal liner plastics, expanded (4H1) plastics, solid (4H2)  <b>Drums</b> steel, removable head (1A2) aluminium, removable head (1B2) plastics, removable head (1H2)	
<b>Special packing provision</b>				
<b>PP 77</b>	For UN Nos. 0248 and 0249, packagings shall be protected against the ingress of water. When water-activated contrivances are transported unpackaged, they shall be provided with at least two independent protective features which prevent the ingress of water.			

P 200	PACKING INSTRUCTION	P 200
<b>Type of packagings</b> Cylinders, tubes, pressure drums and bundles of cylinders Cylinders, tubes, pressure drums and bundles of cylinders are authorised provided the special packing provisions of 4.1.6 and the provisions listed below under (1) to (9) are met.		
<b>General</b> (1) Pressure receptacles shall be so closed and leakproof as to prevent escape of the gases; (2) Pressure receptacles containing toxic substances with an LC <sub>50</sub> less than or equal to 200 ml/m <sup>3</sup> (ppm) as specified in the table shall not be equipped with any pressure relief device. Pressure relief devices shall be fitted on UN pressure receptacles used for the carriage of UN No. 1013 carbon dioxide and UN No. 1070 nitrous oxide. (3) The following three tables cover compressed gases (Table 1), liquefied and dissolved gases (Table 2) and substances not in Class 2 (Table 3). They provide: (a) the UN number, name and description, and the classification code of the substance; (b) the LC <sub>50</sub> for toxic substances; (c) the types of pressure receptacles authorised for the substance, shown by the letter "X"; (d) the maximum test period for periodic inspection of the pressure receptacles; <b>NOTE:</b> For pressure receptacles which make use of composite materials, the periodic inspection frequencies shall be as determined by the competent authority which approved the receptacles. (e) the minimum test pressure of the pressure receptacles; (f) the maximum working pressure of the pressure receptacles for compressed gases or the maximum filling ratio(s) for liquefied and dissolved gases; (g) special packing provisions that are specific to a substance.		
<b>Test pressure, filling ratios and filling requirements</b> (4) The minimum test pressure required for is 1 MPa (10 bar); (5) In no case shall pressure receptacles be filled in excess of the limit permitted in the following requirements: (a) For compressed gases, the working pressure shall be not more than two thirds of the test pressure of the pressure receptacles. Restrictions to this upper limit on working pressure are imposed by special packing provision "o". In no case shall the internal pressure at 65 °C exceed the test pressure. (b) For high pressure liquefied gases, the filling ratio shall be such that the settled pressure at 65 °C does not exceed the test pressure of the pressure receptacles. The use of test pressures and filling ratios other than those in the Table is permitted, except where special packing provision "o" applies, provided that: (i) the criterion of special packing provision "r" is met when applicable; or (ii) the above criterion is met in all other cases. For high pressure liquefied gases and gas mixtures for which relevant data are not available, the maximum filling ratio (FR) shall be determined as follows: $FR = 8,5 \times 10^{-4} \times d_g \times P_h$ where FR = maximum filling ratio d <sub>g</sub> = gas density (at 15 °C, 1 bar)(in kg/m <sup>3</sup> ) P <sub>h</sub> = minimum test pressure (in bar). If the density of the gas is unknown, the maximum filling ratio shall be determined as follows: $FR = \frac{P_h \times MM \times 10^{-3}}{R \times 338}$ where FR = maximum filling ratio P <sub>h</sub> = minimum test pressure (in bar) MM = molecular mass (in g/mol) R = 8.31451 x 10 <sup>-2</sup> bar.l.mol <sup>-1</sup> .K <sup>-1</sup> (gas constant). For gas mixtures, the average molecular mass is to be taken, taking into account the volumetric concentra-		

tions of the various components.

- (c) For low pressure liquefied gases, the maximum mass of contents per litre of water capacity shall equal 0.95 times the density of the liquid phase at 50 °C; in addition, the liquid phase shall not fill the pressure receptacle at any temperature up to 60 °C. The test pressure of the pressure receptacle shall be at least equal to the vapour pressure (absolute) of the liquid at 65 °C, minus 100 kPa (1 bar).

For low pressure liquefied gases and gas mixtures for which relevant data are not available, the maximum filling ratio shall be determined as follows:

$$FR = (0,0032 \times BP - 0,24) \times d_l$$

where

FR = maximum filling ratio

BP = boiling point (in Kelvin)

$d_l$  = density of the liquid at boiling point (in kg/l).

- (d) For UN No. 1001 acetylene, dissolved, and UN No. 3374 acetylene, solvent free, see (10), special packing provision "p".
- (6) Other test pressure and filling ratio may be used provided they satisfy the general requirements outlined in paragraphs (4) and (5) above;
- (7) The filling of pressure receptacles may only be carried out by specially-equipped centres, with qualified staff using appropriate procedures.  
The procedures shall include checks:
- of the conformity to regulations of receptacles and accessories;
  - of their compatibility with the product to be carried;
  - of the absence of damage which might affect safety;
  - of compliance with the degree or pressure of filling, as appropriate;
  - of regulation markings and identification.

#### Periodic inspections

- (8) Refillable pressure receptacles shall be subjected to periodic inspections in accordance with the requirements of 6.2.1.6 and 6.2.3.5 respectively.
- (9) If special provisions for certain substances do not appear in the tables below, periodic inspections shall be carried out:
- (a) Every 5 years in the case of pressure receptacles intended for the carriage of gases of classification codes 1T, 1TF, 1TO, 1TC, 1TFC, 1TOC, 2T, 2TO, 2TF, 2TC, 2TFC, 2TOC, 4A, 4F and 4TC;
  - (b) Every 5 years in the case of pressure receptacles intended for the carriage of substances from other classes;
  - (c) Every 10 years in the case of pressure receptacles intended for the carriage of gases of classification codes 1A, 1O, 1F, 2A, 2O and 2F.

By derogation from this paragraph, the periodic inspection of pressure receptacles which make use of composite materials (composite pressure receptacles) shall be carried out at intervals determined by the competent authority of the COTIF Member State which has approved the technical code for the design and construction.

#### Special packing provisions

- (10) Keys for the column "Special packing provisions":

Material compatibility (for gases see ISO 11114-1:1997 and ISO 11114-2:2000)

- a: Aluminium alloy pressure receptacles are not authorized.
- b: Copper valves shall not be used.
- c: Metal parts in contact with the contents shall not contain more than 65% copper.
- d: When steel pressure receptacles are used, only those resistant to hydrogen embrittlement shall be authorized.

Requirements for toxic substances with an  $LC_{50}$  less than or equal to 200 ml/m<sup>3</sup> (ppm)

- k: Valve outlets shall be fitted with gas tight plugs or caps which shall be made of material not liable to attack by the contents of the pressure receptacle.

Each cylinder within a bundle shall be fitted with an individual valve that shall be closed during carriage. After filling, the manifold shall be evacuated, purged and plugged.



Bundles containing UN 1045 Fluorine, compressed, may be constructed with isolation valves on groups of cylinders not exceeding 150 litres total water capacity instead of isolation valves on every cylinder.

Cylinders and individual cylinders within a bundle shall have a test pressure greater than or equal to 200 bar and a minimum wall thickness of 3.5 mm for aluminium alloy or 2 mm for steel. Individual cylinders not complying with this requirement shall be carried in a rigid outer packaging that will adequately protect the cylinder and its fittings and meeting the packing group I performance level. Pressure drums shall have a minimum wall thickness as specified by the competent authority.

Pressure receptacles shall not be fitted with a pressure relief device.

Cylinders and individual cylinders in a bundle shall be limited to a maximum water capacity of 85 litres.

Each valve shall have a taper threaded connection directly to the pressure receptacle and be capable of withstanding the test pressure of the pressure receptacle.

Each valve shall either be of the packless type with non-perforated diaphragm, or be of a type which prevents leakage through or past the packing.

Carriage in capsules is not allowed.

Each pressure receptacle shall be tested for leakage after filling.

#### Gas specific provisions

l: UN No. 1040 ethylene oxide may also be packed in hermetically sealed glass or metal inner packagings suitably cushioned in fibreboard, wooden or metal boxes meeting the packing group I performance level. The maximum quantity permitted in any glass inner packaging is 30 g, and the maximum quantity permitted in any metal inner packaging is 200 g. After filling, each inner packaging shall be determined to be leak-tight by placing the inner packaging in a hot water bath at a temperature, and for a period of time, sufficient to ensure that an internal pressure equal to the vapour pressure of ethylene oxide at 55 °C is achieved. The maximum net mass in any outer packaging shall not exceed 2.5 kg.

m: Pressure receptacles shall be filled to a working pressure not exceeding 5 bar.

n: Cylinders and individual cylinders in a bundle shall contain not more than 5 kg of the gas. When bundles containing UN 1045 Fluorine, compressed are divided into groups of cylinders in accordance with special packing provision "k" each group shall contain not more than 5 kg of the gas.

o: In no case shall the working pressure or filling ratio shown in the tables be exceeded.

p: For UN No. 1001 acetylene, dissolved, and UN No. 3374 acetylene, solvent free: cylinders shall be filled with a homogeneous monolithic porous material; the working pressure and the quantity of acetylene shall not exceed the values prescribed in the approval or in ISO 3807-1:2000 or ISO 3807-2:2000, as applicable.

For UN No. 1001 acetylene, dissolved: cylinders shall contain a quantity of acetone or suitable solvent as specified in the approval (see ISO 3807-1:2000 or ISO 3807-2:2000, as applicable); cylinders fitted with pressure relief devices or manifolded together shall be carried vertically.

Alternatively, for UN No. 1001 acetylene, dissolved: cylinders which are not UN pressure receptacles may be filled with a non monolithic porous material; the working pressure, the quantity of acetylene and the quantity of solvent shall not exceed the values prescribed in the approval. The maximum test period for periodic inspection of the cylinders shall not exceed five years.

A test pressure of 52 bar shall be applied only to cylinders conforming to ISO 3807-2:2000.

q: The valves of pressure receptacles for pyrophoric gases or flammable mixtures of gases containing more than 1% of pyrophoric compounds shall be fitted with gas-tight plugs or caps which shall be made of material not liable to attack by the contents of the pressure receptacle. When these pressure receptacles are manifolded in a bundle, each of the pressure receptacles shall be fitted with an individual valve that shall be closed during carriage, and the manifold outlet valve shall be fitted with a gas-tight plug or cap. Carriage in capsules is not allowed.

r: The filling ratio of this gas shall be limited such that, if complete decomposition occurs, the pressure does not exceed two thirds of the test pressure of the pressure receptacle.

ra: Allowed for carriage in capsules under the following conditions:

- (a) The mass of gas shall not exceed 150 g per capsule;
- (b) The capsules shall be free from faults liable to impair the strength;
- (c) The leakproofness of the closure shall be ensured by an additional device (cap, crown, seal, binding, etc.) capable of preventing any leakage of the closure during carriage;

- (d) The capsules shall be placed in an outer packaging of sufficient strength. A package shall not weigh more than 75 kg.

s: Aluminium alloy pressure receptacles shall be:

- Equipped only with brass or stainless steel valves; and
- Cleaned for hydrocarbons contamination and not contaminated with oil. UN pressure receptacles shall be cleaned in accordance with ISO 11621:1997.

ta: (Reserved)

#### Periodic inspection

- u: The interval between periodic tests may be extended to 10 years for aluminium alloy pressure receptacles. This derogation may only be applied to UN pressure receptacles when the alloy of the pressure receptacle has been subjected to stress corrosion testing as specified in ISO 7866:1999.
- v: The interval between inspections for steel cylinders may be extended to 15 years:
- (a) with the agreement of the competent authority (authorities) of the country (countries) where the periodic inspection and the carriage take place; and
  - (b) in accordance with the requirements of a technical code or a standard recognised by the competent authority, or standard EN 1440:1996 "Transportable refillable welded cylinders for liquefied petroleum gas (LPG) – Periodic requalification".

#### Requirements for N.O.S. entries and for mixtures

- z: The construction materials of the pressure receptacles and their accessories shall be compatible with the contents and shall not react to form harmful or dangerous compounds therewith.

The test pressure and filling ratio shall be calculated in accordance with the relevant requirements of (5).

Toxic substances with an  $LC_{50}$  less than or equal to  $200 \text{ ml/m}^3$  shall not be carried in tubes, pressure drums or MEGCs and shall meet the requirements of special packing provision "k". However, UN 1975 Nitric oxide and dinitrogen tetroxide mixture may be carried in pressure drums.

For pressure receptacles containing pyrophoric gases or flammable mixtures of gases containing more than 1% pyrophoric compounds, the requirements of special packing provision "q" shall be met.

The necessary steps shall be taken to prevent dangerous reactions (i.e. polymerisation or decomposition) during carriage. If necessary, stabilisation or addition of an inhibitor shall be required.

Mixtures containing UN No. 1911 diborane, shall be filled to a pressure such that, if complete decomposition of the diborane occurs, two thirds of the test pressure of the pressure receptacle shall not be exceeded.

Mixtures containing UN 2192 germane, other than mixtures of up to 35% germane in hydrogen or nitrogen or up to 28% germane in helium or argon, shall be filled to a pressure such that, if complete decomposition of the germane occurs, two thirds of the test pressure of the pressure receptacle shall not be exceeded.

#### Requirements for substances not in Class 2

ab: Pressure receptacles shall satisfy the following conditions:

- (i) The pressure test shall include an inspection of the inside of the pressure receptacles and check of accessories;
- (ii) In addition resistance to corrosion shall be checked every two years by means of suitable instruments (e.g. ultrasound) and the condition of the accessories verified;
- (iii) Wall thickness shall not be less than 3 mm.

ac: Tests and inspections shall be carried out under the supervision of an expert approved by the competent authority.

ad: Pressure receptacles shall satisfy the following conditions:

- (i) Pressure receptacles shall be designed for a design pressure of not less than 2.1 MPa (21 bar) (gauge pressure);
- (ii) In addition to the marks for refillable receptacles, the pressure receptacles shall bear the following particulars in clearly legible and durable characters:
  - The UN number and the proper shipping name of the substance according to 3.1.2;
  - The maximum permitted mass when filled and the tare of the pressure receptacle, including accessories fitted during filling, or the gross mass.

(11) The applicable requirements of this packing instruction are considered to have been complied with if the following standards, as relevant, are applied:

Applicable requirements	Reference	Title of document
(7)	EN 1919:2000	Transportable gas cylinders – Cylinders for gases (excluding acetylene and LPG) – Inspection at time of filling
(7)	EN 1920:2000	Transportable gas cylinders – Cylinders for compressed gases (excluding acetylene) – Inspection at time of filling
(7)	EN 12754:2001	Transportable gas cylinders – Cylinders for dissolved acetylene – Inspection at time of filling
(7)	EN 13365:2002 + A1:2005	Transportable gas cylinders – Cylinder bundles for permanent and liquefied gases (excluding acetylene) – Inspection at the time of filling
(7)	EN 1439:2008 (except 3.5 and Annex G)	LPG equipment and accessories – Procedures for checking LPG cylinders before, during and after filling
(7)	EN 14794:2005	LPG equipment and accessories – Transportable refillable aluminium cylinders for liquefied petroleum gas (LPG) – Procedure for checking before, during and after filling
(10) p	EN 1801:1998	Transportable gas cylinders – Filling conditions for single acetylene cylinders (including list of permissible porous materials)
(10) p	EN 12755:2000	Transportable gas cylinders – Filling conditions for acetylene bundles

**Table 1: Compressed gases**

UN No.	Name and description	Classification code	LC <sub>50</sub> ml/m <sup>3</sup>	Cylinders	Tubes	Pressure drums	Bundles of cylinders	Test period, years <sup>(a)</sup>	Test pressure, bar <sup>(a)</sup>	Maximum working pressure, bar <sup>(a)</sup>	Special packing provisions
1002	AIR, COMPRESSED	1 A		X	X	X	X	10			
1006	ARGON, COMPRESSED	1 A		X	X	X	X	10			
1016	CARBON MONOXIDE, COMPRESSED	1 TF	3760	X	X	X	X	5			u
1023	COAL GAS, COMPRESSED	1 TF		X	X	X	X	5			
1045	FLUORINE, COMPRESSED	1 TOC	185	X			X	5	200	30	a, k, n, o
1046	HELIUM, COMPRESSED	1 A		X	X	X	X	10			
1049	HYDROGEN, COMPRESSED	1 F		X	X	X	X	10			d
1056	KRYPTON, COMPRESSED	1 A		X	X	X	X	10			
1065	NEON, COMPRESSED	1 A		X	X	X	X	10			
1066	NITROGEN, COMPRESSED	1 A		X	X	X	X	10			
1071	OIL GAS, COMPRESSED	1 TF		X	X	X	X	5			
1072	OXYGEN, COMPRESSED	1 O		X	X	X	X	10			s
1612	HEXAETHYL TETRAPHOSPHATE AND COMPRESSED GAS MIXTURE	1 T		X	X	X	X	5			z
1660	NITRIC OXIDE, COMPRESSED	1 TOC	115	X			X	5	225	33	k, o
1953	COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S.	1 TF	≤ 5000	X	X	X	X	5			z
1954	COMPRESSED GAS, FLAMMABLE, N.O.S.	1 F		X	X	X	X	10			z
1955	COMPRESSED GAS, TOXIC, N.O.S.	1 T	≤ 5000	X	X	X	X	5			z
1956	COMPRESSED GAS, N.O.S.	1 A		X	X	X	X	10			z
1957	DEUTERIUM, COMPRESSED	1 F		X	X	X	X	10			d
1964	HYDROCARBON GAS MIXTURE, COMPRESSED, N.O.S.	1 F		X	X	X	X	10			z
1971 1971	METHANE, COMPRESSED or NATURAL GAS, COMPRESSED with high methane content	1 F		X	X	X	X	10			

UN No.	Name and description	Classification code	LC <sub>50</sub> ml/m <sup>3</sup>	Cylinders	Tubes	Pressure drums	Bundles of cylinders	Test period, years <sup>(a)</sup>	Test pressure, bar <sup>(b)</sup>	Maximum working pressure, bar <sup>(b)</sup>	Special packing provisions
2034	HYDROGEN AND METHANE MIXTURE, COMPRESSED	1 F		X	X	X	X	10			d
2190	OXYGEN DIFLUORIDE, COMPRESSED	1 TOC	2,6	X			X	5	200	30	a, k, n, o
3156	COMPRESSED GAS, OXIDIZING, N.O.S.	1 O		X	X	X	X	10			z
3303	COMPRESSED GAS, TOXIC, OXIDIZING, N.O.S.	1 TO	≤ 5000	X	X	X	X	5			z
3304	COMPRESSED GAS, TOXIC, CORROSIVE, N.O.S.	1 TC	≤ 5000	X	X	X	X	5			z
3305	COMPRESSED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S.	1 TFC	≤ 5000	X	X	X	X	5			z
3306	COMPRESSED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.	1 TOC	≤ 5000	X	X	X	X	5			z

<sup>(a)</sup> Not applicable for pressure receptacles made of composite materials.

<sup>(b)</sup> Where the entries are blank, the working pressure shall not exceed two thirds of the test pressure.

**Table 2: Liquefied gases and dissolved gases**

UN No.	Name and description	Classification code	LC <sub>50</sub> ml/m <sup>3</sup>	Cylinders	Tubes	Pressure drums	Bundles of cylinders	Test period, years <sup>(a)</sup>	Test pressure, bar	Filling ratio	Special packing provisions
1001	ACETYLENE, DISSOLVED	4 F		X			X	10	60		c, p
1005	AMMONIA, ANHYDROUS	2 TC	4000	X	X	X	X	5	29	0.54	b, ra
1008	BORON TRIFLUORIDE	2 TC	387	X	X	X	X	5	225 300	0.715 0.86	
1009	BROMOTRIFLUOROMETHANE (REFRIGERANT GAS R 13B1)	2 A		X	X	X	X	10	42 120 250	1.13 1.44 1.60	ra ra ra
1010	BUTADIENES, STABILIZED (1,2-butadiene) or	2 F		X	X	X	X	10	10	0.59	ra
1010	BUTADIENES, STABILIZED (1,3-butadiene) or	2 F		X	X	X	X	10	10	0.55	ra
1010	BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED	2 F		X	X	X	X	10	10	0.50	ra, v, z
1011	BUTANE	2 F		X	X	X	X	10	10	0.52	ra, v
1012	BUTYLENES MIXTURES or	2 F		X	X	X	X	10	10	0.50	ra, z
1012	1-BUTYLENE or	2 F		X	X	X	X	10	10	0.53	
1012	CIS-2-BUTYLENE or	2 F		X	X	X	X	10	10	0.55	
1012	TRANS-2 BUTYLENE	2 F		X	X	X	X	10	10	0.54	
1013	CARBON DIOXIDE	2 A		X	X	X	X	10	190 250	0.68 0.76	ra ra
1017	CHLORINE	2 TOC	293	X	X	X	X	5	22	1.25	a, ra
1018	CHLORODIFLUOROMETHANE (REFRIGERANT GAS R 22)	2 A		X	X	X	X	10	27	1.03	ra
1020	CHLOROPENTAFLUOROETHANE (REFRIGERANT GAS R 115)	2 A		X	X	X	X	10	25	1.05	ra
1021	1-CHLORO-1,2,2,2-TETRAFLUOROETHANE (REFRIGERANT GAS R 124)	2 A		X	X	X	X	10	11	1.20	
1022	CHLOROTRIFLUOROMETHANE (REFRIGERANT GAS R 13)	2 A		X	X	X	X	10	100 120 190 250	0.83 0.90 1.04 1.11	ra ra ra ra
1026	CYANOGEN	2 TF	350	X	X	X	X	5	100	0.70	ra, u
1027	CYCLOPROPANE	2 F		X	X	X	X	10	18	0.55	ra
1028	DICHLORODIFLUOROMETHANE (REFRIGERANT GAS R 12)	2 A		X	X	X	X	10	16	1.15	ra
1029	DICHLOROFUOROMETHANE (REFRIGERANT GAS R 21)	2 A		X	X	X	X	10	10	1.23	ra

UN No.	Name and description	Classification code	LC <sub>50</sub> ml/m <sup>3</sup>	Cylinders	Tubes	Pressure drums	Bundles of cylinders	Test period, years <sup>(a)</sup>	Test pressure, bar	Filling ratio	Special packing provisions
1030	1,1-DIFLUOROETHANE (REFRIGERANT GAS R 152a)	2 F		X	X	X	X	10	16	0.79	ra
1032	DIMETHYLAMINE, ANHYDROUS	2 F		X	X	X	X	10	10	0.59	b, ra
1033	DIMETHYL ETHER	2 F		X	X	X	X	10	18	0.58	ra
1035	ETHANE	2 F		X	X	X	X	10	95 120 300	0.25 0.30 0.40	ra ra ra
1036	ETHYLAMINE	2 F		X	X	X	X	10	10	0.61	b, ra
1037	ETHYL CHLORIDE	2 F		X	X	X	X	10	10	0.80	a, ra
1039	ETHYL METHYL ETHER	2 F		X	X	X	X	10	10	0.64	ra
1040	ETHYLENE OXIDE, or ETHYLENE OXIDE WITH NITROGEN up to a total pressure of 1MPa (10 bar) at 50 °C	2 TF	2900	X	X	X	X	5	15	0.78	l, ra
1041	ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with more than 9% but not more than 87% ethylene oxide	2 F		X	X	X	X	10	190 250	0.66 0.75	ra ra
1043	FERTILIZER AMMONIATING SOLUTION with free ammonia	CARRIAGE PROHIBITED									
1048	HYDROGEN BROMIDE, ANHYDROUS	2 TC	2860	X	X	X	X	5	60	1.51	a, d, ra
1050	HYDROGEN CHLORIDE, ANHYDROUS	2 TC	2810	X	X	X	X	5	100 120 150 200	0.30 0.56 0.67 0.74	a, d, ra a, d, ra a, d, ra a, d, ra
1053	HYDROGEN SULPHIDE	2 TF	712	X	X	X	X	5	48	0.67	d, ra, u
1055	ISOBUTYLENE	2 F		X	X	X	X	10	10	0.52	ra
1058	LIQUEFIED GASES, non-flammable, charged with nitrogen, carbon dioxide or air	2 A		X	X	X	X	10	Test pressure = 1.5 x work- ing pressure		ra
1060	METHYLACETYLENE AND PROPADIENE MIXTURE, STABILIZED Propadiene with 1% to 4% methylacetylene Mixture P1 Mixture P2	2 F		X	X	X	X	10			c, ra, z
				X	X	X	X	10	22	0.52	c, ra
				X	X	X	X	10	30	0.49	c, ra
				X	X	X	X	10	24	0.47	c, ra
1061	METHYLAMINE, ANHYDROUS	2 F		X	X	X	X	10	13	0.58	b, ra
1062	METHYL BROMIDE with not more than 2% chloropicrin	2 T	850	X	X	X	X	5	10	1.51	a
1063	METHYL CHLORIDE (REFRIGERANT GAS R 40)	2 F		X	X	X	X	10	17	0.81	a, ra
1064	METHYL MERCAPTAN	2 TF	1350	X	X	X	X	5	10	0.78	d, ra, u
1067	DINITROGEN TETROXIDE (NITROGEN DIOXIDE)	2 TOC	115	X		X	X	5	10	1.30	k
1069	NITROSYL CHLORIDE	2 TC	35	X			X	5	13	1.10	k, ra
1070	NITROUS OXIDE	2 O		X	X	X	X	10	180 225 250	0.68 0.74 0.75	
1075	PETROLEUM GASES, LIQUEFIED	2 F		X	X	X	X	10			v, z
1076	PHOSGENE	2 TC	5	X		X	X	5	20	1.23	k, ra
1077	PROPYLENE	2 F		X	X	X	X	10	27	0.43	ra
1078	REFRIGERANT GAS, N.O.S. Mixture F 1 Mixture F 2 Mixture F 3	2 A		X	X	X	X	10	12 18 29	1.23 1.15 1.03	ra, z
1079	SULPHUR DIOXIDE	2 TC	2520	X	X	X	X	5	12	1.23	ra
1080	SULPHUR HEXAFLUORIDE	2 A		X	X	X	X	10	70 140 160	1.06 1.34 1.38	ra ra ra
1081	TETRAFLUOROETHYLENE, STABILIZED	2 F		X	X	X	X	10	200		m, o, ra
1082	TRIFLUOROCHLOROETHYLENE, STABILIZED	2 TF	2000	X	X	X	X	5	19	1.13	ra, u
1083	TRIMETHYLAMINE, ANHYDROUS	2 F		X	X	X	X	10	10	0.56	b, ra
1085	VINYL BROMIDE, STABILIZED	2 F		X	X	X	X	10	10	1.37	a, ra

UN No.	Name and description	Classification code	LC <sub>50</sub> ml/m <sup>3</sup>	Cylinders	Tubes	Pressure drums	Bundles of cylinders	Test period, years <sup>(a)</sup>	Test pressure, bar	Filling ratio	Special packing provisions
1086	VINYL CHLORIDE, STABILIZED	2 F		X	X	X	X	10	12	0.81	a, <b>ra</b>
1087	VINYL METHYL ETHER, STABILIZED	2 F		X	X	X	X	10	10	0.67	<b>ra</b>
1581	CHLOROPICRIN AND METHYL BROMIDE MIXTURE with more than 2% chloropicrin	2 T	850	X	X	X	X	5	10	1.51	a
1582	CHLOROPICRIN AND METHYL CHLORIDE MIXTURE	2 T	<sup>(d)</sup>	X	X	X	X	5	17	0.81	a
1589	CYANOGEN CHLORIDE, STABILIZED	2 TC	80	X			X	5	20	1.03	k
1741	BORON TRICHLORIDE	2 TC	2541	X	X	X	X	5	10	1.19	<b>ra</b>
1749	CHLORINE TRIFLUORIDE	2 TOC	299	X	X	X	X	5	30	1.40	a
1858	HEXAFLUOROPROPYLENE (REFRIGERANT GAS R 1216)	2 A		X	X	X	X	10	22	1.11	<b>ra</b>
1859	SILICON TETRAFLUORIDE	2 TC	450	X	X	X	X	5	200 300	0.74 1.10	
1860	VINYL FLUORIDE, STABILIZED	2 F		X	X	X	X	10	250	0.64	a, <b>ra</b>
1911	DIBORANE	2 TF	80	X			X	5	250	0.07	d, k, o
1912	METHYL CHLORIDE AND METHYLENE CHLORIDE MIXTURE	2 F		X	X	X	X	10	17	0.81	a, <b>ra</b>
1952	ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with not more than 9% ethylene oxide	2 A		X	X	X	X	10	190 250	0.66 0.75	<b>ra</b> <b>ra</b>
1958	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE (REFRIGERANT GAS R 114)	2 A		X	X	X	X	10	10	1.30	<b>ra</b>
1959	1,1-DIFLUOROETHYLENE (REFRIGERANT GAS R 1132a)	2 F		X	X	X	X	10	250	0.77	<b>ra</b>
1962	ETHYLENE	2 F		X	X	X	X	10	225 300	0.34 <b>0.38</b>	
1965	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. Mixture A Mixture A 01 Mixture A 02 Mixture A 0 Mixture A 1 Mixture B 1 Mixture B 2 Mixture B Mixture C	2 F		X	X	X	X	10 10 10 10 10 10 10 10 10 10	 10 15 15 15 20 25 25 25 30	 0.50 0.49 0.48 0.47 0.46 0.45 0.44 0.43 0.42	<b>ra</b> , v, z
1967	INSECTICIDE GAS, TOXIC, N.O.S.	2 T		X	X	X	X	5			z
1968	INSECTICIDE GAS, N.O.S.	2 A		X	X	X	X	10			<b>ra</b> , z
1969	ISOBUTANE	2 F		X	X	X	X	10	10	0.49	<b>ra</b> , v
1973	CHLORODIFLUOROMETHANE AND CHLOROPENTAFLUOROETHANE MIXTURE with fixed boiling point, with approximately 49% chlorodifluoromethane (REFRIGERANT GAS R 502)	2 A		X	X	X	X	10	31	<b>1.01</b>	<b>ra</b>
1974	CHLORODIFLUOROBROMOMETHANE (REFRIGERANT GAS R 12B1)	2 A		X	X	X	X	10	10	1.61	<b>ra</b>
1975	NITRIC OXIDE AND DINITROGEN TETROXIDE MIXTURE (NITRIC OXIDE AND NITROGEN DIOXIDE MIXTURE)	2 TOC	115	X		X	X	5			k, z
1976	OCTAFLUOROCYCLOBUTANE (REFRIGERANT GAS RC 318)	2 A		X	X	X	X	10	11	<b>1.32</b>	<b>ra</b>
1978	PROPANE	2 F		X	X	X	X	10	<b>23</b>	<b>0.43</b>	<b>ra</b> , v
1982	TETRAFLUOROMETHANE (REFRIGERANT GAS R 14)	2 A		X	X	X	X	10	200 300	<b>0.71</b> <b>0.90</b>	
1983	1-CHLORO-2,2,2-TRIFLUOROETHANE (REFRIGERANT GAS R 133a)	2 A		X	X	X	X	10	10	1.18	<b>ra</b>
1984	TRIFLUOROMETHANE (REFRIGERANT GAS R 23)	2 A		X	X	X	X	10	190 250	<b>0.88</b> <b>0.96</b>	<b>ra</b> <b>ra</b>
2035	1,1,1-TRIFLUOROETHANE (REFRIGERANT GAS R 143a)	2 F		X	X	X	X	10	35	<b>0.73</b>	<b>ra</b>

UN No.	Name and description	Classification code	LC <sub>50</sub> ml/m <sup>3</sup>	Cylinders	Tubes	Pressure drums	Bundles of cylinders	Test period, years <sup>(a)</sup>	Test pressure, bar	Filling ratio	Special packing provisions
2036	XENON	2 A		X	X	X	X	10	130	1.28	
2044	2,2-DIMETHYLPROPANE	2 F		X	X	X	X	10	10	0.53	ra
2073	AMMONIA SOLUTION, relative density less than 0.880 at 15 °C in water, with more than 35% but not more than 40% ammonia with more than 40% but not more than 50% ammonia	4 A		X	X	X	X	5	10	0.80	b
				X	X	X	X	5	12	0.77	b
2188	ARSINE	2 TF	20	X			X	5	42	1.10	d, k
2189	DICHLOROSILANE	2 TFC	314	X	X	X	X	5	10	0.90	
									200	1.08	
2191	SULPHURYL FLUORIDE	2 T	3020	X	X	X	X	5	50	1.10	u
2192	GERMANE <sup>(c)</sup>	2 TF	620	X	X	X	X	5	250	0.064	d, q, r, ra
2193	HEXAFLUOROETHANE (REFRIGERANT GAS R 116)	2 A		X	X	X	X	10	200	1.13	
2194	SELENIUM HEXAFLUORIDE	2 TC	50	X			X	5	36	1.46	k, ra
2195	TELLURIUM HEXAFLUORIDE	2 TC	25	X			X	5	20	1.00	k, ra
2196	TUNGSTEN HEXAFLUORIDE	2 TC	160	X			X	5	10	3.08	a, k, ra
2197	HYDROGEN IODIDE, ANHYDROUS	2 TC	2860	X	X	X	X	5	23	2.25	a, d, ra
2198	PHOSPHORUS PENTAFLUORIDE	2 TC	190	X			X	5	200	0.90	k
									300	1.25	k
2199	PHOSPHINE <sup>(c)</sup>	2 TF	20	X			X	5	225	0.30	d, k, q
									250	0.45	d, k, q
2200	PROPADIENE, STABILIZED	2 F		X	X	X	X	10	22	0.50	ra
2202	HYDROGEN SELENIDE, ANHYDROUS	2 TF	2	X			X	5	31	1.60	k
2203	SILANE <sup>(c)</sup>	2 F		X	X	X	X	10	225	0.32	q
									250	0.36	q
2204	CARBONYL SULPHIDE	2 TF	1700	X	X	X	X	5	30	0.87	ra, u
2417	CARBONYL FLUORIDE	2 TC	360	X	X	X	X	5	200	0.47	
									300	0.70	
2418	SULPHUR TETRAFLUORIDE	2 TC	40	X			X	5	30	0.91	k, ra
2419	BROMOTRIFLUORO-ETHYLENE	2 F		X	X	X	X	10	10	1.19	ra
2420	HEXAFLUOROACETONE	2 TC	470	X	X	X	X	5	22	1.08	ra
2421	NITROGEN TRIOXIDE	2 TOC	CARRIAGE PROHIBITED								
2422	OCTAFLUOROBUT-2-ENE (REFRIGERANT GAS R 1318)	2 A		X	X	X	X	10	12	1.34	ra
2424	OCTAFLUOROPROPANE (REFRIGERANT GAS R 218)	2 A		X	X	X	X	10	25	1.04	ra
2451	NITROGEN TRIFLUORIDE	2 O		X	X	X	X	10	200	0.50	
2452	ETHYLACETYLENE, STABILIZED	2 F		X	X	X	X	10	10	0.57	c, ra
2453	ETHYL FLUORIDE (REFRIGERANT GAS R 161)	2 F		X	X	X	X	10	30	0.57	ra
2454	METHYL FLUORIDE (REFRIGERANT GAS R 41)	2 F		X	X	X	X	10	300	0.63	ra
2455	METHYL NITRITE	2 A	CARRIAGE PROHIBITED								
2517	1-CHLORO-1,1-DIFLUOROETHANE (REFRIGERANT GAS R 142b)	2 F		X	X	X	X	10	10	0.99	ra
2534	METHYLCHLOROSILANE	2 TFC	600	X	X	X	X	5			ra, z
2548	CHLORINE PENTAFLUORIDE	2 TOC	122	X			X	5	13	1.49	a, k
2599	CHLOROTRIFLUORO-METHANE AND TRIFLUOROMETHANE AZEOTROPIC MIXTURE with approximately 60% chloro-trifluoromethane (REFRIGERANT GAS R 503)	2 A		X	X	X	X	10	31	0.12	ra
									42	0.17	ra
									100	0.64	ra
2601	CYCLOBUTANE	2 F		X	X	X	X	10	10	0.63	ra
2602	DICHLORODIFLUORO-METHANE AND DIFLUOROETHANE AZEOTROPIC MIXTURE with approximately 74% dichlorodifluoro-methane (REFRIGERANT GAS R 500)	2 A		X	X	X	X	10	22	1.01	ra
2676	STIBINE	2 TF	20	X			X	5	200	0.49	k, r, ra
2901	BROMINE CHLORIDE	2 TOC	290	X	X	X	X	5	10	1.50	a



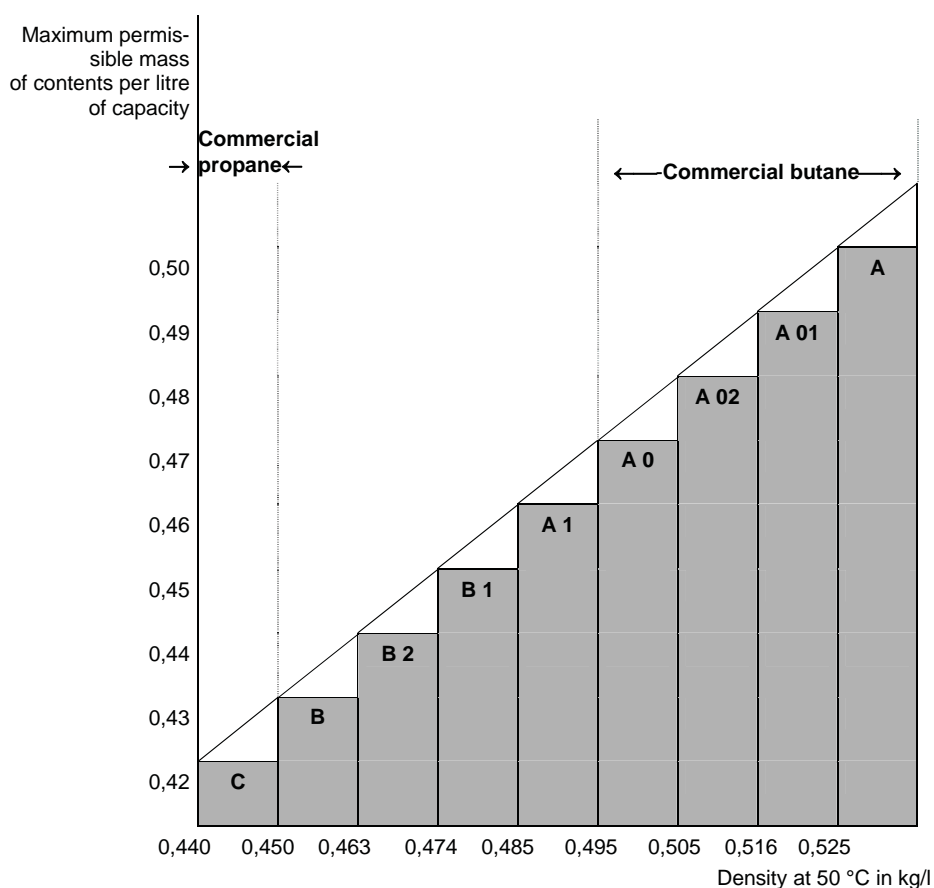
UN No.	Name and description	Classification code	LC <sub>50</sub> ml/m <sup>3</sup>	Cylinders	Tubes	Pressure drums	Bundles of cylinders	Test period, years <sup>(a)</sup>	Test pressure, bar	Filling ratio	Special packing provisions
3057	TRIFLUOROACETYL CHLORIDE	2 TC	10	X		X	X	5	17	1.17	k, ra
3070	ETHYLENE OXIDE AND DICHLORODIFLUOROMETHANE MIXTURE with not more than 12,5% ethylene oxide	2 A		X	X	X	X	10	18	1.09	ra
3083	PERCHLORYL FLUORIDE	2 TO	770	X	X	X	X	5	33	1.21	u
3153	PERFLUORO(METHYL VINYL ETHER)	2 F		X	X	X	X	10	20	0.75	ra
3154	PERFLUORO(ETHYL VINYL ETHER)	2 F		X	X	X	X	10	10	0.98	ra
3157	LIQUEFIED GAS, OXIDIZING, N.O.S.	2 O		X	X	X	X	10			z
3159	1,1,1,2-TETRAFLUOROETHANE (REFRIGERANT GAS R 134a)	2 A		X	X	X	X	10	18	1.05	ra
3160	LIQUEFIED GAS, TOXIC, FLAMMABLE, N.O.S.	2 TF	≤ 5000	X	X	X	X	5			ra, z
3161	LIQUEFIED GAS, FLAMMABLE, N.O.S.	2 F		X	X	X	X	10			ra, z
3162	LIQUEFIED GAS, TOXIC, N.O.S.	2 T	≤ 5000	X	X	X	X	5			z
3163	LIQUEFIED GAS, N.O.S.	2 A		X	X	X	X	10			ra, z
3220	PENTAFLUOROETHANE (REFRIGERANT GAS R 125)	2 A		X	X	X	X	10	49 35	0.95 0.87	ra ra
3252	DIFLUOROMETHANE (REFRIGERANT GAS R 32)	2 F		X	X	X	X	10	48	0.78	ra
3296	HEPTAFLUOROPROPANE (REFRIGERANT GAS R 227)	2 A		X	X	X	X	10	13	1.21	ra
3297	ETHYLENE OXIDE AND CHLOROTETRAFLUOROETHANE MIXTURE with not more than 8.8% ethylene oxide	2 A		X	X	X	X	10	10	1.16	ra
3298	ETHYLENE OXIDE AND PENTAFLUOROETHANE MIXTURE with not more than 7.9% ethylene oxide	2 A		X	X	X	X	10	26	1.02	ra
3299	ETHYLENE OXIDE AND TETRAFLUOROETHANE MIXTURE with not more than 5.6% ethylene oxide	2 A		X	X	X	X	10	17	1.03	ra
3300	ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with more than 87% ethylene oxide	2 TF	> 2900	X	X	X	X	5	28	0.73	ra
3307	LIQUEFIED GAS, TOXIC, OXIDIZING, N.O.S.	2 TO	≤ 5000	X	X	X	X	5			z
3308	LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S.	2 TC	≤ 5000	X	X	X	X	5			ra, z
3309	LIQUEFIED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S.	2 TFC	≤ 5000	X	X	X	X	5			ra, z
3310	LIQUEFIED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S.	2 TOC	≤ 5000	X	X	X	X	5			z
3318	AMMONIA SOLUTION, relative density less than 0.880 at 15 °C in water, with more than 50% ammonia	4 TC		X	X	X	X	5			b
3337	REFRIGERANT GAS R 404A (Pentafluoroethane, 1,1,1-trifluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 44% pentafluoroethane and 52% 1,1,1-trifluoroethane)	2 A		X	X	X	X	10	36	0.82	ra
3338	REFRIGERANT GAS R 407A (Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 20% difluoromethane and 40% pentafluoroethane)	2 A		X	X	X	X	10	32	0.94	ra
3339	REFRIGERANT GAS R 407B (Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 10% difluoromethane and 70% pentafluoroethane)	2 A		X	X	X	X	10	33	0.93	ra



UN No.	Name and description	Classification code	LC <sub>50</sub> ml/m <sup>3</sup>	Cylinders	Tubes	Pressure drums	Bundles of cylinders	Test period, years <sup>(a)</sup>	Test pressure, bar	Filling ratio	Special packing provisions
3340	REFRIGERANT GAS R 407C (Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 23% difluoromethane and 25% pentafluoroethane)	2 A		X	X	X	X	10	30	0.95	ra
3354	INSECTICIDE GAS, FLAMMABLE, N.O.S	2 F		X	X	X	X	10			ra, z
3355	INSECTICIDE GAS, TOXIC, FLAMMABLE, N.O.S.	2 TF		X	X	X	X	5			ra, z
3374	ACETYLENE, SOLVENT FREE	2 F		X			X	5	60		c, p

(a) Not applicable for pressure receptacles made of composite materials.

(b) For mixtures of UN No. 1965, the maximum permissible filling mass per litre of capacity is as follows:



(c) Considered as pyrophoric.

(d) Considered to be toxic. The LC<sub>50</sub> value still to be determined.

**Table 3: Substances not in class 2**

UN No.	Name and description	Class	Classification Code	LC <sub>50</sub> ml/m <sup>3</sup>	Cylinders	Tubes	Pressure drums	Bundles of cylinders	Test period, years <sup>(a)</sup>	Test pressure, bar	Filling ratio	Special packing provisions
1051	HYDROGEN CYANIDE, STABILIZED containing less than 3% water	6.1	TF1	40	X			X	5	100	0.55	k
1052	HYDROGEN FLUORIDE, ANHYDROUS	8	CT1	966	X		X	X	5	10	0.84	ab,ac
1745	BROMINE PENTAFLUORIDE	5.1	OTC	25	X		X	X	5	10	(b)	k,ab,ad,
1746	BROMINE TRIFLUORIDE	5.1	OTC	50	X		X	X	5	10	(b)	k,ab,ad
1790	HYDROFLUORIC ACID, solution, with more than 85 % hydrofluoric acid	8	CT1	966	X		X	X	5	10	0.84	ab,ac
2495	IODINE PENTAFLUORIDE	5.1	OTC	120	X		X	X	5	10	(b)	k,ab,ad

(a) Not applicable for pressure receptacles made of composite materials.

(b) A minimum ullage of 8% by volume is required.

P 201	PACKING INSTRUCTION	P 201
This instruction applies to UN Nos. 3167, 3168 and 3169.		
The following packagings are authorized:		
(1) Cylinders tubes and pressure drums conforming to the construction, testing and filling requirements approved by the competent authority;		
(2) In addition, the following packagings are authorized provided that the general provisions of 4.1.1 and 4.1.3 are met.		
(a) For non-toxic gases, combination packagings with hermetically sealed inner packagings of glass or metal with a maximum capacity of 5 litres per package which meet the packing group III performance level;		
(b) For toxic gases, combination packagings with hermetically sealed inner packagings of glass or metal with a maximum capacity of 1 litre per package which meet the packing group III performance level.		

P 202	PACKING INSTRUCTION	P 202
(Reserved)		

P 203	PACKING INSTRUCTION	P 203
<p><b>Type of packagings</b></p> <p>Cryogenic receptacles</p> <p><b>General instructions</b></p> <p>(1) The special packing provisions of 4.1.6 shall be met.</p> <p>(2) The receptacles shall be so insulated that they cannot become coated with dew or hoar-frost.</p> <p>(3) In the case of receptacles intended for the carriage of gases of classification code 3O, the material used to ensure the leakproofness of the joints or for the maintenance of the closures shall be compatible with the contents.</p> <p><b>Particular instructions for closed cryogenic receptacles</b></p> <p>(4) Closed cryogenic receptacles constructed as specified in Chapter 6.2 are authorized for the carriage of refrigerated liquefied gases.</p> <p>(5) Test pressure</p> <p>Refrigerated liquids shall be filled in closed cryogenic receptacles with the following minimum test pressures:</p> <p>(a) For closed cryogenic receptacles with vacuum insulation, the test pressure shall not be less than 1.3 times the sum of the maximum internal pressure of the filled receptacle, including during filling and discharge, plus 100 kPa (1 bar);</p> <p>(b) For other closed cryogenic receptacles, the test pressure shall be not less than 1.3 times the maximum internal pressure of the filled receptacle, taking into account the pressure developed during filling and discharge.</p> <p>(6) Degree of filling</p> <p>For non-flammable, non-toxic refrigerated liquefied gases (classification codes 3A and 3O) the volume of liquid phase at the filling temperature and at a pressure of 100 kPa (1 bar) shall not exceed 98% of the water capacity of the pressure receptacle.</p> <p>For flammable refrigerated liquefied gases (classification code 3F) the degree of filling shall remain below the level at which, if the contents were raised to the temperature at which the vapour pressure equalled the opening pressure of the relief valve, the volume of the liquid phase would reach 98% of the water capacity at that temperature.</p> <p>(7) Pressure-relief devices</p> <p>Closed cryogenic receptacles shall be fitted with at least one pressure-relief device.</p> <p>(8) Compatibility</p> <p>Materials used to ensure the leakproofness of the joints or for the maintenance of the closures shall be compatible with the contents. For oxidizing gases (classification code 3O) see also (3) above.</p> <p>(9) Periodic inspection</p> <p>Receptacles shall be subjected to periodic inspections in accordance with the provisions of 6.2.1.6 and 6.2.3.5 respectively.</p> <p>Periodic inspections shall be carried out every 10 years.</p> <p>By derogation from this date, the periodic inspection of receptacles which make use of composite materials (composite receptacles) may be carried out at intervals determined by the competent authority of the COTIF Member State which has approved the technical code for the design and construction.</p> <p><b>Particular instructions for open cryogenic receptacles</b></p> <p>(10) Open cryogenic receptacles are not allowed for flammable refrigerated liquefied gases of classification code 3F, and UN No. 2187 carbon dioxide, refrigerated liquid and its mixtures.</p> <p>(11) The receptacles shall be equipped with devices which prevent the liquid from splashing out.</p> <p>(12) Glass receptacles shall be double-walled vacuum insulated and surrounded by an absorbent insulating material; they shall be protected by iron-wire baskets and placed in metal cases. The metal cases for the glass receptacles and the other receptacles shall be fitted with means of handling.</p>		

(13) The openings of the receptacles shall be fitted with devices allowing gases to escape, preventing any splashing out of the liquid, and so fixed that they cannot fall out.
(14) In the case of UN No. 1073 oxygen refrigerated liquid and mixtures thereof, the devices referred to above and the absorbent insulating material surrounding the glass receptacles shall be made of incombustible materials.
<b>Reference to standards</b>
(Reserved)

<b>P 204</b>	<b>PACKING INSTRUCTION</b>	<b>P 204</b>
(Deleted)		

<b>P 205</b>	<b>PACKING INSTRUCTION</b>	<b>P 205</b>
(deleted)		

<b>P 206</b>	<b>PACKING INSTRUCTION</b>	<b>P 206</b>
This packing instruction applies to UN No. 3150 devices, small, hydrocarbon gas powered or hydrocarbon gas refills for small devices		
(1) The special packing provisions of 4.1.6 when applicable shall be met.		
(2) The articles shall comply with the provisions of the country in which they were filled.		
(3) The devices and refills shall be packed in outer packagings conforming to 6.1.4 tested and approved in accordance with Chapter 6.1 for packing group II.		

P 300	PACKING INSTRUCTION	P 300
This instruction applies to UN No. 3064.		
The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:		
Combination packagings consisting of inner metal cans of not more than 1 litre capacity each and outer wooden boxes (4C1, 4C2, 4D or 4F) containing not more than 5 litres of solution.		
<b>Additional requirements</b> 1. Metal cans shall be completely surrounded with absorbent cushioning material. 2. Wooden boxes shall be completely lined with suitable material impervious to water and nitroglycerin.		

P 301	PACKING INSTRUCTION	P 301
This instruction applies to UN No. 3165.		
The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:		
(1) Aluminium pressure vessel made from tubing and having welded heads. Primary containment of the fuel within this vessel shall consist of a welded aluminium bladder having a maximum internal volume of 46 litres. The outer vessel shall have a minimum design gauge pressure of 1 275 kPa and a minimum burst gauge pressure of 2 755 kPa. Each vessel shall be leak checked during manufacture and before dispatch and shall be found leakproof. The complete inner unit shall be securely packed in non-combustible cushioning material, such as vermiculite, in a strong outer tightly closed metal packaging which will adequately protect all fittings. Maximum quantity of fuel per unit and package is 42 litres;		
(2) Aluminium pressure vessel. Primary containment of the fuel within this vessel shall consist of a welded vapour tight fuel compartment with an elastomeric bladder having a maximum internal volume of 46 litres. The pressure vessel shall have a minimum design gauge pressure of 2 860 kPa and a minimum burst gauge pressure of 5 170 kPa. Each vessel shall be leak-checked during manufacture and before dispatch and shall be securely packed in non-combustible cushioning material such as vermiculite, in a strong outer tightly closed metal packaging which will adequately protect all fittings. Maximum quantity of fuel per unit and package is 42 litres.		

P 302	PACKING INSTRUCTION	P 302
This instruction applies to UN No. 3269.		
The following packagings are authorized, provided the general provisions of 4.1.1 and 4.1.3 are met:		
Combination packagings which meet the packing group II or III performance level according to the criteria for Class 3, applied to the base material.		
The base material and the activator (organic peroxide) shall be each separately packed in inner packagings.		
The components may be placed in the same outer packaging provided they will not interact dangerously in the event of a leakage.		
The activator shall have a maximum quantity of 125 ml per inner packaging if liquid, and 500 g per inner packaging if solid.		

P 400	PACKING INSTRUCTION	P 400
<p>The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:</p> <ol style="list-style-type: none"> <li>(1) Pressure receptacles, provided that the general provisions of 4.1.3.6 are met. They shall be made of steel and shall be subjected to an initial test and periodic tests every 10 years at a pressure of not less than 1 MPa (10 bar, gauge pressure). During carriage, the liquid shall be under a layer of inert gas with a gauge pressure of not less than 20 kPa (0.2 bar);</li> <li>(2) Boxes (4A, 4B, 4C1, 4C2, 4D, 4F or 4G), drums (1A2, 1B2, 1N2, 1D or 1G) or jerricans (3A2 or 3B2) enclosing hermetically sealed metal cans with inner packagings of glass or metal, with a capacity of not more than 1 litre each, having threaded closures with gaskets. Inner packagings shall be cushioned on all sides with dry, absorbent, non-combustible material in a quantity sufficient to absorb the entire contents. Inner packagings shall not be filled to more than 90% of their capacity. Outer packagings shall have a maximum net mass of 125 kg;</li> <li>(3) Steel, aluminium or metal drums (1A2, 1B2 or 1N2), jerricans (3A2 or 3B2) or boxes (4A or 4B) with a maximum net mass of 150 kg each with hermetically sealed inner metal cans not more than 4 litre capacity each, with threaded closures fitted with gaskets. Inner packagings shall be cushioned on all sides with dry, absorbent, non-combustible material in a quantity sufficient to absorb the entire contents. Each layer of inner packagings shall be separated by a dividing partition in addition to cushioning material. Inner packagings shall not be filled to more than 90% of their capacity.</li> </ol>		
<b>Special packing provision</b>		
<b>PP 86</b>	For UN Nos. 3392 and 3394, air shall be eliminated from the vapour space by nitrogen or other means.	

P 401	PACKING INSTRUCTION	P 401						
<p>The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:</p> <ol style="list-style-type: none"> <li>(1) Pressure receptacles, provided that the general provisions of 4.1.3.6 are met. They shall be made of steel and subjected to an initial test and periodic tests every 10 years at a pressure of not less than 0.6 MPa (6 bar, gauge pressure). During carriage, the liquid shall be under a layer of inert gas with a gauge pressure of not less than 20 kPa (0.2 bar);</li> </ol>								
<table border="1"> <thead> <tr> <th></th><th>Inner packaging</th><th>Outer packaging</th></tr> </thead> <tbody> <tr> <td>(2) Combination packagings with inner packagings of glass metal or plastics which have threaded closures surrounded in inert cushioning and absorbent material in a quantity sufficient to absorb the entire contents.</td><td>1 l</td><td>30 kg (maximum net mass)</td></tr> </tbody> </table>				Inner packaging	Outer packaging	(2) Combination packagings with inner packagings of glass metal or plastics which have threaded closures surrounded in inert cushioning and absorbent material in a quantity sufficient to absorb the entire contents.	1 l	30 kg (maximum net mass)
	Inner packaging	Outer packaging						
(2) Combination packagings with inner packagings of glass metal or plastics which have threaded closures surrounded in inert cushioning and absorbent material in a quantity sufficient to absorb the entire contents.	1 l	30 kg (maximum net mass)						
<b>Special packing provision specific to RID and ADR</b>								
<b>PR 7</b>	For UN Nos. 1183, 1242, 1295 and 2988, the pressure receptacles shall however be subjected to the tests every five years.							

P 402		PACKING INSTRUCTION		P 402																
The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:																				
(1) Pressure receptacles, provided that the general provisions of 4.1.3.6 are met. They shall be made of steel and subjected to an initial test and periodic tests every 10 years at a pressure of not less than 0.6 MPa (6 bar, gauge pressure). During carriage, the liquid shall be under a layer of inert gas with a gauge pressure of not less than 20 kPa (0.2 bar);																				
<table><tr><td></td><td>Inner packaging</td><td></td><td>Outer packaging</td></tr><tr><td></td><td></td><td>Maximum net mass</td><td></td></tr><tr><td rowspan="2">(2) Combination packagings with inner packagings of glass, metal or plastics which have threaded closures surrounded in inert cushioning and absorbent material in a quantity sufficient to absorb the entire contents.</td><td>10 kg (glass)</td><td></td><td>125 kg</td></tr><tr><td>15 kg (metal or plastics)</td><td></td><td>125 kg</td></tr></table>							Inner packaging		Outer packaging			Maximum net mass		(2) Combination packagings with inner packagings of glass, metal or plastics which have threaded closures surrounded in inert cushioning and absorbent material in a quantity sufficient to absorb the entire contents.	10 kg (glass)		125 kg	15 kg (metal or plastics)		125 kg
	Inner packaging		Outer packaging																	
		Maximum net mass																		
(2) Combination packagings with inner packagings of glass, metal or plastics which have threaded closures surrounded in inert cushioning and absorbent material in a quantity sufficient to absorb the entire contents.	10 kg (glass)		125 kg																	
	15 kg (metal or plastics)		125 kg																	
(3) Steel drums (1A1) with a maximum capacity of 250 litres.																				
(4) Composite packagings consisting of a plastics receptacle with outer steel drum or aluminium (6HA1 or 6HB1) with a maximum capacity of 250 litres.																				
Special packing provision specific to RID and ADR																				
RR 4	For UN No. 3130, the openings of receptacles shall be tightly closed by means of two devices in series, one of which shall be screwed or secured in an equivalent manner.																			
RR 7	For UN No. 3129, the pressure receptacles shall however be subjected to the tests every five years.																			
RR 8	For UN Nos. 1389, 1391, 1411, 1421, 1928, 3129, 3130 and 3148, the pressure receptacles shall however be subjected to an initial test and to periodic tests at a pressure of not less than 1 MPa (10 bar).																			

P 403		PACKING INSTRUCTION		P 403
The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:				
Combination packagings			Maximum net mass	
Inner packagings		Outer packagings		
Glass 2 kg Plastics 15 kg Metal 20 kg  Inner packagings shall be hermetically sealed (e.g. by taping or by threaded closures).	<b>Drums</b> steel (1A2) aluminium (1B2) metal, other than steel or aluminium (1N2) plastics (1H2) plywood (1D) fibre (1G)		400 kg	
			400 kg	
			400 kg	
			400 kg	
			400 kg	
			400 kg	
	<b>Boxes</b> steel (4A) aluminium (4B) natural wood (4C1) natural wood with sift proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) expanded plastics (4H1) solid plastics (4H2)		400 kg	
			400 kg	
			250 kg	
			250 kg	
			250 kg	
			125 kg	
			125 kg	
<b>Jerricans</b> steel (3A2) aluminium (3B2) plastics (3H2)		60 kg		
		250 kg		
		250 kg		
<b>Single packagings</b>			<b>Maximum net mass</b>	
<b>Drums</b> steel (1A1, 1A2) aluminium (1B1, 1B2) metal other than steel or aluminium (1N1, 1N2) plastics (1H1, 1H2) <b>Jerricans</b> steel (3A1, 3A2) aluminium (3B1, 3B2) plastics (3H1, 3H2) <b>Composite packagings</b> plastics receptacle with outer steel or aluminium drums (6HA1 or 6HB1) plastics receptacle with outer fibre, plastics or plywood drums (6HG1, 6HH1 or 6HD1) plastics receptacle with outer steel or aluminium crate or box or with outer wooden, plywood, fibreboard or solid plastics boxes (6HA2, 6HB2, 6HC, 6HD2, 6HG2 oder 6HH2) <b>Pressure receptacles</b> , provided that the general provisions of 4.1.3.6 are met.			250 kg	
			250 kg	
			250 kg	
			250 kg	
			120 kg	
			120 kg	
			120 kg	
			250 kg	
			75 kg	
			75 kg	
<b>Additional requirement</b>  Packagings shall be hermetically sealed.				
<b>Special packing provision</b>				
PP 83	For UN No. 2813, waterproof bags containing not more than 20 g of substance for the purposes of heat formation may be packaged for carriage. Each waterproof bag shall be sealed in a plastics bag and placed within an intermediate packaging. No outer packaging shall contain more than 400 g of substance. Water or liquid which may react with the water reactive substance shall not be included in the packaging.			



P 404	PACKING INSTRUCTION	P 404
This instruction applies to pyrophoric solids: UN Nos.: 1383, 1854, 1855, 2008, 2441, 2545, 2546, 2846, 2881, 3200, 3391 and 3393.		
The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:		
(1) Combination packagings		
Outer packagings: (1A2, 1B2, 1N2, 1H2, 1D, 4A, 4B, 4C1, 4C2, 4D, 4F or 4H2)		
Inner packagings: Metal packagings with a capacity of not more than 15kg each. Inner packagings shall be hermetically sealed and have threaded closures;		
(2) Metal packagings: (1A1, 1A2, 1B1, 1N1, 1N2, 3A1, 3A2, 3B1 and 3B2)		
Maximum gross mass: 150 kg		
(3) Composite packagings: Plastics receptacle with outer steel or aluminium drum (6HA1 or 6HB1)		
Maximum gross mass: 150 kg		
<b>Pressure receptacles</b> , provided that the general provisions of 4.1.3.6 are met.		
<b>Special packing provision</b>		
<b>PP 86</b>	For UN Nos. 3391 and 3393, air shall be eliminated from the vapour space by nitrogen or other means.	

P 405	PACKING INSTRUCTION	P 405
This instruction applies to UN No. 1381.		
The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:		
(1) For UN No. 1381, phosphorus, wet:		
(a) Combination packagings		
Outer packagings: (4A, 4B, 4C1, 4C2, 4D or 4F)		
Maximum net mass: 75 kg		
Inner packagings:		
(i) hermetically sealed metal cans, with a maximum net mass of 15kg; or		
(ii) glass inner packagings cushioned on all sides with dry, absorbent, non-combustible material in a quantity sufficient to absorb the entire contents with a maximum net mass of 2 kg; or		
(b) Drums (1A1, 1A2, 1B1, 1B2, 1N1 or 1N2); maximum net mass: 400 kg		
Jerricans (3A1 oder 3B1); maximum net mass: 120 kg.		
These packagings shall be capable of passing the leakproofness test specified in 6.1.5.4 at the packing group II performance level;		
(2) For UN No. 1381, dry phosphorus:		
(a) When fused, drums (1A2, 1B2 or 1N2) with a maximum net mass of 400 kg; or		
(b) In projectiles or hard cased articles when carried without Class 1 components: as specified by the competent authority.		

P 406	PACKING INSTRUCTION	P 406
<p>The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:</p> <p>(1) Combination packagings  outer packagings: (4C1, 4C2, 4D, 4F, 4G, 4H1, 4H2, 1G, 1D, 1H2 or 3H2)  inner packagings: water-resistant packagings;</p> <p>(2) Plastics, plywood or fibreboard drums (1H2, 1D or 1G) or boxes (4A, 4B, 4C1, 4C2, 4D, 4F, 4G and 4H2) with a water resistant inner bag, plastics film lining or water resistant coating;</p> <p>(3) Metal drums (1A1, 1A2, 1B1, 1B2, 1N1 or 1N2), plastics drums (1H1 or 1H2), metal jerricans (3A1, 3A2, 3B1 or 3B2), plastics jerricans (3H1 or 3H2), plastics receptacle with outer steel or aluminium drums (6HA1 or 6HB1), plastics receptacle with outer fibre, plastics or plywood drums (6HG1, 6HH1 or 6HD1), , plastics receptacle with outer steel or aluminium crate or box or with outer wooden, plywood, fibreboard or solid plastics boxes (6HA2, 6HB2, 6HC, 6HD2, 6HG2 or 6HH2).</p>		
<p><b>Additional requirements</b></p> <p>1. Packagings shall be designed and constructed to prevent the loss of water or alcohol content or the content of the phlegmatizer.</p> <p>2. Packagings shall be so constructed and closed so as to avoid an explosive overpressure or pressure build-up of more than 300 kPa (3 bar).</p>		
<p><b>Special packing provisions</b></p>		
PP 24	UN Nos. 2852, 3364, 3365, 3366, 3367, 3368 and 3369 shall not be carried in quantities of more than 500 g per package.	
PP 25	For UN No. 1347, the quantity carried shall not exceed 15 kg per package.	
PP 26	For UN Nos. 1310, 1320, 1321, 1322, 1344, 1347, 1348, 1349, 1517, 2907, 3317 and 3376 packagings shall be lead free.	
PP 48	For UN No. 3474, metal packagings shall not be used.	
PP 78	UN No. 3370 shall not be carried in quantities of more than 11.5 kg per package.	
PP 80	For UN No. 2907 packagings shall meet the packing group II performance level. Packagings meeting the test criteria of packing group I shall not be used.	

P 407	PACKING INSTRUCTION	P 407
<p>This instruction applies to UN Nos. 1331, 1944, 1945 and 2254.</p>		
<p>The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:</p> <p>Combination packagings comprising securely closed inner packagings to prevent accidental ignition under normal conditions of transport. The maximum gross mass of the package shall not exceed 45 kg except for fibreboard boxes which shall not exceed 30 kg.</p>		
<p><b>Additional requirement</b></p> <p>Matches shall be tightly packed.</p>		
<p><b>Special packing provision</b></p>		
PP 27	UN No. 1331, Strike-anywhere matches shall not be packed in the same outer packaging with any other dangerous goods other than safety matches or wax Vesta matches, which shall be packed in separate inner packagings. Inner packagings shall not contain more than 700 strike-anywhere matches.	

P 408	PACKING INSTRUCTION	P 408
This instruction applies to UN No. 3292.		
The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:		
(1) For cells: Outer packagings with sufficient cushioning material to prevent contact between cells and between cells and the internal surfaces of the outer packaging and to ensure that no dangerous movement of the cells within the outer packaging occurs during carriage. Packagings shall conform to the packing group II performance level;		
(2) For batteries: Batteries may be carried unpacked or in protective enclosures (e.g. in fully enclosed or wooden slatted crates). The terminals shall not support the weight of other batteries or materials packed with the batteries.		
<b>Additional requirement</b>		
Batteries shall be protected against short circuit and shall be isolated in such a manner as to prevent short circuits.		

P 409	PACKING INSTRUCTION	P 409
This instruction applies to UN Nos. 2956, 3242 and 3251.		
The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:		
(1) Fibre drum (1G) which may be fitted with a liner or coating; maximum net mass: 50 kg;		
(2) Combination packagings: Fibreboard box (4G) with a single inner plastic bag; maximum net mass: 50 kg;		
(3) Combination packagings: Fibreboard box (4G) or fibre drum (1G) with plastics inner packagings each containing a maximum of 5 kg; maximum net mass: 25 kg.		

P 410 PACKING INSTRUCTION P 410			
The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:			
Combination packagings		Maximum net mass	
Inner packagings	Outer packagings	Packing group II	Packing group III
Glass 10 kg Plastics <sup>(a)</sup> 30 kg Metal 40 kg Paper <sup>(a),(b)</sup> 10 kg Fibre <sup>(a),(b)</sup> 10 kg  <sup>(a)</sup> These packagings shall be sift-proof. <sup>(b)</sup> These inner packagings shall not be used when the substances being carried may become liquid during carriage.	<b>Drums</b> steel (1A2) aluminium (1B2) metal other than steel or aluminium (1N2) plastics (1H2) plywood (1D) fibre (1G) <sup>(a)</sup>  <b>Boxes</b> steel (4A) aluminium (4B) natural wood (4C1) natural wood with sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) <sup>(a)</sup> expanded plastics (4H1) solid plastics (4H2)  <b>Jerricans</b> steel (3A2) aluminium (3B2) plastics (3H2)	400 kg 400 kg 400 kg  400 kg 400 kg 400 kg  400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg  120 kg 120 kg 120 kg	400 kg 400 kg 400 kg  400 kg 400 kg 400 kg  400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg  120 kg 120 kg 120 kg
<b>Single packagings</b>			
<b>Drums</b> steel (1A1 or 1A2) aluminium (1B1 or 1B2) metal other than steel or aluminium (1N1 or 1N2) plastics (1H1 or 1H2) <b>Jerricans</b> steel (3A1 oder 3A2) aluminium (3B1 oder 3B2) plastics (3H1 oder 3H2) <b>Boxes</b> steel (4A) <sup>(c)</sup> aluminium (4B) <sup>(c)</sup> natural wood (4C1) <sup>(c)</sup> plywood (4D) <sup>(c)</sup> reconstituted wood (4F) <sup>(c)</sup> natural wood with sift-proof walls (4C2) <sup>(c)</sup> fibreboard (4G) <sup>(c)</sup> solid plastics (4H2) <sup>(c)</sup> <b>Bags</b> Bags (5H3, 5H4, 5L3, 5M2) <sup>(c),(d)</sup>		400 kg 400 kg 400 kg 400 kg  120 kg 120 kg 120 kg  400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg  50 kg	400 kg 400 kg 400 kg 400 kg  120 kg 120 kg 120 kg  400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg  50 kg
<sup>(c)</sup> These packagings shall not be used when the substances being carried may become liquid during carriage.			
<sup>(d)</sup> These packagings shall only be used for packing group II substances when carried in a covered wagon or closed container.			
<b>Composite packagings</b> plastics receptacle with outer steel, aluminium, plywood, fibre or plastics drum (6HA1, 6HB1, 6HG1, 6HD1 or 6HH1) plastics receptacle with outer steel or aluminium crate or box, or outer wooden, plywood, fibreboard or solid plastics box (6HA2, 6HB2, 6HC, 6HD2, 6HG2 or 6HH2) glass receptacle with outer steel, aluminium, plywood or fibre drum (6PA1, 6PB1, 6PD1 or 6PG1) or outer steel or aluminium crate or box or with outer wooden or fibreboard box or with outer wickerwork hamper (6PA2, 6PB2, 6PC, 6PG2 or 6PD2) or with outer solid or expanded plastics packaging (6PH1 or 6PH2)		400 kg 75 kg 75 kg	400 kg 75 kg 75 kg
<b>Pressure receptacles</b> , provided that the general provisions of 4.1.3.6 are met.			

Special packing provisions	
<b>PP 39</b>	For UN No. 1378, for metal packagings a venting device is required.
<b>PP 40</b>	For UN Nos. 1326, 1352, 1358, 1395, 1396, 1436, 1437, 1871, 2805 and 3182, packing group II, bags are not allowed.
<b>PP 83</b>	For UN No. 2813, waterproof bags containing not more than 20 g of substance for the purposes of heat formation may be packaged for carriage. Each waterproof bag shall be sealed in a plastics bag and placed within an intermediate packaging. No outer packaging shall contain more than 400 g of substance. Water or liquid which may react with the water reactive substance shall not be included in the packaging.

<b>P 411</b>	<b>PACKING INSTRUCTION</b>	<b>P 411</b>
This instruction applies to UN No. 3270.		
The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met: (1) Fibreboard box with a maximum gross mass of 30 kg; (2) Other packagings, provided that explosion is not possible by reason of increased internal pressure. Maximum net mass shall not exceed 30 kg.		

P 500	PACKING INSTRUCTION	P 500
This instruction applies to UN No. 3356.		
The general provisions of 4.1.1 and 4.1.3 shall be met.		
Packagings shall conform to the packing group II performance level.		
The generator(s) shall be carried in a package which meets the following requirements when one generator in the package is actuated:		
(a) Other generators in the package will not be actuated;		
(b) Packaging material will not ignite; and		
(c) The outside surface temperature of the completed package shall not exceed 100 °C.		

P 501	PACKING INSTRUCTION		P 501
This instruction applies to UN No. 2015.			
The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:			
Combination packagings		Inner packaging maximum capacity	Outer packaging maximum net mass
(1) Boxes (4A, 4B, 4C1, 4C2, 4D, 4H2) or drums (1A2, 1B2, 1N2, 1H2, 1D) or jerricans (3A2, 3B2, 3H2) with glass, plastics or metal inner packagings		5 l	125 kg
(2) Fibreboard box (4G) or fibre drum (1G) with plastics or metal inner packagings each in a plastics bag		2 l	50 kg
Single packagings			Maximum capacity
<b>Drums</b>			
steel (1A1)			250 l
aluminium (1B1)			250 l
metal other than steel or aluminium (1N1)			250 l
plastics (1H1)			250 l
<b>Jerricans</b>			
steel (3A1)			60 l
aluminium (3B1)			60 l
plastics (3H1)			60 l
<b>Composite packagings</b>			
plastics receptacle with outer steel or aluminium drum (6HA1, 6HB1)			250 l
plastics receptacle with outer fibre, plastics or plywood drum (6HG1, 6HH1, 6HD1)			250 l
plastics receptacle with outer steel or aluminium crate or box or plastics receptacle with outer wooden, plywood, fibreboard or solid plastics box (6HA2, 6HB2, 6HC, 6HD2, 6HG2 or 6HH2)			60 l
glass receptacle with outer steel, aluminium, fibre, plywood, solid plastics or expanded plastics drum (6PA1, 6PB1, 6PG1, 6PD1, 6PH1 or 6PH2) or with outer steel or aluminium crate or box or with outer wooden or fibreboard box or with outer wickerwork hamper (6PA2, 6PB2, 6PC, 6PG2 or 6PD2)			60 l
<b>Additional requirements</b>			
1. Packagings shall have a maximum filling degree of 90%.			
2. Packagings shall be vented.			

P 502		PACKING INSTRUCTION		P 502
The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:				
Combination packagings			Maximum net mass	
Inner packagings		Outer packagings		
Glass	5 l	<b>Drums</b> steel (1A2) aluminium (1B2) metal other than steel or aluminium (1N2) plastics (1H2) plywood (1D) fibre (1G)	125 kg	
Metal	5 l		125 kg	
Plastics	5 l		125 kg	
			125 kg	
			125 kg	
			125 kg	
		<b>Boxes</b> steel (4A) aluminium (4B) natural wood (4C1) natural wood with sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) fibreboard (4G) expanded plastics (4H1) solid plastics (4H2)	125 kg	
			125 kg	
			125 kg	
			125 kg	
			125 kg	
			125 kg	
			125 kg	
			125 kg	
Single packagings			Maximum capacity	
<b>Drums</b> steel (1A1) aluminium (1B1) plastics (1H1)			250 l	
			250 l	
			250 l	
<b>Jerricans</b> steel (3A1) aluminium (3B1) plastics (3H1)			60 l	
			60 l	
			60 l	
<b>Composite packagings</b> plastics receptacle with outer steel or aluminium drum (6HA1 or 6HB1) plastics receptacle with outer fibre, plastics or plywood drum (6HG1, 6HH1 or 6HD1) plastics receptacle with outer steel or aluminium crate or box or plastics receptacle with outer wooden, plywood, fibreboard or solid plastics box (6HA2, 6HB2, 6HC, 6HD2, 6HG2 or 6HH2) glass receptacle with outer steel, aluminium, fibre, plywood, solid plastics or expanded plastics drum (6PA1, 6PB1, 6PG1, 6PD1, 6PH1 or 6PH2) or with outer steel or aluminium crate or box or with outer wooden or fibreboard box or with outer wickerwork hamper (6PA2, 6PB2, 6PC, 6PG2 or 6PD2)			250 l	
			250 l	
			60 l	
			60 l	
			60 l	
Special packing provision				
PP 28	For UN No. 1873, only glass inner packagings and glass inner receptacles are authorized respectively for combination packagings and composite packagings.			

P 503		PACKING INSTRUCTION		P 503
The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:				
Combination packagings			Maximum net mass	
Inner packagings		Outer packagings		
Glass	5 kg	<b>Drums</b>		
Metal	5 kg	steel (1A2)	125 kg	
Plastics	5 kg	aluminium (1B2)	125 kg	
		metal other than steel or aluminium (1N2)	125 kg	
		plastics (1H2)	125 kg	
		plywood (1D)	125 kg	
		fibre (1G)	125 kg	
		<b>Boxes</b>		
		steel (4A)	125 kg	
		aluminium (4B)	125 kg	
		natural wood (4C1)	125 kg	
		natural wood with sift-proof walls (4C2)	125 kg	
		plywood (4D)	125 kg	
		reconstituted wood (4F)	125 kg	
		fibreboard (4G)	40 kg	
		expanded plastics (4H1)	60 kg	
		solid plastics (4H2)	125 kg	
<b>Single packagings</b>				
Metal drums (1A1, 1A2, 1B1, 1B2, 1N1 or 1N2) ) with a maximum net mass of 250 kg.				
Fibreboard (1G) or plywood drums (1D) fitted with inner liners with a maximum net mass of 200 kg.				



P 504	PACKING INSTRUCTION	P 504
The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:		
Combination packagings		Maximum net mass
(1) Glass receptacles with a maximum capacity of 5 litres in 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H2 outer packagings		75 kg
(2) Plastics receptacles with a maximum capacity of 30 litres in 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H2 outer packagings		75 kg
(3) Metal receptacles with a maximum capacity of 40 litres in 1G, 4F or 4G outer packagings		125 kg
(4) Metal receptacles with a maximum capacity of 40 litres in 1A2, 1B2, 1N2, 1H2, 1D, 4A, 4B, 4C1, 4C2, 4D, 4H2 outer packagings		225 kg
Single packagings		Maximum capacity
<b>Drums</b>		
steel, non-removable head (1A1)		250 l
steel, removable head (1A2)		250 l
aluminium, non-removable head (1B1)		250 l
aluminium, removable head (1B2)		250 l
metal other than steel or aluminium, non-removable head (1N1)		250 l
metal other than steel or aluminium, removable head (1N2)		250 l
plastics, non-removable head (1H1)		250 l
plastics, removable head (1H2)		250 l
<b>Jerricans</b>		
steel, non-removable head (3A1)		60 l
steel, removable head (3A2)		60 l
aluminium, non-removable head (3B1)		60 l
aluminium, removable head (3B2)		60 l
plastics, non-removable head (3H1)		60 l
plastics, removable head (3H2)		60 l
<b>Composite packagings</b>		
plastics receptacle with outer steel or aluminium drum (6HA1 or 6HB1)		250 l
plastics receptacle with outer fibre, plastics or plywood drum (6HG1, 6HH1 or 6HD1)		120 l
plastics receptacle with outer steel or aluminium crate or box or plastics receptacle with outer wooden, plywood, fibreboard or solid plastics box (6HA2, 6HB2, 6HC, 6HD2, 6HG2 or 6HH2)		60 l
glass receptacle with outer steel, aluminium, fibre, plywood, solid plastics or expanded plastics drum (6PA1, 6PB1, 6PG1, 6PD1, 6PH1 or 6PH2) or with outer steel or aluminium crate or box or with outer wooden fibreboard box or with outer wickerwork hamper (6PA2, 6PB2, 6PC, 6PG2 or 6PD2)		60 l
<b>Special packing provision</b>		
<b>PP 10</b> For UN Nos. 2014, 2984 and 3149, the packaging shall be vented.		

[illegible]

P 600	PACKING INSTRUCTION	P 600
This instruction applies to UN Nos. 1700, 2016 and 2017.		
<p>The following packagings are authorized, provided the general provisions of 4.1.1 and 4.1.3 are met:</p> <p>Outer packagings (1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H2) meeting the packing group II performance level. The articles shall be individually packaged and separated from each other using partitions, dividers, inner packagings or cushioning material to prevent inadvertent discharge during normal conditions of carriage.</p> <p>Maximum net mass: 75 kg</p>		


P 601	PACKING INSTRUCTION	P 601
<p>The following packagings are authorized provided the general provisions of 4.1.1 and 4.1.3 are met and the packagings are hermetically sealed:</p> <p>(1) Combination packagings with a maximum gross mass of 15 kg, consisting of</p> <ul style="list-style-type: none"> <li>– one or more glass inner packaging(s) with a maximum capacity of 1 litre each and filled to not more than 90% of their capacity; the closure(s) of which shall be physically held in place by any means capable of preventing back-off or loosening by impact or vibration during carriage, individually placed in</li> <li>– metal receptacles together with cushioning and absorbent material sufficient to absorb the entire contents of the glass inner packaging(s), further packed in</li> <li>– 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G or 4H2 outer packagings;</li> </ul> <p>(2) Combination packagings consisting of metal inner <b>packagings not</b> exceeding 5 litres in capacity individually packed with absorbent material sufficient to absorb the contents and inert cushioning material in 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G or 4H2 outer packagings with a maximum gross mass of 75 kg. Inner packagings shall not be filled to more than 90% of their capacity. The closure of each inner packaging shall be physically held in place by any means capable of preventing back-off or loosening of the closure by impact or vibration during carriage;</p> <p>(3) Packagings consisting of:</p> <p>Outer packagings: Steel or plastic drums, removable head (1A2 or 1H2), tested in accordance with the test requirements in 6.1.5 at a mass corresponding to the mass of the assembled package either as a packaging intended to contain inner packagings, or as a single packaging intended to contain solids or liquids, and marked accordingly;</p> <p>Inner packagings:</p> <p>Drums and composite packagings (1A1, 1B1, 1N1, 1H1 or 6HA1) meeting the requirements of Chapter 6.1 for single packagings, subject to the following conditions:</p> <ul style="list-style-type: none"> <li>(a) The hydraulic pressure test shall be conducted at a pressure of at least 0.3 MPa (gauge pressure);</li> <li>(b) The design and production leakproofness tests shall be conducted at a test pressure of 30 kPa;</li> <li>(c) They shall be isolated from the outer drum by the use of inert shock-mitigating cushioning material which surrounds the inner packaging on all sides;</li> <li>(d) Their capacity shall not exceed 125 litres;</li> <li>(e) Closures shall be of a screw cap type that are: <ul style="list-style-type: none"> <li>(i) physically held in place by any means capable of preventing back-off or loosening of the closure by impact or vibration during carriage; and</li> <li>(ii) provided with a cap seal;</li> </ul> </li> <li>(f) The outer and inner packagings shall be subjected periodically to a leakproofness test according to (b) at intervals of not more than two and a half years;</li> <li>(g) The complete packaging shall be visually inspected to the satisfaction of the competent authority at least every 3 years;</li> <li>(h) The outer and inner packaging shall bear in clearly legible and durable characters: <ul style="list-style-type: none"> <li>(i) the date (month, year) of the initial test and the latest periodic test and inspection;</li> <li>(ii) The stamp of the expert who carried out the test and inspection;</li> </ul> </li> </ul> <p>(4) Pressure receptacles, provided that the general provisions of 4.1.3.6 are met. They shall be subjected to an initial test and periodic tests every 10 years at a pressure of not less than 1 MPa (10 bar) (gauge pressure). Pressure receptacles may not be equipped with any pressure relief device. Each pressure receptacle containing a toxic by inhalation liquid with an LC<sub>50</sub> less than or equal to 200 ml/m<sup>3</sup> (ppm) shall be closed with a plug or valve conforming to the following:</p> <ul style="list-style-type: none"> <li>(a) Each plug or valve shall have a taper-threaded connection directly to the pressure receptacle and be capable of withstanding the test pressure of the pressure receptacle without damage or leakage;</li> </ul>		

<p>(b) Each valve shall be of the packless type with non-perforated diaphragm, except that, for corrosive substances, a valve may be of the packed type with an assembly made gas-tight by means of a seal cap with gasket joint attached to the valve body or the pressure receptacle to prevent loss of substance through or past the packing;</p> <p>(c) Each valve outlet shall be sealed by a threaded cap or threaded solid plug and inert gasket material;</p> <p>(d) The materials of construction for the pressure receptacle, valves, plugs, outlet caps, luting and gaskets shall be compatible with each other and with the contents.</p> <p>Each pressure receptacle with a wall thickness at any point of less than 2.0 mm and each pressure receptacle which does not have fitted valve protection shall be carried in an outer packaging. Pressure receptacles shall not be manifolded or interconnected.</p>	
<b>Special packing provision</b>	
<b>PP 82</b>	(Deleted)
<b>Special packing provision specific to RID and ADR</b>	
<b>RR 3</b>	(Deleted)
<b>RR 7</b>	For UN No. 1251, the pressure receptacles shall however be subjected to the tests every five years.
<b>RR 10</b>	UN No. 1614, when completely absorbed by an inert porous material, shall be packed in metal receptacles of a capacity of not more than 7.5 litres, placed in wooden cases in such a manner that they cannot come into contact with one another. The receptacles shall be entirely filled with the porous material which shall not shake down or form dangerous spaces even after prolonged use or under impact, even at temperatures of up to 50 °C.

P 602	PACKING INSTRUCTION	P 602
<p>The following packagings are authorised provided the general provisions of 4.1.1 and 4.1.3 are met and the packagings are hermetically sealed:</p>		
<p>(1) Combination packagings with a maximum gross mass of 15 kg, consisting of</p> <ul style="list-style-type: none"> <li>– one or more glass inner packaging(s) with a maximum capacity of 1 litre each and filled to not more than 90% of their capacity; the closure(s) of which shall be physically held in place by any means capable of preventing back-off or loosening by impact or vibration during carriage, individually placed in</li> <li>– metal receptacles together with cushioning and absorbent material sufficient to absorb the entire contents of the glass inner packaging(s), further packed in</li> <li>– 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G or 4H2 outer packagings;</li> </ul>		
<p>(2) Combination packagings consisting of metal inner packagings individually packed with absorbent material sufficient to absorb the entire contents and inert cushioning material in 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G or 4H2 outer packagings with a maximum gross mass of 75 kg. Inner packagings shall not be filled to more than 90% of their capacity. The closure of each inner packaging shall be physically held in place by any means capable of preventing back-off or loosening of the closure by impact or vibration during carriage. Inner packagings shall not exceed 5 litres in capacity;</p>		
<p>(3) Drums and composite packagings (1A1, 1B1, 1N1, 1H1, 6HA1 or 6HH1), subject to the following conditions:</p> <ol style="list-style-type: none"> <li>a) The hydraulic pressure test shall be conducted at a pressure of at least 0.3 MPa (gauge pressure);</li> <li>b) The design and production leakproofness tests shall be conducted at a test pressure of 30 kPa; and</li> <li>c) Closures shall be of a screw cap type that are: <ol style="list-style-type: none"> <li>(i) physically held in place by any means capable of preventing back-off or loosening of the closure by impact or vibration during carriage; and</li> <li>(ii) provided with a cap seal;</li> </ol> </li> </ol>		
<p>(4) Pressure receptacles, provided that the general provisions of 4.1.3.6 are met. They shall be subjected to an initial test and periodic tests every 10 years at a pressure of not less than 1 MPa (10 bar) (gauge pressure). Pressure receptacles may not be equipped with any pressure relief device. Each pressure receptacle containing a toxic by inhalation liquid with an LC<sub>50</sub> less than or equal to 200 ml/m<sup>3</sup> (ppm) shall be closed with a plug or valve conforming to the following:</p> <ol style="list-style-type: none"> <li>(a) Each plug or valve shall have a taper-threaded connection directly to the pressure receptacle and be capable of withstanding the test pressure of the pressure receptacle without damage or leakage;</li> <li>(b) Each valve shall be of the packless type with non-perforated diaphragm, except that, for corrosive substances, a valve may be of the packed type with an assembly made gas-tight by means of a seal cap with gasket joint attached to the valve body or the pressure receptacle to prevent loss of substance through or past the packing;</li> <li>(c) Each valve outlet shall be sealed by a threaded cap or threaded solid plug and inert gasket material;</li> <li>(d) The materials of construction for the pressure receptacle, valves, plugs, outlet caps, luting and gaskets shall be compatible with each other and with the contents.</li> </ol> <p>Each pressure receptacle with a wall thickness at any point of less than 2.0 mm and each pressure receptacle which does not have fitted valve protection shall be carried in an outer packaging. Pressure receptacles shall not be manifolded or interconnected.</p>		

P 620	PACKING INSTRUCTION	P 620
This instruction applies to UN Nos. 2814 and 2900.		
<p>The following packagings are authorized provided the special packing provisions of 4.1.8 are met:</p> <p>Packagings meeting the requirements of Chapter 6.3 and approved accordingly consisting of:</p> <p>(a) Inner packagings comprising:</p> <ul style="list-style-type: none"> <li>(i) leakproof primary receptacle(s);</li> <li>(ii) a leakproof secondary packaging;</li> <li>(iii) other than for solid infectious substances, an absorbent material in sufficient quantity to absorb the entire contents placed between the primary receptacle(s) and the secondary packaging; if multiple primary receptacles are placed in a single secondary packaging, they shall be either individually wrapped or separated so as to prevent contact between them;</li> </ul> <p>(b) A rigid outer <b>packaging</b>. The smallest external dimension shall be not less than 100 mm.</p>		
<p><b>Additional requirements</b></p> <ol style="list-style-type: none"> <li>1. Inner packagings containing infectious substances shall not be consolidated with inner packagings containing unrelated types of goods. Complete packages may be overpacked in accordance with the provisions of 1.2.1 and 5.1.2; such an overpack may contain dry ice.</li> <li>2. Other than for exceptional consignments, e.g. whole organs which require special packaging, the following additional requirements shall apply: <ul style="list-style-type: none"> <li>(a) Substances consigned at ambient temperatures or at a higher temperature: Primary receptacles shall be of glass, metal or plastics. Positive means of ensuring a leakproof seal shall be provided, e.g. a heat seal, a skirted stopper or a metal crimp seal. If screw caps are used, they shall be secured by positive means, e.g., tape, paraffin sealing tape or manufactured locking closure;</li> <li>(b) Substances consigned refrigerated or frozen: Ice, dry ice or other refrigerant shall be placed around the secondary packaging(s) or alternatively in an overpack with one or more complete packages marked in accordance with 6.3.3. Interior supports shall be provided to secure secondary packaging(s) or packages in position after the ice or dry ice has dissipated. If ice is used, the outer packaging or overpack shall be leakproof. If dry ice is used, the outer packaging or overpack shall permit the release of carbon dioxide gas. The primary receptacle and the secondary packaging shall maintain their integrity at the temperature of the refrigerant used;</li> <li>(c) Substances consigned in liquid nitrogen: Plastics primary receptacles capable of withstanding very low temperature shall be used. The secondary packaging shall also be capable of withstanding very low temperatures, and in most cases will need to be fitted over the primary receptacle individually. Provisions for the consignment of liquid nitrogen shall also be fulfilled. The primary receptacle and the secondary packaging shall maintain their integrity at the temperature of the liquid nitrogen.</li> <li>(d) Lyophilised substances may also be carried in primary receptacles that are flame-sealed glass ampoules or rubber-stoppered glass vials fitted with metal seals.</li> </ul> </li> <li>3. Whatever the intended temperature of the consignment, the primary receptacle or the secondary packaging shall be capable of withstanding without leakage an internal pressure producing a pressure differential of not less than 95 kPa and temperatures in the range - 40 °C to + 55 °C.</li> <li>4. Alternative packagings for the carriage of animal material may be authorized by the competent authority of the country of origin<sup>(a)</sup> in accordance with the provisions of 4.1.8.7.</li> </ol> <p><sup>(a)</sup> If the country of origin is not a COTIF Member State, the competent authority of the first COTIF Member State reached by the consignment.</p>		

P 621	PACKING INSTRUCTION	P 621
This instruction applies to UN No. 3291.		
The following packagings are authorized provided the general provisions of 4.1.1 and 4.1.3 are met:		
<ul style="list-style-type: none"><li>(1) Rigid, leakproof packagings meeting the requirements of Chapter 6.1 for solids, at the packing group II performance level, provided there is sufficient absorbent material to absorb the entire amount of liquid present and the packaging is capable of retaining liquids;</li><li>(2) For packages containing larger quantities of liquid, rigid packagings meeting the requirements of Chapter 6.1 at the packing group II performance level for liquids.</li></ul>		
<b>Additional requirement</b>		
<ul style="list-style-type: none"><li>1. Packagings intended to contain sharp objects such as broken glass and needles shall be resistant to puncture and retain liquids under the performance test conditions in Chapter 6.1.</li><li>2. The closure of packagings shall be so constructed that they are hermetically closed after filling and so designed that any subsequent opening is immediately evident.</li></ul>		

P 650	PACKING INSTRUCTION	P 650
This packing instruction applies to UN No. 3373.		
<p>(1) The packaging shall be of good quality, strong enough to withstand the shocks and loadings normally encountered during carriage, including transshipment between wagons or containers and between wagons or containers and warehouses as well as any removal from a pallet or overpack for subsequent manual or mechanical handling. Packagings shall be constructed and closed to prevent any loss of contents that might be caused under normal conditions of carriage by vibration or by changes in temperature, humidity or pressure.</p> <p>(2) The packaging shall consist of at least three components:</p> <p>(a) a primary receptacle;</p> <p>(b) a secondary packaging; and</p> <p>(c) an outer packaging</p> <p>of which either the secondary or the outer packaging shall be rigid.</p> <p>(3) Primary receptacles shall be packed in secondary packagings in such a way that, under normal conditions of carriage, they cannot break, be punctured or leak their contents into the secondary packaging. Secondary packagings shall be secured in outer packagings with suitable cushioning material. Any leakage of the contents shall not compromise the integrity of the cushioning material or of the outer packaging.</p> <p>(4) For carriage, the mark illustrated below shall be displayed on the external surface of the outer packaging on a background of a contrasting colour and shall be clearly visible and legible. The mark shall be in the form of a square set at an angle of 45° (diamond-shaped) with minimum dimensions of 50 mm by 50 mm; the width of the line shall be at least 2 mm and the letters and numbers shall be at least 6 mm high. The proper shipping name "BIOLOGICAL SUBSTANCE, CATEGORY B" in letters at least 6 mm high shall be marked on the outer packaging adjacent to the diamond-shaped mark.</p> <div data-bbox="584 1050 892 1355"></div> <p>(5) At least one surface of the outer packaging shall have a minimum dimension of 100 mm x 100 mm.</p> <p>(6) The completed package shall be capable of successfully passing the drop test in 6.3.5.3 as specified in 6.3.5.2 at a height of 1.2 m. Following the appropriate drop sequence, there shall be no leakage from the primary receptacle(s) which shall remain protected by absorbent material, when required, in the secondary packaging.</p> <p>(7) For liquid substances:</p> <p>(a) The primary receptacle(s) shall be leakproof;</p> <p>(b) The secondary packaging shall be leakproof;</p> <p>(c) If multiple fragile primary receptacles are placed in a single secondary packaging, they shall be either individually wrapped or separated to prevent contact between them;</p> <p>(d) Absorbent material shall be placed between the primary receptacle(s) and the secondary packaging. The absorbent material shall be in quantity sufficient to absorb the entire contents of the primary receptacle(s) so that any release of the liquid substance will not compromise the integrity of the cushioning material or of the outer packaging;</p> <p>(e) The primary receptacle or the secondary packaging shall be capable of withstanding, without leakage, an internal pressure of 95 kPa (0.95 bar).</p>		



- (8) For solid substances:
- (a) The primary receptacle(s) shall be siftproof;
  - (b) The secondary packaging shall be siftproof;
  - (c) If multiple fragile primary receptacles are placed in a single secondary packaging, they shall be either individually wrapped or separated to prevent contact between them;
  - (d) If there is any doubt as to whether or not residual liquid may be present in the primary receptacle during carriage then a packaging suitable for liquids, including absorbent materials, shall be used.
- (9) Refrigerated or frozen specimens: ice, dry ice and liquid nitrogen
- (a) When dry ice or liquid nitrogen is used to keep specimens cold, all applicable requirements of RID shall be met. When used, ice or dry ice shall be placed outside the secondary packagings or in the outer packaging or an overpack. Interior supports shall be provided to secure the secondary packagings in the original position after the ice or dry ice has dissipated. If ice is used, the outside packaging or overpack shall be leakproof. If carbon dioxide, solid (dry ice) is used, the packaging shall be designed and constructed to permit the release of carbon dioxide gas to prevent a build-up of pressure that could rupture the packagings and the package (the outer packaging or the overpack) shall be marked "Carbon dioxide, solid" or "Dry ice".  
**NOTE:** If dry ice is used, there are no requirements to be met (see 2.2.9.1.14). If liquid nitrogen is used, it is sufficient to comply with Chapter 3.3, special provision 593.
  - (b) The primary receptacle and the secondary packaging shall maintain their integrity at the temperature of the refrigerant used as well as the temperatures and the pressures which could result if refrigeration were lost.
- (10) When packages are placed in an overpack, the package markings required by this packing instruction shall either be clearly visible or be reproduced on the outside of the overpack.
- (11) Infectious substances assigned to UN No. 3373 which are packed, and packages which are marked in accordance with this packing instruction are not subject to any other requirement in RID.
- (12) Clear instructions on filling and closing such packages shall be provided by packaging manufacturers and subsequent distributors to the consignor or to the person who prepares the package (e.g. patient) to enable the package to be correctly prepared for carriage.
- (13) Other dangerous goods shall not be packed in the same packaging as Class 6.2 infectious substances unless they are necessary for maintaining the viability, stabilizing or preventing degradation or neutralizing the hazards of the infectious substances. A quantity of 30 ml or less of dangerous goods included in Classes 3, 8 or 9 may be packed in each primary receptacle containing infectious substances. When these small quantities of dangerous goods are packed with infectious substances in accordance with this packing instruction no other requirements of RID need be met.
- (14) If any substance has leaked and has been spilled in a wagon or container, it may not be reused until after it has been thoroughly cleaned and, if necessary, disinfected or decontaminated. Any other goods and articles carried in the same wagon or container shall be examined for possible contamination.

**Additional requirement**

Alternative packagings for the carriage of animal material may be authorized by the competent authority of the country of origin<sup>(a)</sup> in accordance with the provisions of 4.1.8.7.

<sup>(a)</sup> If the country of origin is not a COTIF Member State, the competent authority of the first COTIF Member State reached by the consignment.

P 800 PACKING INSTRUCTION P 800	
This instruction applies to UN Nos. 2803 and 2809.	
<p>The following packagings are authorized, provided the general provisions of 4.1.1 and 4.1.3 are met:</p> <ol style="list-style-type: none"> <li>(1) Pressure receptacles, provided that the general provisions of 4.1.3.6 are met; or</li> <li>(2) Steel flasks or bottles with threaded closures with a capacity not exceeding 3 litres, or</li> <li>(3) Combination packagings which conform to the following requirements: <ol style="list-style-type: none"> <li>(a) Inner packagings shall comprise glass, metal or rigid plastics intended to contain liquids with a maximum net mass of 15 kg each;</li> <li>(b) The inner packagings shall be packed with sufficient cushioning material to prevent breakage;</li> <li>(c) Either the inner packagings or the outer packagings shall have inner liners or bags of strong leakproof and puncture-resistant material impervious to the contents and completely surrounding the contents to prevent it from escaping from the package irrespective of its position or orientation;</li> <li>(d) The following outer packagings and maximum net masses are authorized:</li> </ol> </li> </ol>	
Outer packaging	Maximum net mass
<b>Drums</b>	
steel (1A2)	400 kg
metal other than steel or aluminium (1N2)	400 kg
plastics (1H2)	400 kg
plywood (1D)	400 kg
fibre (1G)	400 kg
<b>Kisten</b>	
steel (4A)	400 kg
natural wood (4C1)	250 kg
natural wood with sift-proof walls (4C2)	250 kg
plywood (4D)	250 kg
reconstituted wood (4F)	125 kg
fibreboard (4G)	125 kg
expanded plastics (4H1)	60 kg
solid plastics (4H2)	125 kg
<b>Special packing provision</b>	
<b>PP 41</b>	For UN No. 2803, when it is necessary to carry gallium at low temperatures in order to maintain it in a completely solid state, the above packagings may be overpacked in a strong, water-resistant outer packaging which contains dry ice or other means of refrigeration. If a refrigerant is used, all of the above materials used in the packaging of gallium shall be chemically and physically resistant to the refrigerant and shall have impact resistance at the low temperatures of the refrigerant employed. If dry ice is used, the outer packaging shall permit the release of carbon dioxide gas.

P 801 PACKING INSTRUCTION P 801	
This instruction applies to new and used batteries assigned to UN Nos. 2794, 2795 or 3028.	
<p>The following packagings are authorized, provided the general provisions of 4.1.1, <b>except 4.1.1.3</b>, and 4.1.3 are met:</p> <ol style="list-style-type: none"> <li>(1) Rigid outer packagings;</li> <li>(2) Wooden slatted crates;</li> <li>(3) Pallets.</li> </ol>	
<b>Additional requirements</b>	
<ol style="list-style-type: none"> <li>1. Batteries shall be protected against short circuits.</li> <li>2. Batteries stacked shall be adequately secured in tiers separated by a layer of non conductive material.</li> <li>3. Battery terminals shall not support the weight of other superimposed elements.</li> <li>4. Batteries shall be packaged or secured to prevent inadvertent movement. Any cushioning material used shall be inert.</li> </ol>	

P 801a	PACKING INSTRUCTION	P 801a
This instruction applies to used batteries of UN Nos. 2794, 2795, 2800 and 3028.		
<p>Stainless steel or solid plastics battery boxes of a capacity of up to 1 m<sup>3</sup> are authorized provided the following provisions are met::</p> <ol style="list-style-type: none"> <li>(1) The battery boxes shall be resistant to the corrosive substances contained in the storage batteries;</li> <li>(2) Under normal conditions of carriage, no corrosive substance shall leak from the battery boxes and no other substance (e.g. water) shall enter the battery boxes. No dangerous residues of corrosive substances contained in the storage batteries shall adhere to the outside of the battery boxes;</li> <li>(3) The battery boxes shall not be loaded with storage batteries to a height greater than the height of their sides;</li> <li>(4) No storage battery containing substances or other dangerous goods which may react dangerously with one another shall be placed in a battery box;</li> <li>(5) The battery boxes shall be either: <ol style="list-style-type: none"> <li>(a) covered; or</li> <li>(b) carried in closed or sheeted open wagons or in closed or covered containers.</li> </ol> </li> </ol>		

P 802	PACKING INSTRUCTION	P 802
The following packagings are authorized, provided the general provisions of 4.1.1 and 4.1.3 are met:		
<ol style="list-style-type: none"> <li>(1) Combination packagings <ul style="list-style-type: none"> <li>Outer packagings: 1A2, 1B2, 1N2, 1H2, 1D, 4A, 4B, 4C1, 4C2, 4D, 4F or 4H2;</li> <li>maximum net mass: 75 kg;</li> <li>Inner packagings: glass or plastics; maximum capacity: 10 litres;</li> </ul> </li> <li>(2) Combination packagings <ul style="list-style-type: none"> <li>Outer packagings: 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G or 4H2;</li> <li>maximum net mass: 125 kg;</li> <li>Inner packagings: metal; maximum capacity: 40 litres;</li> </ul> </li> <li>(3) Composite packagings: Glass receptacle with outer steel, aluminium, plywood or solid plastics drum (6PA1, 6PB1, 6PD1, or 6PH2) or with outer steel or aluminium crate or box or with outer wooden box or with outer wickerwork hamper (6PA2, 6PB2, 6PC or 6PD2); maximum capacity: 60 litres;</li> <li>(4) Steel drums (1A1) with a maximum capacity of 250 litres;</li> <li>(5) Pressure receptacles, provided that the general provisions of 4.1.3.6 are met.</li> </ol>		

P 803	PACKING INSTRUCTION	P 803
This instruction applies to UN No. 2028.		
<p>The following packagings are authorized, provided the general provisions of 4.1.1 and 4.1.3 are met:</p> <ol style="list-style-type: none"> <li>(1) Drums (1A2, 1B2, 1N2, 1H2, 1D, 1G);</li> <li>(2) Boxes ( 4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H2).</li> </ol> <p>Maximum net mass: 75 kg.</p> <p>The articles shall be individually packaged and separated from each other using partitions, dividers, inner packagings or cushioning material to prevent inadvertent discharge during normal conditions of carriage.</p>		

P 804	PACKING INSTRUCTION	P 804
This instruction applies to UN No. 1744.		
The following packagings are authorized provided the general provisions of 4.1.1 and 4.1.3 are met and the packagings are hermetically sealed:		
(1) Combination packagings with a maximum gross mass of 25 kg, consisting of		
<ul style="list-style-type: none"> <li>- one or more glass inner packaging(s) with a maximum capacity of 1.3 litres each and filled to not more than 90% of their capacity; the closure(s) of which shall be physically held in place by any means capable of preventing back-off or loosening by impact or vibration during carriage, individually placed in</li> <li>- metal or rigid plastics receptacles together with cushioning and absorbent material sufficient to absorb the entire contents of the glass inner packaging(s), further packed in</li> <li>- 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G or 4H2 outer packagings.</li> </ul>		
(2) Combination packagings consisting of metal or polyvinylidene fluoride (PVDF) inner packagings, not exceeding 5 litres in capacity individually packed with absorbent material sufficient to absorb the contents and inert cushioning material in 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G or 4H2 outer packagings with a maximum gross mass of 75 kg. Inner packagings shall not be filled to more than 90% of their capacity. The closure of each inner packaging shall be physically held in place by any means capable of preventing back-off or loosening of the closure by impact or vibration during carriage;		
(3) Packagings consisting of:		
Outer packagings:		
Steel or plastic drums, removable head (1A2 or 1H2) tested in accordance with the test requirements in 6.1.5 at a mass corresponding to the mass of the assembled package either as a packaging intended to contain inner packagings, or as a single packaging intended to contain solids or liquids, and marked accordingly;		
Inner packagings:		
Drums and composite packagings (1A1, 1B1, 1N1, 1H1 or 6HA1) meeting the requirements of Chapter 6.1 for single packagings, subject to the following conditions:		
(a) The hydraulic pressure test shall be conducted at a pressure of at least 300 kPa (3 bar) (gauge pressure);		
(b) The design and production leakproofness tests shall be conducted at a test pressure of 30 kPa (0.3 bar);		
(c) They shall be isolated from the outer drum by the use of inert shock-mitigating cushioning material which surrounds the inner packaging on all sides;		
(d) Their capacity shall not exceed 125 litres;		
(e) Closures shall be of a screw type that are:		
(i) Physically held in place by any means capable of preventing back-off or loosening of the closure by impact or vibration during carriage;		
(ii) Provided with a cap seal;		
(f) The outer and inner packagings shall be subjected periodically to an internal inspection and leakproofness test according to (b) at intervals of not more than two and a half years; and		
(g) The outer and inner packagings shall bear in clearly legible and durable characters:		
(i) the date (month, year) of the initial test and the latest periodic test and inspection of the inner packaging; and		
(ii) the name or authorized symbol of the expert who carried out the tests and inspections;		
(4) Pressure receptacles, provided that the general provisions of 4.1.3.6 are met.		
(a) They shall be subjected to an initial test and periodic tests every 10 years at a pressure of not less than 1 MPa (10 bar) (gauge pressure);		
(b) They shall be subjected periodically to an internal inspection and leakproofness test at intervals of not more than two and a half years;		
(c) They may not be equipped with any pressure relief device;		
(d) Each pressure receptacle shall be closed with a plug or valve(s) fitted with a secondary closure device; and		
(e) The materials of construction for the pressure receptacle, valves, plugs, outlet caps, luting and gaskets shall be compatible with each other and with the contents.		

P 900	PACKING INSTRUCTION	P 900
(Reserved)		

P 901	PACKING INSTRUCTION	P 901
This instruction applies to UN No. 3316.		
The following packagings are authorized, provided the general provisions of 4.1.1 and 4.1.3 are met:		
Packagings conforming to the performance level consistent with the packing group assigned to the kit as a whole (see 3.3.1, special provision 251).		
Maximum quantity of dangerous goods per outer packaging: 10 kg.		
<b>Additional requirement</b>		
Dangerous goods in kits shall be packed in inner packagings which shall not exceed either 250 ml or 250 g and shall be protected from other materials in the kit.		

P 902	PACKING INSTRUCTION	P 902
This instruction applies to UN No. 3268.		
The following packagings are authorized, provided the general provisions of 4.1.1 and 4.1.3 are met:		
Packagings conforming to the packing group III performance level. The packagings shall be designed and constructed to prevent movement of the articles and inadvertent operation during normal conditions of carriage.		
The articles may also be carried unpackaged in dedicated handling devices, wagons or containers when moved from where they are manufactured to an assembly plant.		
<b>Additional requirement</b>		
Any pressure vessel shall be in accordance with the requirements of the competent authority for the substance(s) contained in the pressure vessel(s).		

P 903	PACKING INSTRUCTION	P 903
This instruction applies to UN Nos. 3090, 3091, 3480 and 3481.		
The following packagings are authorized, provided the general provisions of 4.1.1 and 4.1.3 are met:		
Packagings conforming to the packing group II performance level.		
<b>When cells</b> and batteries are packed with equipment, they shall be packed in inner fibreboard packagings that meet the requirements for packing group II. <b>When cells</b> and batteries included in Class 9 are contained in equipment, the equipment shall be packed in strong outer packagings in such a manner as to prevent accidental operation during carriage.		
In addition, batteries with a strong, impact resistant outer casing of a gross mass of 12 kg or more, and assemblies of such batteries, may be packed in strong outer packagings, in protective enclosures (e.g., in fully enclosed or wooden slatted crates) unpackaged or on pallets. Batteries shall be secured to prevent inadvertent movement, and the terminals shall not support the weight of other superimposed elements.		
<b>Additional requirement</b>		
Batteries shall be protected against short circuit.		

P 903a	PACKING INSTRUCTION	P 903a
This instruction applies to used cells and batteries of UN Nos. 3090, 3091, 3480 and 3481.		
<p>The following packagings are authorized, provided the general provisions of 4.1.1 and 4.1.3 are met:</p> <p>Packagings conforming to the packing group II performance level.</p> <p>Non-approved packagings shall, however, be permitted provided that:</p> <ul style="list-style-type: none"> <li>– they meet the general provisions of 4.1.1, except 4.1.1.3, and 4.1.3;</li> <li>– the cells and batteries are packed and stowed so as to prevent any risk of short circuits;</li> <li>– the packages weigh not more than 30 kg.</li> </ul>		
<p><b>Additional requirement</b></p> <p>Batteries shall be protected against short circuit.</p>		

P 903b	PACKING INSTRUCTION	P 903b
This instruction applies to used cells and batteries of UN Nos. 3090, 3091, 3480 and 3481.		
<p>Used lithium cells and batteries with a gross mass of not more than 500 g each, collected for disposal, may be carried together with other used non-lithium batteries or alone without being individually protected, under the following conditions:</p> <p>(1) In 1H2 drums or 4H2 boxes conforming to the packing group II performance level for solids;</p> <p>(2) In 1A2 drums or 4A boxes fitted with a polyethylene bag and conforming to the packing group II performance level for solids. The polyethylene bag</p> <ul style="list-style-type: none"> <li>– shall have an impact resistance of at least 480 grams in both parallel and perpendicular planes with respect to the length of the bag;</li> <li>– shall have a minimum of 500 microns of thickness with an electrical resistivity of more than 10 Mohms and a water absorption rate over 24 hours at 25 °C lower than 0.01%;</li> <li>– shall be closed and</li> <li>– may only be used once;</li> </ul> <p>(3) In collecting trays with a gross mass of less than 30 kg made from non-conducting material meeting the general conditions of 4.1.1.1, 4.1.1.2 and 4.1.1.5 to 4.1.1.8.</p>		
<p><b>Additional requirements</b></p> <p>The empty space in the packaging shall be filled with cushioning material. The cushioning material may be dispensed with when the packaging is entirely fitted with a polyethylene bag and the bag is closed.</p> <p>Hermetically sealed packagings shall be fitted with a venting device according to 4.1.1.8. The venting device shall be so designed that an overpressure caused by gases does not exceed 10 kPa.</p>		

P 904	PACKING INSTRUCTION	P 904
This instruction applies to UN No. 3245.		
<p>The following packagings are authorized, provided the general provisions of 4.1.1 and 4.1.3 are met:</p> <p>(1) Packagings according to packing instruction P001 or P002 conforming to the packing group III performance level;</p> <p>(2) Packagings, which need not conform to the packaging test requirements of Part 6, but conforming to the following:</p> <p>(a) An inner packaging comprising:</p> <p>(i) a watertight primary receptacle(s);</p> <p>(ii) a watertight secondary packaging which is leakproof;</p> <p>(iii) absorbent material placed between the primary receptacle(s) and the secondary packaging. The absorbent material shall be in a quantity sufficient to absorb the entire contents of the primary receptacle(s) so that any release of the liquid substance will not compromise the integrity of the cushioning material or of the outer packaging;</p> <p>(iv) if multiple fragile primary receptacles are placed in a single secondary packaging they shall be individually wrapped or separated to prevent contact between them;</p> <p>(b) An outer packaging shall be strong enough for its capacity, mass and intended use and with a smallest external dimension of at least 100 mm.</p>		
<p><b>Additional requirements</b></p> <p><u>Dry ice and liquid nitrogen</u></p> <p>When carbon dioxide, solid, (dry ice) is used as a refrigerant, the packaging shall be designed and constructed to permit the release of the gaseous carbon dioxide to prevent the build up of pressure that could rupture the packaging.</p> <p>Substances consigned in liquid nitrogen or dry ice shall be packed in primary receptacles that are capable of withstanding very low temperatures. The secondary packaging shall also be capable of withstanding very low temperatures and, in most cases, will need to be fitted over the primary receptacle individually.</p>		

P 905	PACKING INSTRUCTION	P 905
This instruction applies to UN Nos. 2990 and 3072.		
<p>Any suitable packaging is authorized, provided the general provisions of 4.1.1 and 4.1.3 are met, except that packagings need not conform to the requirements of Part 6.</p> <p>When the life saving appliances are constructed to incorporate or are contained in rigid outer weatherproof casings (such as for lifeboats), they may be carried unpackaged.</p>		
<p><b>Additional requirements</b></p> <p>1. All dangerous substances and articles contained as equipment within the appliances shall be secured to prevent inadvertent movement and in addition:</p> <p>(a) Signal devices of Class 1 shall be packed in plastics or fibreboard inner packagings;</p> <p>(b) Non-flammable, non-toxic gases shall be contained in cylinders as specified by the competent authority, which may be connected to the appliance;</p> <p>(c) Electric storage batteries (Class 8) and lithium batteries (Class 9) shall be disconnected or electrically isolated and secured to prevent any spillage of liquid; and</p> <p>(d) Small quantities of other dangerous substances (for example in Classes 3, 4.1 and 5.2) shall be packed in strong inner packagings.</p> <p>2. Preparation for transport and packaging shall include provisions to prevent any accidental inflation of the appliance.</p>		

P 906	PACKING INSTRUCTION	P 906
This instruction applies to UN Nos. 2315, 3151, 3152 and 3432.		
<p>The following packagings are authorized, provided the general provisions of 4.1.1 and 4.1.3 are met:</p> <p>(1) For liquids and solids containing or contaminated with PCBs or polyhalogenated biphenyls or terphenyls: Packagings in accordance with P001 or P002, as appropriate;</p> <p>(2) For transformers and condensers and other devices: Leakproof packagings which are capable of containing, in addition to the devices, at least 1.25 times the volume of the liquid PCBs or polyhalogenated biphenyls or terphenyls present in them. There shall be sufficient absorbent material in the packagings to absorb at least 1.1 times the volume of liquid which is contained in the devices. In general, transformers and condensers shall be carried in leakproof metal packagings which are capable of holding, in addition to the transformers and condensers, at least 1.25 times the volume of the liquid present in them.</p> <p>Notwithstanding the above, liquids and solids not packaged in accordance with P001 and P002 and unpackaged transformers and condensers may be carried in cargo transport units fitted with a leakproof metal tray to a height of at least 800 mm, containing sufficient inert absorbent material to absorb at least 1.1 times the volume of any free liquid.</p>		
<b>Additional requirement</b>  Adequate provisions shall be taken to seal the transformers and condensers to prevent leakage during normal conditions of carriage.		



R 001		PACKING INSTRUCTION			R 001
The following packagings are authorized provided the general provisions of 4.1.1 and 4.1.3 are met:					
Light gauge metal packagings		Maximum capacity / maximum net mass			
		Packing group I	Packing group II	Packing group III	
steel, non-removable head (0A1)		Not allowed	40 l / 50 kg	40 l / 50 kg	
steel, removable head (0A2) <sup>(a)</sup>		Not allowed	40 l / 50 kg	40 l / 50 kg	
<sup>(a)</sup> Not allowed for UN No. 1261 Nitromethane					
<b>NOTE 1:</b> This instruction applies to solids and liquids (provided the design type is tested and marked appropriately).					
<b>2:</b> For Class 3, packing group II, these packagings may be used only for substances with no subsidiary risk and a vapour pressure of not more than 110 kPa at 50 °C and for slightly toxic pesticides.					

## 4.1.4.2 Packing instructions concerning the use of IBCs

IBC 01	PACKING INSTRUCTION	IBC 01
The following IBCs are authorized, provided the general provisions of 4.1.1, 4.1.2 and 4.1.3 are met:		
Metal (31A, 31B and 31N).		
<b>Special</b> packing provision specific to RID and ADR		
<b>BB 1</b>	For UN No. 3130, the openings of receptacles for this substance shall be tightly closed by means of two devices in series, one of which shall be screwed or secured in an equivalent manner.	

IBC 02	PACKING INSTRUCTION	IBC 02
The following IBCs are authorized, provided the general provisions of 4.1.1, 4.1.2 and 4.1.3 are met:		
(1) Metal (31A, 31B and 31N);		
(2) Rigid plastics (31H1 and 31H2);		
(3) Composite (31HZ1).		
Special packing provisions		
B 5	For UN Nos. 1791, 2014, 2984 and 3149, IBCs shall be provided with a device to allow venting during carriage. The inlet to the venting device shall be sited in the vapour space of the IBC under maximum filling conditions during carriage.	
B 7	For UN Nos. 1222 and 1865, IBCs with a capacity greater than 450 litres are not permitted due to the substance's potential for explosion when carried in large volumes.	
B 8	The pure form of this substance shall not be transported in IBCs since it is known to have a vapour pressure of more than 110 kPa at 50 °C or 130 kPa at 55 °C.	
B 15	For UN No. 2031 with more than 55% nitric acid, the permitted use of rigid plastics IBCs and of composite IBCs with a rigid plastics inner receptacle shall be two years from their date of manufacture.	
Special packing provision specific to RID and ADR		
BB 2	For UN No.1203, notwithstanding special provision 534 (see 3.3.1), IBCs shall only be used when the actual vapour pressure is not more than 110 kPa at 50 °C. or 130 kPa at 55 °C.	

IBC 03	PACKING INSTRUCTION	IBC 03
The following IBCs are authorized, provided the general provisions of 4.1.1, 4.1.2 and 4.1.3 are met:		
(1) Metal (31A, 31B and 31N);		
(2) Rigid plastics (31H1 and 31H2);		
(3) Composite (31HZ1, 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2).		
<b>Special</b> packing provision		
<b>B 8</b>	The pure form of this substance shall not be carried in IBCs since it is known to have a vapour pressure of more than 110 kPa at 50 °C or 130 kPa at 55 °C.	

IBC 04	PACKING INSTRUCTION	IBC 04
The following IBCs are authorized, provided the general provisions of 4.1.1, 4.1.2 and 4.1.3 are met:		
Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N).		

IBC 05	PACKING INSTRUCTION	IBC 05
The following IBCs are authorized, provided the general provisions of 4.1.1, 4.1.2 and 4.1.3 are met: (1) Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); (2) Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); (3) Composite (11HZ1, 21HZ1 and 31HZ1).		

IBC 06	PACKING INSTRUCTION	IBC 06
The following IBCs are authorized, provided the general provisions of 4.1.1, 4.1.2 and 4.1.3 are met: (1) Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); (2) Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); (3) Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2).		
<b>Additional requirement</b>  Composite IBCs 11HZ2 and 21HZ2 shall not be used when the substances being carried may become liquid during carriage.		
<b>Special packing provisions</b>		
<b>B 12</b>	For UN No. 2907, IBCs shall meet the packing group II performance level. IBCs meeting the test criteria of packing group I shall not be used.	

IBC 07	PACKING INSTRUCTION	IBC 07
The following IBCs are authorized, provided the general provisions of 4.1.1, 4.1.2 and 4.1.3 are met: (1) Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); (2) Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); (3) Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); (4) Wooden (11C, 11D and 11F).		
<b>Additional requirement</b>  Liners of wooden IBCs shall be sift-proof.		

IBC 08	PACKING INSTRUCTION	IBC 08
<p>The following IBCs are authorized, provided the general provisions of 4.1.1, 4.1.2 and 4.1.3 are met:</p> <ol style="list-style-type: none"> <li>(1) Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N);</li> <li>(2) Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2);</li> <li>(3) Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2);</li> <li>(4) Fibreboard (11G);</li> <li>(5) Wooden (11C, 11D and 11F);</li> <li>(6) Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 and 13M2).</li> </ol>		
<b>Special packing provisions</b>		
<b>B 3</b>	Flexible IBCs shall be sift-proof and water-resistant or shall be fitted with a sift-proof and water-resistant liner.	
<b>B 4</b>	Flexible, fibreboard or wooden IBCs shall be sift-proof and water-resistant or shall be fitted with a sift-proof and water-resistant liner.	
<b>B 6</b>	For UN Nos. 1363, 1364, 1365, 1386, 1408, 1841, 2211, 2217, 2793 and 3314, IBCs are not required to meet the IBC testing requirements of Chapter 6.5.	
<b>B 13</b>	<b>NOTE:</b> For UN Nos. 1748, 2208 and 2880, carriage by sea in IBCs is prohibited according to the IMDG Code.	

IBC 99	PACKING INSTRUCTION	IBC 99
<p>Only IBCs which are approved for these goods by the competent authority may be used. A copy of the competent authority approval shall accompany each consignment or the transport document shall include an indication that the packing was approved by the competent authority.</p>		

IBC 100	PACKING INSTRUCTION	IBC 100
This instruction applies to UN Nos. 0082, 0241, 0331 and 0332.		
<p>The following IBCs are authorized, provided the general provisions of 4.1.1, 4.1.2 and 4.1.3 and special provisions of 4.1.5 are met:</p> <ol style="list-style-type: none"> <li>(1) Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N);</li> <li>(2) Flexible (13H2, 13H3, 13H4, 13L2, 13L3, 13L4 and 13M2);</li> <li>(3) Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2);</li> <li>(4) Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2).</li> </ol>		
<b>Additional requirements</b>		
<ol style="list-style-type: none"> <li>1. IBCs shall only be used for free flowing substances.</li> <li>2. Flexible IBCs shall only be used for solids.</li> </ol>		
<b>Special packing provisions</b>		
<b>B 9</b>	For UN No. 0082, this packing instruction may only be used when the substances are mixtures of ammonium nitrate or other inorganic nitrates with other combustible substances which are not explosive ingredients. Such explosives shall not contain nitroglycerin, similar liquid organic nitrates, or chlorates. Metal IBCs are not authorized.	
<b>B 10</b>	For UN No. 0241, this packing instruction may only be used for substances which consist of water as an essential ingredient and high proportions of ammonium nitrate or other oxidizing substances some or all of which are in solution. The other constituents may include hydrocarbons or aluminium powder, but shall not include nitro-derivatives such as trinitrotoluene. Metal IBCs are not authorized.	

IBC 520		PACKING INSTRUCTION		IBC 520
This instruction applies to organic peroxides and self-reactive substances of type F.				
The IBCs listed below are authorized for the formulations listed, provided the general provisions of 4.1.1, 4.1.2 and 4.1.3 and special provisions of 4.1.7.2 are met.				
For formulations not listed below, only IBCs which are approved by the competent authority may be used (see 4.1.7.2.2).				
UN No.	Organic peroxide	Type of IBC	Maximum quantity (litres/kg)	
3109	ORGANIC PEROXIDE, TYPE F, LIQUID			
	tert-BUTYL HYDROPEROXIDE, not more than 72% with water	31A	1250	
	tert-BUTYL PEROXYACETATE, not more than 32% in diluent type A	31A 31HA1	1250 1000	
	tert-BUTYL PEROXYBENZOATE, not more than 32% in diluent type A	31A	1250	
	tert-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE, not more than 37% in diluent type A	31A 31HA1	1250 1000	
	CUMYL HYDROPEROXIDE, not more than 90% in diluent type A	31HA1	1250	
	DIBENZOYL PEROXIDE, not more than 42% as a stable dispersion in water	31H1	1000	
	DI-tert-BUTYL PEROXIDE, not more than 52% in diluent type A	31A 31HA1	1250 1000	
	1,1-DI-(tert-BUTYLPEROXY)CYCLOHEXANE, not more than 37% in diluent type A	31A	1250	
	1,1-DI-(tert-BUTYLPEROXY)CYCLOHEXANE, not more than 42% in diluent type A	31H1	1000	
	DILAULOYL PEROXIDE, not more than 42%, stable dispersion, in water	31HA1	1000	
	ISOPROPYL CUMYL HYDROPEROXIDE, not more than 72% in diluent type A	31HA1	1250	
	p-MENTHYL HYDROPEROXIDE, not more than 72% in diluent type A	31HA1	1250	
	PEROXYACETIC ACID, STABILIZED, not more than 17%	31H1 31HA1 31A	1500 1500 1500	
	3110	ORGANIC PEROXIDE, TYPE F, SOLID		
		DICUMYL PEROXIDE	31A 31H1 31HA1	2000
Additional requirements				
1. IBCs shall be provided with a device to allow venting during carriage. The inlet to the pressure-relief device shall be sited in the vapour space of the IBC under maximum filling conditions during carriage.				
2. To prevent explosive rupture of metal IBCs or composite IBCs with complete metal casing, the emergency-relief devices shall be designed to vent all the decomposition products and vapours evolved during self-accelerating decomposition or during a period of not less than one hour of fire-engulfment as calculated by the formula in 4.2.1.13.8 or in special provision TE 12 of 6.8.4.				

IBC 620	PACKING INSTRUCTION	IBC 620
This instruction applies to UN No. 3291.		
The following IBCs are authorized, provided the general provisions of 4.1.1, 4.1.2 and 4.1.3 are met:		
Rigid, leakproof IBCs conforming to the packing group II performance level.		
<b>Additional requirements</b>		
1. There shall be sufficient absorbent material to absorb the entire amount of liquid present in the IBC.		
2. IBCs shall be capable of retaining liquids.		
3. IBCs intended to contain sharp objects such as broken glass and needles shall be resistant to puncture.		

#### 4.1.4.3 Packing instructions concerning the use of large packagings

LP 01		PACKING INSTRUCTION (LIQUIDS)			LP 01
The following large packagings are authorized provided the general provision of 4.1.1 and 4.1.3 are met:					
Inner packagings		Large outer packagings	Packing group I	Packing group II	Packing group III
Glass	10 litre	Steel (50A)	Not allowed	Not allowed	Maximum capacity: 3 m <sup>3</sup>
Plastics	30 litre	Aluminium (50B)			
Metal	40 litre	Metal other than steel or aluminium (50N)			
		Rigid plastics (50H)			
		Natural wood (50C)			
		Plywood (50D)			
		Reconstituted wood (50F)			
		Fibreboard (50G)			

LP 02		PACKING INSTRUCTION (SOLIDS)			LP 02
The following large packagings are authorized provided the general provisions of 4.1.1 and 4.1.3 are met:					
Inner packagings		Large outer packagings	Packing group I	Packing group II	Packing group III
Glass	10 kg	Steel (50A)	Not allowed	Not allowed	Maximum capacity: 3 m <sup>3</sup>
Plastics <sup>(b)</sup>	50 kg	Aluminium (50B)			
Metal	50 kg	Metal other than steel or aluminium (50N)			
Paper <sup>(a),(b)</sup>	50 kg	Rigid plastics (50H)			
Fibre <sup>(a),(b)</sup>	50 kg	Natural wood (50C)			
		Plywood (50D)			
		Reconstituted wood (50F)			
		Fibreboard (50G)			
		Flexible plastics (51H) <sup>(c)</sup>			
<sup>(a)</sup> These inner packagings shall not be used when the substances being carried may become liquid during carriage.					
<sup>(b)</sup> These inner packagings shall be sift-proof.					
<sup>(c)</sup> To be used with flexible inner packagings only.					
Special packing provision					
L 2	For UN 1950 aerosols, the large packaging shall meet the packing group III performance level. Large packagings for waste aerosols carried in accordance with special provision 327 shall have in addition a means of retaining any free liquid that might escape during carriage e.g. absorbent material.				

LP 99	PACKING INSTRUCTION	LP 99
Only large packagings which are approved for these goods by the competent authority may be used. A copy of the competent authority approval shall accompany each consignment or the transport document shall include an indication that the packaging was approved by the competent authority.		

LP 101		PACKING INSTRUCTION		LP 101
The following packagings are authorized, provided the general provisions of 4.1.1 and 4.1.3 and special provisions of 4.1.5 are met:				
Inner packagings		Intermediate packagings	Large packagings	
Not necessary		Not necessary	Steel (50A) Aluminium (50B) Metal other than steel or aluminium (50N) Rigid plastics (50H) Natural wood (50C) Plywood (50D) Reconstituted wood (50F) Fibreboard (50G)	
Special packing provision				
L 1	For UN Nos. 0006, 0009, 0010, 0015, 0016, 0018, 0019, 0034, 0035, 0038, 0039, 0048, 0056, 0137, 0138, 0168, 0169, 0171, 0181, 0182, 0183, 0186, 0221, 0243, 0244, 0245, 0246, 0254, 0280, 0281, 0286, 0287, 0297, 0299, 0300, 0301, 0303, 0321, 0328, 0329, 0344, 0345, 0346, 0347, 0362, 0363, 0370, 0412, 0424, 0425, 0434, 0435, 0436, 0437, 0438, 0451, 0488 and 0502: Large and robust explosives articles, normally intended for military use, without their means of initiation or with their means of initiation containing at least two effective protective features, may be carried unpackaged. When such articles have propelling charges or are self-propelled, their ignition systems shall be protected against stimuli encountered during normal conditions of carriage. A negative result in Test Series 4 on an unpackaged article indicates that the article can be considered for carriage unpackaged. Such unpackaged articles may be fixed to cradles or contained in crates or other suitable handling devices.			

LP 102	PACKING INSTRUCTION	LP 102
The following packagings are authorized, provided the general provisions of 4.1.1 and 4.1.3 and special provisions of 4.1.5 are met:		
Inner packagings	Intermediate packagings	Large packagings
<b>Bags</b> water resistant  <b>Receptacles</b> fibreboard metal plastics wood  <b>Sheets</b> fibreboard, corrugated  <b>Tubes</b> fibreboard	Not necessary	Steel (50A) Aluminium (50B) Metal other than steel or aluminium (50N) Rigid plastics (50H) Natural wood (50C) Plywood (50D) Reconstituted wood (50F) Fibreboard (50G)

LP 621	PACKING INSTRUCTION	LP 621
This instruction applies to UN No. 3291.		
The following large packagings are authorized, provided the general provisions of 4.1.1 and 4.1.3 are met:		
<p>(1) For clinical waste placed in inner packagings: Rigid, leakproof large packagings conforming to the requirements of Chapter 6.6 for solids, at the packing group II performance level, provided there is sufficient absorbent material to absorb the entire amount of liquid present and the large packaging is capable of retaining liquids;</p> <p>(2) For packages containing larger quantities of liquid: Large rigid packagings conforming to the requirements of Chapter 6.6, at the packing group II performance level, for liquids.</p>		
<b>Additional requirement</b>		
Large packagings intended to contain sharp objects such as broken glass and needles shall be resistant to puncture and retain liquids under the performance test conditions in Chapter 6.6.		

LP 902	PACKING INSTRUCTION	LP 902
This instruction applies to UN No. 3268.		
The following packagings are authorized, provided the general provisions of 4.1.1 and 4.1.3 are met:		
Packagings conforming to the packing group III performance level. The packagings shall be designed and constructed to prevent movement of the articles and inadvertent operation during normal conditions of carriage.		
The articles may also be carried unpackaged in dedicated handling devices, wagons or containers when moved from where they are manufactured to an assembly plant.		
<b>Additional requirement</b>		
Any pressure vessel shall be in accordance with the requirements of the competent authority for the substance(s) contained in the pressure vessel(s).		



4.1.4.4 (Deleted)

**4.1.5 Special packing provisions for goods of Class 1**

4.1.5.1 The general provisions of Section 4.1.1 shall be met.

4.1.5.2 All packagings for Class 1 goods shall be so designed and constructed that:

- (a) They will protect the explosives, prevent them escaping and cause no increase in the risk of unintended ignition or initiation when subjected to normal conditions of carriage including foreseeable changes in temperature, humidity and pressure;
- (b) The complete package can be handled safely in normal conditions of carriage; and
- (c) The packages will withstand any loading imposed on them by foreseeable stacking to which they will be subject during carriage so that they do not add to the risk presented by the explosives, the containment function of the packagings is not harmed, and they are not distorted in a way or to an extent which will reduce their strength or cause instability of a stack.

4.1.5.3 All explosive substances and articles, as prepared for carriage, shall have been classified in accordance with the procedures detailed in 2.2.1.

4.1.5.4 Class 1 goods shall be packed in accordance with the appropriate packing instruction shown in Column (8) of Table A of Chapter 3.2, as detailed in 4.1.4.

4.1.5.5 Packagings, including IBCs and large packagings shall conform to the requirements of Chapter 6.1, 6.5 or 6.6, respectively, and shall meet the test requirements of 6.1.5, 6.5.6 or 6.6.5, respectively, for packing group II, subject to 4.1.1.13, 6.1.2.4 and 6.5.1.4.4. Packagings other than metal packagings meeting the test criteria of packing group I may be used. To avoid unnecessary confinement, metal packagings of packing group I shall not be used.

4.1.5.6 The closure device of packagings containing liquid explosives shall ensure a double protection against leakage.

4.1.5.7 The closure device of metal drums shall include a suitable gasket; if a closure device includes a screw-thread, the ingress of explosive substances into the screw-thread shall be prevented.

4.1.5.8 Packagings for water soluble substances shall be water resistant. Packagings for desensitized or phlegmatized substances shall be closed to prevent changes in concentration during carriage.

4.1.5.9 (Reserved)

4.1.5.10 Nails, staples and other closure devices made of metal without protective covering shall not penetrate to the inside of the outer packaging unless the inner packaging adequately protects the explosives against contact with the metal.

4.1.5.11 Inner packagings, fittings and cushioning materials and the placing of explosive substances or articles in packages shall be accomplished in a manner which prevents the explosive substances or articles from becoming loose in the outer packaging under normal conditions of carriage. Metallic components of articles shall be prevented from making contact with metal packagings. Articles containing explosive substances not enclosed in an outer casing shall be separated from each other in order to prevent friction and impact. Padding, trays, partitioning in the inner or outer packaging, mouldings or receptacles may be used for this purpose.

4.1.5.12 Packagings shall be made of materials compatible with, and impermeable to, the explosives contained in the package, so that neither interaction between the explosives and the packaging materials, nor leakage, causes the explosive to become unsafe to carriage, or the hazard division or compatibility group to change.

4.1.5.13 The ingress of explosive substances into the recesses of seamed metal packagings shall be prevented.

4.1.5.14 Plastics packagings shall not be liable to generate or accumulate sufficient static electricity so that a discharge could cause the packaged explosive substances or articles to initiate, ignite or function.

4.1.5.15 Large and robust explosives articles, normally intended for military use, without their means of initiation or with their means of initiation containing at least two effective protective features, may be carried unpackaged. When such articles have propelling charges or are self-propelled, their ignition systems shall be protected against stimuli encountered during normal conditions of carriage. A negative result in Test Series 4 on an unpackaged article indicates that the article can be considered for carriage unpackaged. Such unpackaged articles may be fixed to cradles or contained in crates or other suitable handling, storage or launching devices in such a way that they will not become loose during normal conditions of carriage.

Where such large explosive articles are as part of their operational safety and suitability tests subjected to test regimes that meet the intentions of RID and such tests have been successfully undertaken, the competent authority may approve such articles to be carried in accordance with RID.

- 4.1.5.16** Explosive substances shall not be packed in inner or outer packagings where the differences in internal and external pressures, due to thermal or other effects, could cause an explosion or rupture of the package.
- 4.1.5.17** Whenever loose explosive substances or the explosive substance of an uncased or partly cased article may come into contact with the inner surface of metal packagings (1A2, 1B2, 4A, 4B and metal receptacles), the metal packaging shall be provided with an inner liner or coating (see 4.1.1.2).
- 4.1.5.18** Packing instruction P101 may be used for any explosive provided the packaging has been approved by a competent authority regardless of whether the packaging complies with the packing instruction assignment in Column (8) of Table A of Chapter 3.2.
- 4.1.6 Special packing provisions for goods of Class 2 and goods of other classes assigned to packing instruction P200**
- 4.1.6.1** This section provides general requirements applicable to the use of pressure receptacles and open cryogenic receptacles for the carriage of Class 2 substances and goods of other classes assigned to packing instruction P200 (e.g. UN 1051 hydrogen cyanide, stabilized). Pressure receptacles shall be constructed and closed so as to prevent any loss of contents which might be caused under normal conditions of carriage, including by vibration, or by changes in temperature, humidity or pressure (resulting from change in altitude, for example).
- 4.1.6.2** Parts of pressure receptacles and open cryogenic receptacles which are in direct contact with dangerous goods shall not be affected or weakened by those dangerous goods and shall not cause a dangerous effect (e.g. catalysing a reaction or reacting with the dangerous goods).
- 4.1.6.3** Pressure receptacles, including their closures and open cryogenic receptacles, shall be selected to contain a gas or a mixture of gases according to the requirements of 6.2.1.2 and the requirements of the relevant packing instructions of 4.1.4.1. This sub-section also applies to pressure receptacles which are elements of MEGCs and battery-wagons.
- 4.1.6.4** A change of use of a refillable pressure receptacle shall include emptying, purging and evacuation operations to the extent necessary for safe operation (see also table of standards at the end of this section). In addition, a pressure receptacle that previously contained a Class 8 corrosive substance or a substance of another class with a corrosive subsidiary risk shall not be authorized for the carriage of a Class 2 substance unless the necessary inspection and testing as specified in 6.2.1.6 and 6.2.3.5 respectively have been performed.
- 4.1.6.5** Prior to filling, the packer shall perform an inspection of the pressure receptacle or open cryogenic receptacle and ensure that the pressure receptacle or open cryogenic receptacle is authorized for the substance to be carried and that the requirements have been met. Shut-off valves shall be closed after filling and remain closed during carriage. The consignor shall verify that the closures and equipment are not leaking.
- NOTE:** Shut-off valves fitted to individual cylinders in bundles may be open during carriage, unless the substance carried is subject to special packing provision "k" or "q" in packing instruction P200.
- 4.1.6.6** Pressure receptacles and open cryogenic receptacles shall be filled according to the working pressures, filling ratios and provisions specified in the appropriate packing instruction for the specific substance being filled. Reactive gases and gas mixtures shall be filled to a pressure such that if complete decomposition of the gas occurs, the working pressure of the pressure receptacle shall not be exceeded. Bundles of cylinders shall not be filled in excess of the lowest working pressure of any given cylinder in the bundle.
- 4.1.6.7** Pressure receptacles, including their closures, shall conform to the design, construction, inspection and testing requirements detailed in Chapter 6.2. When outer packagings are prescribed, the pressure receptacles and open cryogenic receptacles shall be firmly secured therein. Unless otherwise specified in the detailed packing instructions, one or more inner packagings may be enclosed in one outer packaging.
- 4.1.6.8** Valves shall be designed and constructed in such a way that they are inherently able to withstand damage without release of the contents or shall be protected from damage which could cause inadvertent release of the contents of the pressure receptacle, by one of the following methods (see also table of standards at the end of this section):
- (a) Valves are placed inside the neck of the pressure receptacle and protected by a threaded plug or cap;
  - (b) Valves are protected by caps. Caps shall possess vent-holes of sufficient cross-sectional area to evacuate the gas if leakage occurs at the valves;
  - (c) Valves are protected by shrouds or guards;
  - (d) Pressure receptacles are carried in frames, (e.g. cylinders in bundles); or

(e) Pressure receptacles are carried in protective boxes. For UN pressure receptacles the packaging as prepared for carriage shall be capable of meeting the drop test specified in 6.1.5.3 at the packing group I performance level.

**4.1.6.9** Non-refillable pressure receptacles shall:

- (a) be carried in an outer packaging, such as a box or crate, or in shrink-wrapped or stretch-wrapped trays;
- (b) be of a water capacity less than or equal to 1.25 litres when filled with flammable or toxic gas;
- (c) not be used for toxic gases with an LC<sub>50</sub> less than or equal to 200 ml/m<sup>3</sup>; and
- (d) not be repaired after being put into service.

**4.1.6.10** Refillable pressure receptacles shall be periodically inspected according to the provisions of 6.2.1.6 and 6.2.3.5 respectively and packing instruction P200 or P203 as applicable. Pressure receptacles shall not be filled after they become due for periodic inspection but may be carried after the expiry of the time-limit for purposes of performing inspection or disposal, including the intermediate carriage operations.

**4.1.6.11** Repairs shall be consistent with the fabrication and testing requirements of the applicable design and construction standards and are only permitted as indicated in the relevant periodic inspection standards specified in Chapter 6.2. Pressure receptacles, other than the jacket of closed cryogenic receptacles, shall not be subjected to repairs of any of the following:

- (a) weld cracks or other weld defects;
- (b) cracks in walls;
- (c) leaks or defects in the material of the wall, head or bottom.

**4.1.6.12** Pressure receptacles shall not be offered for filling:

- (a) when damaged to such an extent that the integrity of the pressure receptacle or its service equipment may be affected;
- (b) unless the pressure receptacle and its service equipment has been examined and found to be in good working order; and
- (c) unless the required certification, retest, and filling markings are legible.

**4.1.6.13** Filled pressure receptacles shall not be offered for carriage:

- (a) when leaking;
- (b) when damaged to such an extent that the integrity of the pressure receptacle or its service equipment may be affected;
- (c) unless the pressure receptacle and its service equipment has been examined and found to be in good working order; and
- (d) unless the required certification, retest, and filling markings are legible.

**4.1.6.14** For UN pressure receptacles, the ISO standards listed below shall be applied. For other pressure receptacles, the requirements of section 4.1.6 are considered to have been complied with if the following standards, as relevant, are applied:

Applicable paragraphs	Reference	Document title
4.1.6.2	ISO 11114-1:1997	Transportable gas cylinders – Compatibility of cylinder and valve materials with gas contents – Part 1: Metallic Materials
	ISO 11114-2:2000	Transportable gas cylinders – Compatibility of cylinder and valve materials with gas contents – Part 2: Non-metallic Materials
4.1.6.4	ISO 11621:2005	Gas cylinders – Procedures for change of gas service
4.1.6.8 Valves with inherent protection	Annex A of EN ISO 10297:2006	Gas cylinder – Refillable gas cylinder valves – Specification and type testing
	EN 13152:2001 + A1:2003	Testing and specifications of LPG cylinder valves – self closing
	EN 13153:2001 + A1:2003	Testing and specifications of LPG cylinder valves – manually operated
4.1.6.8 (b) and (c)	ISO 11117:1998	Gas Cylinders – Valve Protection caps and valve guards for industrial and medical gas cylinders – Design construction and tests
	EN 962:1996 + A2:2000	Valve protection caps and valve guards for industrial and medical gas cylinders – Design, construction and tests

**4.1.7 Special packing provisions for organic peroxides of Class 5.2 and self-reactive substances of Class 4.1**

**4.1.7.0.1** For organic peroxides, all receptacles shall be "effectively closed". Where significant internal pressure may develop in a package by the evolution of a gas, a vent may be fitted, provided the gas emitted will not cause danger, otherwise the degree of filling shall be limited. Any venting device shall be so constructed that liquid will not escape when the package is in an upright position and it shall be able to prevent ingress of impurities. The outer packaging, if any, shall be so designed as not to interfere with the operation of the venting device.

**4.1.7.1 Use of packagings**

**4.1.7.1.1** Packagings for organic peroxides and self-reactive substances shall meet the requirements of Chapter 6.1 or of Chapter 6.6 at the packing group II performance level. To avoid unnecessary confinement, metal packagings meeting the test criteria of packing group I shall not be used.

**4.1.7.1.2** The packing methods for organic peroxides and self-reactive substances are listed in packing instruction 520 and are designated OP1 to OP8. The quantities specified for each packing method are the maximum quantities authorized per package.

**4.1.7.1.3** The packing methods appropriate for the individual currently assigned organic peroxides and self-reactive substances are listed in 2.2.41.4 and 2.2.52.4.

**4.1.7.1.4** For new organic peroxides, new self-reactive substances or new formulations of currently assigned organic peroxides or self-reactive substances, the following procedure shall be used to assign the appropriate packing method:

(a) ORGANIC PEROXIDE, TYPE B or SELF-REACTIVE SUBSTANCE, TYPE B:

Packing method OP5 shall be assigned, provided that the organic peroxide (or self-reactive substance) satisfies the criteria of 20.4.3 (b) (resp. 20.4.2 (b)) of the Manual of Tests and Criteria in a packaging authorized by the packing method. If the organic peroxide (or self-reactive substance) can only satisfy these criteria in a smaller packaging than those authorized by packing method OP5 (viz. one of the packagings listed for OP1 to OP4), then the corresponding packing method with the lower OP number is assigned;

(b) ORGANIC PEROXIDE, TYPE C or SELF-REACTIVE SUBSTANCE, TYPE C:

Packing method OP6 shall be assigned, provided that the organic peroxide (or self-reactive substance) satisfies the criteria of 20.4.3 (c) (resp. 20.4.2 (c)) of the Manual of Tests and Criteria in a packaging authorized by the packing method. If the organic peroxide (or self-reactive substance) can only satisfy these criteria in a smaller packaging than those authorized by packing method OP6 then the corresponding packing method with the lower OP number is assigned;

(c) ORGANIC PEROXIDE, TYPE D or SELF-REACTIVE SUBSTANCE, TYPE D:

Packing method OP7 shall be assigned to this type of organic peroxide or self-reactive substance;

(d) ORGANIC PEROXIDE, TYPE E or SELF-REACTIVE SUBSTANCE, TYPE E:

Packing method OP8 shall be assigned to this type of organic peroxide or self-reactive substance;

(e) ORGANIC PEROXIDE, TYPE F or SELF-REACTIVE SUBSTANCE, TYPE F:

Packing method OP8 shall be assigned to this type of organic peroxide or self-reactive substance.

**4.1.7.2 Use of intermediate bulk containers**

**4.1.7.2.1** The currently assigned organic peroxides specifically listed in packing instruction IBC520 may be carried in IBCs in accordance with this packing instruction.

**4.1.7.2.2** Other organic peroxides and self-reactive substances of type F may be carried in IBCs under conditions established by the competent authority of the country of origin when, on the basis of the appropriate tests, that competent authority is satisfied that such carriage may be safely conducted. The tests undertaken shall include those necessary:

(a) To prove that the organic peroxide (or self-reactive substance) complies with the principles for classification given in 20.4.3 (f) [resp. 20.4.2 (f)] of the Manual of Tests and Criteria, exit box F of Figure 20.1 (b) of the Manual;

(b) To prove the compatibility of all materials normally in contact with the substance during carriage;

(c) (Reserved)

(d) To design, when applicable, pressure and emergency relief devices; and

(e) To determine if any special provisions are necessary for safe carriage of the substance.

If the country of origin is not a COTIF Member State, the classification and transport conditions shall be recognized by the competent authority of the first COTIF Member State reached by the consignment.

- 4.1.7.2.3** Emergencies to be taken into account are self-accelerating decomposition and fire engulfment. To prevent explosive rupture of metal or composite IBCs with a complete metal casing, the emergency-relief devices shall be designed to vent all the decomposition products and vapours evolved during self-accelerating decomposition or during a period of not less than one hour of complete fire engulfment calculated by the equations given in 4.2.1.13.8.
- 4.1.8 Special packing provisions for infectious substances of Class 6.2**
- 4.1.8.1** Consignors of infectious substances shall ensure that packages are prepared in such a manner that they arrive at their destination in good condition and present no hazard to persons or animals during carriage.
- 4.1.8.2** The definitions in 1.2.1 and the general requirements of 4.1.1.1 to 4.1.1.16, except 4.1.1.3, 4.1.1.9 to 4.1.1.12 and 4.1.1.15 apply to infectious substances packages. However, liquids shall **only be filled into packagings which** have an appropriate resistance to the internal pressure that may develop under normal conditions of carriage.
- 4.1.8.3** **An** itemized list of contents shall be enclosed between the secondary packaging and the outer packaging. When the infectious substances to be carried are unknown, but suspected of meeting the criteria for inclusion in Category **A**, **the words** "suspected Category A infectious substance" shall be shown, in parenthesis, following the proper shipping name on the document inside the outer packaging.
- 4.1.8.4** Before an empty packaging is returned to the consignor, or sent elsewhere, it shall **be disinfected** or sterilized **to nullify any hazard** and any label or marking indicating that it had contained an infectious substance shall be removed or obliterated.
- 4.1.8.5** **Provided an equivalent level of performance is maintained, the following variations in the primary receptacles placed within a secondary packaging are allowed without the need for further testing of the completed packaging:**
- (a) Primary receptacles of equivalent or smaller size as compared to the tested primary receptacles may be used provided:**
    - (i) the primary receptacles are of similar design to the primary receptacle tested (e.g. shape: round, rectangular, etc.);**
    - (ii) the material of construction of the primary receptacles (e.g. glass, plastics, metal) offers resistance to impact and stacking forces equivalent to or better than that of the primary receptacles originally tested;**
    - (iii) the primary receptacles have the same or smaller openings and the closure is of equivalent design (e.g. screw cap, friction lid, etc.);**
    - (iv) sufficient additional cushioning material is used to take up empty spaces and to prevent significant movement of the primary receptacles; and**
    - (v) primary receptacles are oriented within the secondary packagings in the same manner as in the tested package.**
  - (b) A lesser number of the tested primary receptacles, or of the alternative types of primary receptacles identified in (a) above, may be used provided sufficient cushioning is added to fill the void space(s) and to prevent significant movement of the primary receptacles.**
- 4.1.8.6** Paragraphs 4.1.8.1 to 4.1.8.5 only apply to infectious substances of Category A (UN Nos. 2814 and 2900). They do not apply to UN No. 3373 BIOLOGICAL SUBSTANCE, CATEGORY B (see packing instruction P650 of 4.1.4.1), nor to UN No. 3291 CLINICAL WASTE, UNSPECIFIED, N.O.S. or (BIO) MEDICAL WASTE, N.O.S. or REGULATED MEDICAL WASTE, N.O.S.
- 4.1.8.7** For the carriage of animal material, packagings or IBCs not specifically authorized in the applicable packing instruction shall not be used for the carriage of a substance or article unless specifically approved by the competent authority of the country of origin<sup>3</sup> and provided:
- (a) The alternative packaging complies with the general requirements of this Part;**
  - (b) When the packing instruction indicated in column (8) of Table A of Chapter 3.2 so specifies, the alternative packaging meets the requirements of Part 6;**
  - (c) The competent authority of the country of origin<sup>3</sup> determines that the alternative packaging provides at least the same level of safety as if the substance were packed in accordance with a method specified in the particular packing instruction indicated in column (8) of Table A of Chapter 3.2; and**
  - (d) A copy of the competent authority approval accompanies each consignment or the transport document includes an indication that alternative packaging was approved by the competent authority.**

<sup>3</sup> If the country of origin is not a COTIF Member State, the competent authority of the first COTIF Member State reached by the consignment.

**4.1.9 Special packing provisions for Class 7****4.1.9.1 General**

**4.1.9.1.1** Radioactive material, packagings and packages shall meet the requirements of Chapter 6.4. The quantity of radioactive material in a package shall not exceed the limits specified in 2.2.7.2.2, 2.2.7.2.4.1, 2.2.7.2.4.4, 2.2.7.2.4.5, 2.2.7.2.4.6, special provision 336 of Chapter 3.3 and 4.1.9.3.

The types of packages for radioactive materials covered by RID, are:

- (a) Excepted package (see 1.7.1.5);
- (b) Industrial package Type 1 (Type IP-1 package);
- (c) Industrial package Type 2 (Type IP-2 package);
- (d) Industrial package Type 3 (Type IP-3 package);
- (e) Type A package;
- (f) Type B(U) package;
- (g) Type B(M) package;
- (h) Type C package.

Packages containing fissile material or uranium hexafluoride are subject to additional requirements.

**4.1.9.1.2** The non-fixed contamination on the external surfaces of any package shall be kept as low as practicable and, under routine conditions of transport, shall not exceed the following limits:

- (a) 4 Bq/cm<sup>2</sup> for beta and gamma emitters and low toxicity alpha emitters; and
- (b) 0.4 Bq/cm<sup>2</sup> for all other alpha emitters.

These limits are applicable when averaged over any area of 300 cm<sup>2</sup> of any part of the surface.

**4.1.9.1.3** A package, other than an excepted package, shall not contain any items other than those that are necessary for the use of the radioactive material. The interaction between these items and the package under the conditions of carriage applicable to the design, shall not reduce the safety of the package.

**4.1.9.1.4** Except as provided in 7.5.11, CW33, the level of non-fixed contamination on the external and internal surfaces of overpacks, containers, tanks, IBCs and wagons shall not exceed the limits specified in 4.1.9.1.2.

**4.1.9.1.5** Radioactive material with a subsidiary risk shall be carried in packagings, IBCs or tanks fully complying with the requirements of the relevant chapters of Part 6 as appropriate, as well as applicable requirements of Chapters 4.1, 4.2 or 4.3 for that subsidiary risk.

**4.1.9.1.6** Before the first shipment of any package, the following requirements shall be fulfilled:

- (a) If the design pressure of the containment system exceeds 35 kPa (gauge), it shall be ensured that the containment system of each package conforms to the approved design requirements relating to the capability of that system to maintain its integrity under that pressure;
- (b) For each Type B(U), Type B(M) and Type C package and for each package containing fissile material, it shall be ensured that the effectiveness of its shielding and containment and, where necessary, the heat transfer characteristics and the effectiveness of the confinement system, are within the limits applicable to or specified for the approved design;
- (c) For packages containing fissile material, where, in order to comply with the requirements of 6.4.11.1, neutron poisons are specifically included as components of the package, checks shall be performed to confirm the presence and distribution of those neutron poisons.

**4.1.9.1.7** Before each shipment of any package, the following requirements shall be fulfilled:

- (a) For any package it shall be ensured that all the requirements specified in the relevant provisions of RID have been satisfied;
- (b) It shall be ensured that lifting attachments which do not meet the requirements of 6.4.2.2 have been removed or otherwise rendered incapable of being used for lifting the package, in accordance with 6.4.2.3;
- (c) For each package requiring competent authority approval, it shall be ensured that all the requirements specified in the approval certificates have been satisfied;
- (d) Each Type B(U), Type B(M) and Type C package shall be held until equilibrium conditions have been approached closely enough to demonstrate compliance with the requirements for temperature and pressure unless an exemption from these requirements has received unilateral approval;
- (e) For each Type B(U), Type B(M) and Type C package, it shall be ensured by inspection and/or appropriate tests that all closures, valves, and other openings of the containment system through which the radioactive contents might escape are properly closed and, where appropriate, sealed in the manner for which the demonstrations of compliance with the requirements of 6.4.8.8 and 6.4.10.3 were made;



- (f) For each special form radioactive material, it shall be ensured that all the requirements specified in the approval certificate and the relevant provisions of RID have been satisfied;
- (g) For packages containing fissile material the measurement specified in 6.4.11.4 (b) and the tests to demonstrate closure of each package as specified in 6.4.11.7 shall be performed where applicable;
- (h) For each low dispersible radioactive material, it shall be ensured that all the requirements specified in the approval certificate and the relevant provisions of RID have been satisfied.

**4.1.9.1.8** The consignor shall also have a copy of any instructions with regard to the proper closing of the package and any preparation for shipment before making any shipment under the terms of the certificates.

**4.1.9.1.9** Except for consignments under exclusive use, the transport index of any package or overpack shall not exceed 10, nor shall the criticality safety index of any package or overpack exceed 50.

**4.1.9.1.10** Except for packages or overpacks carried under exclusive use under the conditions specified in 7.5.11, CW 33 (3.5) (a), the maximum radiation level at any point on any external surface of a package or overpack shall not exceed 2 mSv/h.

**4.1.9.1.11** The maximum radiation level at any point on any external surface of a package or overpack under exclusive use shall not exceed 10 mSv/h.

#### **4.1.9.2 Requirements and controls for carriage of LSA material and SCO**

**4.1.9.2.1** The quantity of LSA material or SCO in a single Type IP-1 package, Type IP-2 package, Type IP-3 package, or object or collection of objects, whichever is appropriate, shall be so restricted that the external radiation level at 3 m from the unshielded material or object or collection of objects does not exceed 10 mSv/h.

**4.1.9.2.2** For LSA material and SCO which is or contains fissile material the applicable requirements of 6.4.11.1 and 7.5.11 CW 33 (4.1) and (4.2) shall be met.

**4.1.9.2.3** LSA material and SCO in groups LSA-I and SCO-I may be carried unpackaged under the following conditions:

- (a) All unpackaged material other than ores containing only naturally occurring radionuclides shall be carried in such a manner that under routine conditions of carriage there will be no escape of the radioactive contents from the wagon nor will there be any loss of shielding;
- (b) Each wagon shall be under exclusive use, except when only carrying SCO-I on which the contamination on the accessible and the inaccessible surfaces is not greater than ten times the corresponding level according to the definition of "contamination" in 2.2.7.1.2; and
- (c) For SCO-I where it is suspected that non-fixed contamination exists on inaccessible surfaces in excess of the values specified in 2.2.7.2.3.2 (a) (i), measures shall be taken to ensure that the radioactive material is not released into the wagon.

**4.1.9.2.4** LSA material and SCO, except as otherwise specified in 4.1.9.2.3, shall be packaged in accordance with the table below:

**Industrial package requirements for LSA material and SCO**

Radioactive contents	Industrial package type	
	Exclusive use	Not under exclusive use
LSA-I Solid <sup>(a)</sup> Liquid	Type IP-1 Type IP-1	Type IP-1 Type IP-2
LSA-II Solid Liquid and gas	Type IP-2 Type IP-2	Type IP-2 Type IP-3
LSA-III	Type IP-2	Type IP-3
SCO-I <sup>(a)</sup>	Type IP-1	Type IP-1
SCO-II	Type IP-2	Type IP-2

(a) Under the conditions specified in 4.1.9.2.3, LSA-I material and SCO-I may be carried unpackaged.

#### **4.1.9.3 Packages containing fissile material**

Unless not classified as fissile in accordance with 2.2.7.2.3.5, packages containing fissile material shall not contain:

- (a) A mass of fissile material different from that authorized for the package design;
  - (b) Any radionuclide or fissile material different from those authorized for the package design; or
  - (c) Contents in a form or physical or chemical state, or in a spatial arrangement, different from those authorized for the package design;
- as specified in their certificates of approval where appropriate.

#### **4.1.10 Special provisions for mixed packing**

**4.1.10.1** When mixed packing is permitted in accordance with the provisions of this section, different dangerous goods or dangerous goods and other goods may be packed together in combination packagings conforming to 6.1.4.21, provided that they do not react dangerously with one another and that all other relevant provisions of this Chapter are complied with.

**NOTE 1:** See also 4.1.1.5 and 4.1.1.6.

**2:** For goods of Class 7, see 4.1.9.

**4.1.10.2** Except for packages containing Class 1 goods only or Class 7 goods only, if wooden or fibreboard boxes are used as outer packagings, a package containing different goods packed together shall not weigh more than 100 kg.

**4.1.10.3** Unless otherwise prescribed by a special provision applicable according to 4.1.10.4, dangerous goods of the same class and the same classification code may be packed together.

**4.1.10.4** When indicated for a given entry in Column (9b) of Table A of Chapter 3.2, the following special provisions shall apply to the mixed packing of the goods assigned to that entry with other goods in the same package.

**MP 1** May only be packed together with goods of the same type within the same compatibility group.

**MP 2** Shall not be packed together with other goods.

**MP 3** Mixed packing of UN No. 1873 with UN No. 1802 is permitted.

**MP 4** Shall not be packed together with goods of other classes or with goods which are not subject to the requirements of RID. However, if this organic peroxide is a hardener or compound system for Class 3 substances, mixed packing is permitted with these substances of Class 3.

**MP 5** UN No. 2814 and UN No. 2900 may be packed together in a combination packaging in conformity with P620. They shall not be packed together with other goods; this does not apply to UN No. 3373 Biological substance, Category B packed in accordance with P650 or to substances added as coolants, e.g. ice, dry ice or refrigerated liquid nitrogen.

**MP 6** Shall not be packed together with other goods. This does not apply to substances added as coolants, e.g. ice, dry ice or refrigerated liquid nitrogen.

**MP 7** May – in quantities not exceeding 5 litres per inner packaging – be packed together in a combination packaging conforming to 6.1.4.21:

- with goods of the same class covered by other classification codes when mixed packing is also permitted for these; or
- with goods which are not subject to the requirements of RID,

provided they do not react dangerously with one another.

**MP 8** May – in quantities not exceeding 3 litres per inner packaging – be packed together in a combination packaging conforming to 6.1.4.21:

- with goods of the same class covered by other classification codes when mixed packing is also permitted for these; or
- with goods which are not subject to the requirements of RID,

provided they do not react dangerously with one another.

**MP 9** May be packed together in an outer packaging for combination packagings in accordance with 6.1.4.21:

- with other goods of Class 2;
- with goods of other classes, when the mixed packing is also permitted for these; or
- with goods which are not subject to the requirements of RID,

provided they do not react dangerously with one another.

**MP 10** May – in quantities not exceeding 5 kg per inner packaging – be packed together in a combination packaging conforming to 6.1.4.21:



- with goods of the same class covered by other classification codes or with goods of other classes, when mixed packing is also permitted for these; or
- with goods which are not subject to the requirements of RID,

provided they do not react dangerously with one another.

**MP 11** May – in quantities not exceeding 5 kg per inner packaging – be packed together in a combination packaging conforming to 6.1.4.21:

- with goods of the same class covered by other classification codes or with goods of other classes (except substances of packing group I or II of Class 5.1) when mixed packing is also permitted for these; or
- with goods which are not subject to the requirements of RID,

provided they do not react dangerously with one another.

**MP 12** May – in quantities not exceeding 5 kg per inner packaging – be packed together in a combination packaging conforming to 6.1.4.21:

- with goods of the same class covered by other classification codes or with goods of other classes (except substances of packing group I or II of Class 5.1) when mixed packing is also permitted for these; or
- with goods which are not subject to the requirements of RID,

provided they do not react dangerously with one another.

Packagings shall not weigh more than 45 kg. If fibreboard boxes are used as outer packagings however, a package shall not weigh more than 27 kg.

**MP 13** May – in quantities not exceeding 3 kg per inner packaging and per package – be packed together in a combination packaging conforming to 6.1.4.21:

- with goods of the same class covered by other classification codes or with goods of other classes, when mixed packing is also permitted for these; or
- with goods which are not subject to the requirements of RID,

provided they do not react dangerously with one another.

**MP 14** May – in quantities not exceeding 6 kg per inner packaging – be packed together in a combination packaging conforming to 6.1.4.21:

- with goods of the same class covered by other classification codes or with goods of other classes, when mixed packing is also permitted for these; or
- with goods which are not subject to the requirements of RID,

provided they do not react dangerously with one another.

**MP 15** May – in quantities not exceeding 3 litres per inner packaging – be packed together in a combination packaging conforming to 6.1.4.21:

- with goods of the same class covered by other classification codes or with goods of other classes, when mixed packing is also permitted for these; or
- with goods which are not subject to the requirements of RID,

provided they do not react dangerously with one another.

**MP 16** May – in quantities not exceeding 3 litres per inner packaging and per package – be packed together in a combination packaging conforming to 6.1.4.21:

- with goods of the same class covered by other classification codes or with goods of other classes, when mixed packing is also permitted for these; or
- with goods which are not subject to the requirements of RID,

provided they do not react dangerously with one another.

**MP 17** May – in quantities not exceeding 0.5 litre per inner packaging and 1 litre per package – be packed together in a combination packaging conforming to 6.1.4.21:

- with goods of other classes, except Class 7, when mixed packing is also permitted for these; or
- with goods which are not subject to the requirements of RID,

provided they do not react dangerously with one another.

**MP 18** May – in quantities not exceeding 0.5 kg per inner packaging and 1 kg per package – be packed together in a combination packaging conforming to 6.1.4.21:

- with goods or articles of other classes, except Class 7, when mixed packing is also permitted for these; or
- with goods which are not subject to the requirements of RID,

provided they do not react dangerously with one another.

**MP 19** May – in quantities not exceeding 5 litres per inner packaging – be packed together in a combination packaging conforming to 6.1.4.21:

- with goods of the same class covered by other classification codes or with goods of other classes, when mixed packing is also permitted for these; or
- with goods which are not subject to the requirements of RID, provided they do not react dangerously with one another.

**MP 20** May be packed together with substances covered by the same UN number.

Shall not be packed together with goods and articles of Class 1 having different UN numbers, except if provided for by special provision MP 24.

Shall not be packed together with goods of other classes or with goods which are not subject to the requirements of RID.

**MP 21** May be packed together with articles covered by the same UN number.

Shall not be packed together with goods of Class 1 having different UN numbers, except for

- (a) their own means of initiation, provided that
  - (i) the means of initiation will not function under normal conditions of carriage; or
  - (ii) such means have at least two effective protective features which prevent explosion of an article in the event of accidental functioning of the means of initiation; or
  - (iii) when such means do not have two effective protective features (i.e. means of initiation assigned to compatibility group B), in the opinion of the competent authority of the country of origin<sup>4</sup> the accidental functioning of the means of initiation does not cause the explosion of an article under normal conditions of carriage;
- (b) articles of compatibility groups C, D and E.

Shall not be packed together with goods of other classes or with goods which are not subject to the requirements of RID.

When goods are packed together in accordance with this special provision, account shall be taken of a possible amendment of the classification of packages in accordance with 2.2.1.1.

For the description of the goods in the transport document, see 5.4.1.2.1 (b).

**MP 22** May be packed together with articles covered by the same UN number.

Shall not be packed together with goods of Class 1 having different UN numbers, except

- (a) With their own means of initiation, provided that the means of initiation will not function under normal conditions of carriage; or
- (b) With articles of compatibility groups C, D and E; or
- (c) If provided for by special provision MP 24.

Shall not be packed together with goods of other classes or with goods which are not subject to the requirements of RID.

When goods are packed together in accordance with this special provision, account shall be taken of a possible amendment of the classification of packages in accordance with 2.2.1.1.

For the description of the goods in the transport document, see 5.4.1.2.1 (b).

**MP 23** May be packed together with articles covered by the same UN number.

Shall not be packed together with goods and articles of Class 1 having different UN numbers, except

- (a) With their own means of initiation, provided that the means of initiation will not function under normal conditions of carriage; or
- (b) If provided for by special provision MP 24.

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<sup>4</sup> If the country of origin is not a COTIF Member State, the approval shall require validation by the competent authority of the first COTIF Member State reached by the consignment.

For the description of the goods in the transport document, see 5.4.1.2.1 (b).

- if a letter B is indicated in the table, the goods with those UN numbers may be included in the same package up to a total mass of 50 kg of explosive substances.

For the description of the goods in the transport document, see 5.4.1.2.1 (b).

UN No.	0012	0014	0027	0028	0044	0054	0160	0161	0186	0191	0194	0195	0197	0238	0240	0312	0333	0334	0335	0336	0337	0373	0405	0428	0429	0430	0431	0432	0505	0506	0507	
0012		A																														
0014	A																															
0027				B	B		B	B																								
0028			B		B		B	B																								
0044			B	B			B	B																								
0054									B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B	
0160			B	B	B			B																						B	B	B
0161			B	B	B		B																									
0186						B				B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B	B
0191						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B	B
0194						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B	B
0195						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B	B
0197						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B	B
0238						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B	B
0240						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B	B
0312						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B	B
0333									B	B	B	B	B	B	B			A	A	A	A											
0334																	A		A	A	A											
0335																	A	A		A	A											
0336																	A	A	A	A	A											
0337																	A	A	A	A	A											
0373						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B	B
0405						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B	B
0428						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B	B
0429						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B	B
0430						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B	B
0431						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B	B
0432						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B	B
0505						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B	B
0506						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B	B
0507						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B	B

## Chapter 4.2

### Use of portable tanks and UN multiple-element gas containers (MEGCs)

**NOTE 1:** For tank-wagons, demountable tanks, tank-containers and tank-swap bodies, with shells made of metallic materials, and battery-wagons and multiple element gas containers (MEGCs), see Chapter 4.3; for fibre-reinforced plastics tank-containers, see Chapter 4.4; for vacuum-operated waste tanks, see Chapter 4.5.

**2:** Portable tanks and UN MEGCs marked in accordance with the requirements of Chapter 6.7, but which were approved in a State that is not a COTIF Member State, may nevertheless be used for carriage under RID.

#### 4.2.1 General provisions for the use of portable tanks for the carriage of substances of Classes 1 and 3 to 9

**4.2.1.1** This section provides general provisions applicable to the use of portable tanks for the carriage of substances of Classes 1, 3, 4.1, 4.2, 4.3, 5.1, 5.2, 6.1, 6.2, 7, 8 and 9. In addition to these general provisions, portable tanks shall conform to the design, construction, inspection and testing requirements detailed in 6.7.2. Substances shall be carried in portable tanks conforming to the applicable portable tank instruction identified in Column (10) of the Table A of Chapter 3.2 and described in 4.2.5.2.6 (T1 to T23) and the portable tank special provisions assigned to each substance in Column (11) of Table A of Chapter 3.2 and described in 4.2.5.3.

**4.2.1.2** During carriage, portable tanks shall be adequately protected against damage to the shell and service equipment resulting from lateral and longitudinal impact and overturning. If the shell and service equipment are so constructed as to withstand impact or overturning it need not be protected in this way. Examples of such protection are given in 6.7.2.17.5.

**4.2.1.3** Certain substances are chemically unstable. They are accepted for carriage only when the necessary steps have been taken to prevent their dangerous decomposition, transformation or polymerization during carriage. To this end, care shall in particular be taken to ensure that shells do not contain any substances liable to promote these reactions.

**4.2.1.4** The temperature of the outer surface of the shell excluding openings and their closures or of the thermal insulation shall not exceed 70 °C during carriage. When necessary, the shell shall be thermally insulated.

**4.2.1.5** Empty portable tanks not cleaned and not gas-free shall comply with the same provisions as portable tanks filled with the previous substance.

**4.2.1.6** Substances shall not be carried in the same or in adjoining compartments of shells when they may react dangerously with each other (see definition for "dangerous reaction" in 1.2.1).

**4.2.1.7** The design approval certificate, the test report and the certificate showing the results of the initial inspection and test for each portable tank issued by the competent authority or its authorized body shall be retained by the authority or body and the owner. Owners shall be able to provide this documentation upon the request of any competent authority.

**4.2.1.8** Unless the name of the substance(s) being carried appears on the metal plate described in 6.7.2.20.2 a copy of the certificate specified in 6.7.2.18.1 shall be made available upon the request of a competent authority or its authorized body and readily provided by the consignor, consignee or agent, as appropriate.

#### 4.2.1.9 Degree of filling

**4.2.1.9.1** Prior to filling, the filler shall ensure that the appropriate portable tank is used and that the portable tank is not filled with substances which in contact with the materials of the shell, gaskets, service equipment and any protective linings, are likely to react dangerously with them to form dangerous products or appreciably weaken these materials. The consignor may need to consult the manufacturer of the substance in conjunction with the competent authority for guidance on the compatibility of the substance with the portable tank materials.

**4.2.1.9.1.1** Portable tanks shall not be filled above the extent provided in 4.2.1.9.2 to 4.2.1.9.6. The applicability of 4.2.1.9.2, 4.2.1.9.3 or 4.2.1.9.5.1 to individual substances is specified in the applicable portable tank instruction or special provisions in 4.2.5.2.6 or 4.2.5.3 and Column (10) or (11) of Table A of Chapter 3.2.

**4.2.1.9.2** The maximum degree of filling (in %) for general use is determined by the formula:

$$\text{Degree of filling} = \frac{97}{1 + \alpha (t_r - t_f)} \cdot$$

- 4.2.1.9.3** The maximum degree of filling (in %) for liquids of Class 6.1 and Class 8, in packing groups I and II, and liquids with an absolute vapour pressure of more than 175 kPa (1.75 bar) at 65 °C, is determined by the formula:

$$\text{Degree of filling} = \frac{95}{1 + \alpha (t_r - t_f)} .$$

- 4.2.1.9.4** In these formulae,  $\alpha$  is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling ( $t_f$ ) and the maximum mean bulk temperature during carriage ( $t_r$ ) (both in °C). For liquids carried under ambient conditions  $\alpha$  could be calculated by the formula:

$$\alpha = \frac{d_{15} - d_{50}}{35 d_{50}}$$

in which  $d_{15}$  and  $d_{50}$  are the densities of the liquid at 15 °C and 50 °C, respectively.

- 4.2.1.9.4.1** The maximum mean bulk temperature ( $t_r$ ) shall be taken as 50 °C except that, for journeys under temperate or extreme climatic conditions, the competent authorities concerned may agree to a lower or require a higher temperature, as appropriate.

- 4.2.1.9.5** The provisions of 4.2.1.9.2 to 4.2.1.9.4.1 do not apply to portable tanks which contain substances maintained at a temperature above 50 °C during carriage (e.g. by means of a heating device). For portable tanks equipped with a heating device, a temperature regulator shall be used to ensure the maximum degree of filling is not more than 95% full at any time during carriage.

- 4.2.1.9.5.1** The maximum degree of filling (in %) for solids carried above their melting points and for elevated temperature liquids shall be determined by the following formula:

$$\text{Degree of filling} = 95 \frac{d_r}{d_f}$$

in which  $d_f$  and  $d_r$  are the densities of the liquid at the mean temperature of the liquid during filling and the maximum mean bulk temperature during carriage respectively.

- 4.2.1.9.6** Portable tanks shall not be offered for carriage:

- (a) With a degree of filling, for liquids having a viscosity less than 2 680 mm<sup>2</sup>/s at 20 °C or maximum temperature of the substance during carriage in the case of the heated substance, of more than 20% but less than 80% unless the shells of portable tanks are divided, by partitions or surge plates, into sections of not more than 7 500 litres capacity;
- (b) With residue of substances previously carried adhering to the outside of the shell or service equipment;
- (c) When leaking or damaged to such an extent that the integrity of the portable tank or its lifting or securing arrangements may be affected; and
- (d) Unless the service equipment has been examined and found to be in good working order.

- 4.2.1.9.7** Forklift pockets of portable tanks shall be closed off when the tank is filled. This provision does not apply to portable tanks which according to 6.7.2.17.4 need not be provided with a means of closing off the forklift pockets.

**4.2.1.10 Additional provisions applicable to the carriage of Class 3 substances in portable tanks**

- 4.2.1.10.1** All portable tanks intended for the carriage of flammable liquids shall be closed and be fitted with relief devices in accordance with 6.7.2.8 to 6.7.2.15.

- 4.2.1.10.1.1** For portable tanks intended for use only on land, open venting systems may be used if allowed according to Chapter 4.3.

**4.2.1.11 Additional provisions applicable to the carriage of Classes 4.1, 4.2 or 4.3 substances (other than Class 4.1 self-reactive substances) in portable tanks**

(Reserved)

**NOTE:** For Class 4.1 self-reactive substances, see 4.2.1.13.1.

**4.2.1.12 Additional provisions applicable to the carriage of Class 5.1 substances in portable tanks**

(Reserved)

#### 4.2.1.13 Additional provisions applicable to the carriage of Class 5.2 substances and Class 4.1 self-reactive substances in portable tanks

**4.2.1.13.1** Each substance shall have been tested and a report submitted to the competent authority of the country of origin for approval. Notification thereof shall be sent to the competent authority of the country of destination. The notification shall contain relevant transport information and the report with test results. The tests undertaken shall include those necessary:

- (a) To prove the compatibility of all materials normally in contact with the substance during carriage;
- (b) To provide data for the design of the pressure and emergency relief devices taking into account the design characteristics of the portable tank.

Any additional provision necessary for safe carriage of the substance shall be clearly described in the report.

**4.2.1.13.2** The following provisions apply to portable tanks intended for the carriage of Type F organic peroxides or Type F self-reactive substances with a Self-Accelerating Decomposition Temperature (SADT) of 55 °C or more. In case of conflict these provisions prevail over those specified in Section 6.7.2. Emergencies to be taken into account are self-accelerating decomposition of the substance and fire-engulfment as described in 4.2.1.13.8.

**4.2.1.13.3** The additional provisions for carriage of organic peroxides or self-reactive substances with a SADT less than 55 °C in portable tanks shall be specified by the competent authority of the country of origin. Notification thereof shall be sent to the competent authority of the country of destination.

**4.2.1.13.4** The portable tank shall be designed for a test pressure of at least 0.4 MPa (4 bar).

**4.2.1.13.5** Portable tanks shall be fitted with temperature sensing devices.

**4.2.1.13.6** Portable tanks shall be fitted with pressure-relief devices and emergency-relief devices. Vacuum-relief devices may also be used. Pressure-relief devices shall operate at pressures determined according to both the properties of the substance and the construction characteristics of the portable tank. Fusible elements are not allowed in the shell.

**4.2.1.13.7** The pressure-relief devices shall consist of spring-loaded valves fitted to prevent significant build-up within the portable tank of the decomposition products and vapours released at a temperature of 50 °C. The capacity and start-to-discharge pressure of the relief valves shall be based on the results of the tests specified in 4.2.1.13.1. The start-to-discharge pressure shall, however, in no case be such that liquid would escape from the valve(s) if the portable tank were overturned.

**4.2.1.13.8** The emergency-relief devices may be of the spring-loaded or frangible types, or a combination of the two, designed to vent all the decomposition products and vapours evolved during a period of not less than one hour of complete fire-engulfment as calculated by the following formula:

$$q = 70961 \cdot F \cdot A^{0.82}$$

where:

q = heat absorption [W]

A = wetted area [m<sup>2</sup>]

F = insulation factor

F = 1 for non-insulated shells, or

$$F = \frac{U(923 - T)}{47032} \text{ for insulated shells}$$

where:

K = heat conductivity of insulation layer [W·m<sup>-1</sup>·K<sup>-1</sup>]

L = thickness of insulation layer [m]

U = K/L = heat transfer coefficient of the insulation [W·m<sup>-2</sup>·K<sup>-1</sup>]

T = temperature of the substance at relieving conditions [K]

The start-to-discharge pressure of the emergency-relief device(s) shall be higher than that specified in 4.2.1.13.7 and based on the results of the tests referred to in 4.2.1.13.1. The emergency-relief devices shall be dimensioned in such a way that the maximum pressure in the portable tank never exceeds the test pressure of the tank.

**NOTE:** An example of a method to determine the size of emergency-relief devices is given in Appendix 5 of the "Manual of Tests and Criteria".

**4.2.1.13.9** For insulated portable tanks the capacity and setting of emergency-relief device(s) shall be determined assuming a loss of insulation from 1% of the surface area.

- 4.2.1.13.10** Vacuum-relief devices and spring-loaded valves shall be provided with flame arresters. Due attention shall be paid to the reduction of the relief capacity caused by the flame arrester.
- 4.2.1.13.11** Service equipment such as valves and external piping shall be so arranged that no substance remains in them after filling the portable tank.
- 4.2.1.13.12** Portable tanks may be either insulated or protected by a sun-shield. If the SADT of the substance in the portable tank is 55 °C or less, or the portable tank is constructed of aluminium, the portable tank shall be completely insulated. The outer surface shall be finished in white or bright metal.
- 4.2.1.13.13** The degree of filling shall not exceed 90% at 15 °C.
- 4.2.1.13.14** The marking as required in 6.7.2.20.2 shall include the UN number and the technical name with the approved concentration of the substance concerned.
- 4.2.1.13.15** Organic peroxides and self-reactive substances specifically listed in portable tank instruction T23 in 4.2.5.2.6 may be carried in portable tanks.
- 4.2.1.14 Additional provisions applicable to the carriage of Class 6.1 substances in portable tanks**  
(Reserved)
- 4.2.1.15 Additional provisions applicable to the carriage of Class 6.2 substances in portable tanks**  
(Reserved)
- 4.2.1.16 Additional provisions applicable to the carriage of Class 7 substances in portable tanks**
- 4.2.1.16.1** Portable tanks used for the carriage of radioactive material shall not be used for the carriage of other goods.
- 4.2.1.16.2** The degree of filling for portable tanks shall not exceed 90% or, alternatively, any other value approved by the competent authority.
- 4.2.1.17 Additional provisions applicable to the carriage of Class 8 substances in portable tanks**
- 4.2.1.17.1** Pressure-relief devices of portable tanks used for the carriage of Class 8 substances shall be inspected at intervals not exceeding one year.
- 4.2.1.18 Additional provisions applicable to the carriage of Class 9 substances in portable tanks**  
(Reserved)
- 4.2.1.19 Additional provisions applicable to the carriage of solid substances carried above their melting point**
- 4.2.1.19.1** Solid substances carried or offered for carriage above their melting point which are not assigned a portable tank instruction in column (10) of the Table A of Chapter 3.2 or when the assigned portable tank instruction does not apply to carriage at temperatures above their melting point may be carried in portable tanks provided that the solid substances are classified in classes 4.1, 4.2, 4.3, 5.1, 6.1, 8 or 9 and have no subsidiary risk other than that of Class 6.1 or Class 8 and are in packing group II or III.
- 4.2.1.19.2** Unless otherwise indicated in Table A of Chapter 3.2, portable tanks used for the carriage of these solid substances above their melting point shall conform to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II. A portable tank which affords an equivalent or greater level of safety may be selected according to 4.2.5.2.5. The maximum degree of filling (in %) shall be determined according to 4.2.1.9.5 (TP3).
- 4.2.2 General provisions for the use of portable tanks for the carriage of non-refrigerated liquefied gases**
- 4.2.2.1** This section provides general provisions applicable to the use of portable tanks for the carriage of non-refrigerated liquefied gases.
- 4.2.2.2** Portable tanks shall conform to the design, construction, inspection and testing requirements detailed in 6.7.3. Non-refrigerated liquefied gases shall be carried in portable tanks conforming to portable tank instruction T50 as described in 4.2.5.2.6 and any portable tank special provisions assigned to specific non-refrigerated liquefied gases in Column (11) of Table A of Chapter 3.2 and described in 4.2.5.3.



- 4.2.2.3** During carriage, portable tanks shall be adequately protected against damage to the shell and service equipment resulting from lateral and longitudinal impact and overturning. If the shell and service equipment are so constructed as to withstand impact or overturning it need not be protected in this way. Examples of such protection are given in 6.7.3.13.5.
- 4.2.2.4** Certain non-refrigerated liquefied gases are chemically unstable. They are accepted for carriage only when the necessary steps have been taken to prevent their dangerous decomposition, transformation or polymerization during carriage. To this end, care shall in particular be taken to ensure that portable tanks do not contain any non-refrigerated liquefied gases liable to promote these reactions.
- 4.2.2.5** Unless the name of the gas(es) being carried appears on the metal plate described in 6.7.3.16.2, a copy of the certificate specified in 6.7.3.14.1 shall be made available upon a competent authority request and readily provided by the consignor, consignee or agent, as appropriate.
- 4.2.2.6** Empty portable tanks not cleaned and not gas-free shall comply with the same provisions as portable tanks filled with the previous non-refrigerated liquefied gas.
- 4.2.2.7 Filling**
- 4.2.2.7.1** Prior to filling the portable tank shall be inspected to ensure that it is authorized for the non-refrigerated liquefied gas to be carried and that the portable tank is not loaded with non-refrigerated liquefied gases which in contact with the materials of the shell, gaskets, service equipment and any protective linings, are likely to react dangerously with them to form dangerous products or appreciably weaken these materials. During filling, the temperature of the non-refrigerated liquefied gas shall fall within the limits of the design temperature range.
- 4.2.2.7.2** The maximum mass of non-refrigerated liquefied gas per litre of shell capacity (kg/l) shall not exceed the density of the non-refrigerated liquefied gas at 50 °C multiplied by 0.95. Furthermore, the shell shall not be liquid-full at 60 °C.
- 4.2.2.7.3** Portable tanks shall not be filled above their maximum permissible gross mass and the maximum permissible load mass specified for each gas to be carried.
- 4.2.2.8** Portable tanks shall not be offered for carriage:
- (a) In an ullage condition liable to produce an unacceptable hydraulic force due to surge within the shell;
  - (b) When leaking;
  - (c) When damaged to such an extent that the integrity of the tank or its lifting or securing arrangements may be affected; and
  - (d) Unless the service equipment has been examined and found to be in good working order.
- 4.2.2.9** Forklift pockets of portable tanks shall be closed off when the tank is filled. This provision does not apply to portable tanks which according to 6.7.3.13.4 need not be provided with a means of closing off the forklift pockets.
- 4.2.3 General provisions for the use of portable tanks for the carriage of refrigerated liquefied gases**
- 4.2.3.1** This section provides general provisions applicable to the use of portable tanks for the carriage of refrigerated liquefied gases.
- 4.2.3.2** Portable tanks shall conform to the design, construction, inspection and testing requirements detailed in 6.7.4. Refrigerated liquefied gases shall be carried in portable tanks conforming to portable tank instruction T75 as described in 4.2.5.2.6 and the portable tank special provisions assigned to each substance in Column (11) of Table A of Chapter 3.2 and described in 4.2.5.3.
- 4.2.3.3** During carriage, portable tanks shall be adequately protected against damage to the shell and service equipment resulting from lateral and longitudinal impact and overturning. If the shell and service equipment are so constructed as to withstand impact or overturning it need not be protected in this way. Examples of such protection are provided in 6.7.4.12.5.
- 4.2.3.4** Unless the name of the gas(es) being carried appears on the metal plate described in 6.7.4.15.2, a copy of the certificate specified in 6.7.4.13.1 shall be made available upon a competent authority request and readily provided by the consignor, consignee or agent, as appropriate.
- 4.2.3.5** Empty portable tanks not cleaned and not gas-free shall comply with the same provisions as portable tanks filled with the previous substance.



**4.2.3.6 Filling**

**4.2.3.6.1** Prior to filling the portable tank shall be inspected to ensure that it is authorized for the refrigerated liquefied gas to be carried and that the portable tank is not loaded with refrigerated liquefied gases which in contact with the materials of the shell, gaskets, service equipment and any protective linings, are likely to react dangerously with them to form dangerous products or appreciably weaken these materials. During filling, the temperature of the refrigerated liquefied gas shall be within the limits of the design temperature range.

**4.2.3.6.2** In estimating the initial degree of filling the necessary holding time for the intended journey including any delays which might be encountered shall be taken into consideration. The initial degree of filling of the shell, except as provided for in 4.2.3.6.3 and 4.2.3.6.4, shall be such that if the contents, except helium, were to be raised to a temperature at which the vapour pressure is equal to the maximum allowable working pressure (MAWP) the volume occupied by liquid would not exceed 98%.

**4.2.3.6.3** Shells intended for the carriage of helium can be filled up to but not above the inlet of the pressure-relief device.

**4.2.3.6.4** A higher initial degree of filling may be allowed, subject to approval by the competent authority, when the intended duration of carriage is considerably shorter than the holding time.

**4.2.3.7 Actual holding time**

**4.2.3.7.1** The actual holding time shall be calculated for each journey in accordance with a procedure recognized by the competent authority, on the basis of the following:

- (a) The reference holding time for the refrigerated liquefied gas to be carried (see 6.7.4.2.8.1) (as indicated on the plate referred to in 6.7.4.15.1);
- (b) The actual filling density;
- (c) The actual filling pressure;
- (d) The lowest set pressure of the pressure limiting device(s).

**4.2.3.7.2** The actual holding time shall be marked either on the portable tank itself or on a metal plate firmly secured to the portable tank, in accordance with 6.7.4.15.2.

**4.2.3.8** Portable tanks shall not be offered for carriage:

- (a) In an ullage condition liable to produce an unacceptable hydraulic force due to surge within the shell;
- (b) When leaking;
- (c) When damaged to such an extent that the integrity of the portable tank or its lifting or securing arrangements may be affected;
- (d) Unless the service equipment has been examined and found to be in good working order;
- (e) Unless the actual holding time for the refrigerated liquefied gas being carried has been determined in accordance with 4.2.3.7 and the portable tank is marked in accordance with 6.7.4.15.2; and
- (f) Unless the duration of carriage, after taking into consideration any delays which might be encountered, does not exceed the actual holding time.

**4.2.3.9** Forklift pockets of portable tanks shall be closed off when the tank is filled. This provision does not apply to portable tanks which according to 6.7.4.12.4, need not be provided with a means of closing off the forklift pockets.

**4.2.4 General provisions for the use of UN multiple-element gas containers (MEGCs)**

**4.2.4.1** This section provides general requirements applicable to the use of multiple-element gas containers (MEGCs) for the carriage of non-refrigerated gases referred to in 6.7.5.

**4.2.4.2** MEGCs shall conform to the design, construction, inspection and testing requirements detailed in 6.7.5. The elements of MEGCs shall be periodically inspected according to the provisions set out in packing instruction P200 of 4.1.4.1 and in 6.2.1.6.

**4.2.4.3** During carriage, MEGCs shall be protected against damage to the elements and service equipment resulting from lateral and longitudinal impact and overturning. If the elements and service equipment are so constructed as to withstand impact or overturning, they need not be protected in this way. Examples of such protection are given in 6.7.5.10.4.

**4.2.4.4** The periodic testing and inspection requirements for MEGCs are specified in 6.7.5.12. MEGCs or their elements shall not be charged or filled after they become due for periodic inspection but may be carried after the expiry of the time limit.

**4.2.4.5 Filling**

**4.2.4.5.1** Prior to filling, the MEGC shall be inspected to ensure that it is authorized for the gas to be carried and that the applicable provisions of RID have been met.

**4.2.4.5.2** Elements of MEGCs shall be filled according to the working pressures, filling ratios and filling provisions specified in packing instruction P200 of 4.1.4.1 for the specific gas being filled into each element. In no case shall an MEGC or group of elements be filled as a unit in excess of the lowest working pressure of any given element.

**4.2.4.5.3** MEGCs shall not be filled above their maximum permissible gross mass.

**4.2.4.5.4** Isolation valves shall be closed after filling and remain closed during carriage. Toxic gases (gases of groups T, TF, TC, TO, TFC and TOC) shall only be carried in MEGCs where each element is equipped with an isolation valve.

**4.2.4.5.5** The opening(s) for filling shall be closed by caps or plugs. The leakproofness of the closures and equipment shall be verified by the filler after filling.

**4.2.4.5.6** MEGCs shall not be offered for filling:

- (a) when damaged to such an extent that the integrity of the pressure receptacles or its structural or service equipment may be affected;
- (b) unless the pressure receptacles and its structural and service equipment has been examined and found to be in good working order; and
- (c) unless the required certification, retest, and filling markings are legible.

**4.2.4.6** Charged MEGCs shall not be offered for carriage;

- (a) when leaking;
- (b) when damaged to such an extent that the integrity of the pressure receptacles or its structural or service equipment may be affected;
- (c) unless the pressure receptacles and its structural and service equipment have been examined and found to be in good working order; and
- (d) unless the required certification, retest, and filling markings are legible.

**4.2.4.7** Empty MEGCs that have not been cleaned and purged shall comply with the same requirements as MEGCs filled with the previous substance.

**4.2.5 Portable tank instructions and special provisions****4.2.5.1 General**

**4.2.5.1.1** This section includes the portable tank instructions and special provisions applicable to dangerous goods authorized to be carried in portable tanks. Each portable tank instruction is identified by an alpha-numeric code (e.g. T1). Column (10) of Table A of Chapter 3.2 indicates the portable tank instruction that shall be used for each substance permitted for carriage in a portable tank. When no portable tank instruction appears in Column (10) for a specific dangerous goods entry then carriage of the substance in portable tanks is not permitted unless a competent authority approval is granted as detailed in 6.7.1.3. Portable tank special provisions are assigned to specific dangerous goods in Column (11) of Table A of Chapter 3.2. Each portable tank special provision is identified by an alpha-numeric code (e.g. TP1). A listing of the portable tank special provisions is provided in 4.2.5.3.

**NOTE:** The gases authorized for carriage in MEGCs are indicated with the letter "(M)" in Column (10) of Table A of Chapter 3.2.

**4.2.5.2 Portable tank instructions**

**4.2.5.2.1** Portable tank instructions apply to dangerous goods of Classes 1 to 9. Portable tank instructions provide specific information relevant to portable tanks provisions applicable to specific substances. These provisions shall be met in addition to the general provisions in this Chapter and the general requirements in Chapter 6.7.

**4.2.5.2.2** For substances of Classes 1 and 3 to 9, the portable tank instructions indicate the applicable minimum test pressure, the minimum shell thickness (in reference steel), bottom opening requirements and pressure relief requirements. In portable tank instruction T23, self-reactive substances of Class 4.1 and Class 5.2 organic peroxides permitted to be carried in portable tanks are listed.

**4.2.5.2.3** Non-refrigerated liquefied gases are assigned to portable tank instruction T50. T50 provides the maximum allowable working pressures, the requirements for the openings below liquid level, pressure-relief requirements and maximum filling density requirements for non-refrigerated liquefied gases permitted for carriage in portable tanks.

**4.2.5.2.4** Refrigerated liquefied gases are assigned to portable tank instruction T75.

**4.2.5.2.5** Determination of the appropriate portable tank instructions

When a specific portable tank instruction is specified in Column (10) of Table A of Chapter 3.2 for a specific dangerous goods entry additional portable tanks which possess higher minimum test pressures, greater shell thicknesses, more stringent bottom opening and pressure-relief device arrangements may be used. The following guidelines apply to determining the appropriate portable tanks which may be used for carriage of particular substances:

Portable tank instruction specified	Portable tank instructions also permitted
T 1	T 2, T 3, T 4, T 5, T 6, T 7, T 8, T 9, T 10, T 11, T 12, T 13, T 14, T 15, T 16, T 17, T 18, T 19, T 20, T 21, T 22
T 2	T 4, T 5, T 7, T 8, T 9, T 10, T 11, T 12, T 13, T 14, T 15, T 16, T 17, T 18, T 19, T 20, T 21, T 22
T 3	T 4, T 5, T 6, T 7, T 8, T 9, T 10, T 11, T 12, T 13, T 14, T 15, T 16, T 17, T 18, T 19, T 20, T 21, T 22
T 4	T 5, T 7, T 8, T 9, T 10, T 11, T 12, T 13, T 14, T 15, T 16, T 17, T 18, T 19, T 20, T 21, T 22
T 5	T 10, T 14, T 19, T 20, T 22
T 6	T 7, T 8, T 9, T 10, T 11, T 12, T 13, T 14, T 15, T 16, T 17, T 18, T 19, T 20, T 21, T 22
T 7	T 8, T 9, T 10, T 11, T 12, T 13, T 14, T 15, T 16, T 17, T 18, T 19, T 20, T 21, T 22
T 8	T 9, T 10, T 13, T 14, T 19, T 20, T 21, T 22
T 9	T 10, T 13, T 14, T 19, T 20, T 21, T 22
T 10	T 14, T 19, T 20, T 22
T 11	T 12, T 13, T 14, T 15, T 16, T 17, T 18, T 19, T 20, T 21, T 22
T 12	T 14, T 16, T 18, T 19, T 20, T 22
T 13	T 14, T 19, T 20, T 21, T 22
T 14	T 19, T 20, T 22
T 15	T 16, T 17, T 18, T 19, T 20, T 21, T 22
T 16	T 18, T 19, T 20, T 22
T 17	T 18, T 19, T 20, T 21, T 22
T 18	T 19, T 20, T 22
T 19	T 20, T 22
T 20	T 22
T 21	T 22
T 22	None
T 23	None

**4.2.5.2.6 Portable tank instructions**

Portable tank instructions specify the requirements applicable to a portable tank when used for the carriage of specific substances. Portable tank instructions T1 to T22 specify the applicable minimum test pressure, the minimum shell thickness (in mm reference steel), and the pressure-relief and bottom-opening requirements.

Portable tank instructions				
T 1 – T 22				T 1 – T 22
These portable tank instructions apply to liquid and solid substances of Classes 3 to 9. The general provisions of Section 4.2.1 and the requirements of Section 6.7.2 shall be met.				
Portable tank instruction	Minimum test pressure (bar)	Minimum shell thickness (in mm-reference steel) (see 6.7.2.4)	Pressure-relief requirements (see 6.7.2.8) <sup>(a)</sup>	Bottom opening requirements (see 6.7.2.6)
T 1	1,5	See 6.7.2.4.2	Normal	See 6.7.2.6.2
T 2	1,5	See 6.7.2.4.2	Normal	See 6.7.2.6.3
T 3	2,65	See 6.7.2.4.2	Normal	See 6.7.2.6.2
T 4	2,65	See 6.7.2.4.2	Normal	See 6.7.2.6.3
T 5	2,65	See 6.7.2.4.2	See 6.7.2.8.3	Not allowed
T 6	4	See 6.7.2.4.2	Normal	See 6.7.2.6.2
T 7	4	See 6.7.2.4.2	Normal	See 6.7.2.6.3
T 8	4	See 6.7.2.4.2	Normal	Not allowed
T 9	4	6 mm	Normal	Not allowed
T 10	4	6 mm	See 6.7.2.8.3	Not allowed
T 11	6	See 6.7.2.4.2	Normal	See 6.7.2.6.3
T 12	6	See 6.7.2.4.2	See 6.7.2.8.3	See 6.7.2.6.3
T 13	6	6 mm	Normal	Not allowed
T 14	6	6 mm	See 6.7.2.8.3	Not allowed
T 15	10	See 6.7.2.4.2	Normal	See 6.7.2.6.3
T 16	10	See 6.7.2.4.2	See 6.7.2.8.3	See 6.7.2.6.3
T 17	10	6 mm	Normal	See 6.7.2.6.3
T 18	10	6 mm	See 6.7.2.8.3	See 6.7.2.6.3
T 19	10	6 mm	See 6.7.2.8.3	Not allowed
T 20	10	8 mm	See 6.7.2.8.3	Not allowed
T 21	10	10 mm	Normal	Not allowed
T 22	10	10 mm	See 6.7.2.8.3	Not allowed

<sup>(a)</sup> When the word "Normal" is indicated, all the requirements of 6.7.2.8 apply except for 6.7.2.8.3.

T 23 Portable tank instructions T 23						
This portable tank instruction applies to self-reactive substances of Class 4.1 and organic peroxides of Class 5.2. The general provisions of Section 4.2.1 and the requirements of Section 6.7.2 shall be met. The additional provisions specific to self-reactive substances of Class 4.1 and organic peroxides of Class 5.2 in 4.2.1.13 shall also be met.						
UN No.	Substance	Minimum test pressure (bar)	Minimum shell thickness (mm-reference steel)	Bottom opening requirements	Pressure-relief requirements	Degree of filling
3109	ORGANIC PEROXIDE, TYPE F, LIQUID  tert-Butyl hydroperoxide <sup>(a)</sup> , not more than 72% with water  Cumyl hydroperoxide, not more than 90% in diluent type A  Di-tert-butyl peroxide, not more than 32% in diluent type A  Isopropyl cumyl hydroperoxide, not more than 72% in diluent type A  p-Menthyl hydroperoxide, not more than 72% in diluent type A  Pinanyl hydroperoxide, not more than 56% in diluent type A	4	See 6.7.2.4.2	See 6.7.2.6.3	See 6.7.2.8.2, 4.2.1.13.6, 4.2.1.13.7, 4.2.1.13.8	See 4.2.1.13.13
3110	ORGANIC PEROXIDE TYPE F, SOLID Dicumyl peroxide <sup>(b)</sup>	4	See 6.7.2.4.2	See 6.7.2.6.3	See 6.7.2.8.2, 4.2.1.13.6, 4.2.1.13.7, 4.2.1.13.8	See 4.2.1.13.13
3229	SELF-REACTIVE LIQUID TYPE F	4	See 6.7.2.4.2	See 6.7.2.6.3	See 6.7.2.8.2, 4.2.1.13.6, 4.2.1.13.7, 4.2.1.13.8	See 4.2.1.13.13
3230	SELF-REACTIVE SOLID TYPE F	4	See 6.7.2.4.2	See 6.7.2.6.3	See 6.7.2.8.2, 4.2.1.13.6, 4.2.1.13.7, 4.2.1.13.8	See 4.2.1.13.13

<sup>(a)</sup> Provided that steps have been taken to achieve the safety equivalence of 65% tert-Butyl hydroperoxide and 35% water.

<sup>(b)</sup> Maximum quantity per portable tank: 2000 kg.

T 50	Portable tank instructions				T 50
This portable tank instruction applies to non-refrigerated liquefied gases. The general provisions of Section 4.2.2 and the requirements of Section 6.7.3 shall be met.					
UN No.	Non-refrigerated liquefied gases	Max. allowable working pressure (bar) Small; Bare; Sun-shield; Insulated <sup>(a)</sup>	Openings below liquid level	Pressure-relief requirements (see 6.7.3.7) <sup>(b)</sup>	Maximum filling density (kg/l)
1005	AMMONIA, ANHYDROUS	29,0 25,7 22,0 19,7	Allowed	See 6.7.3.7.3	0,53
1009	BROMOTRIFLUOROMETHANE (REFRIGERANT GAS R 13B1)	38,0 34,0 30,0 27,5	Allowed	Normal	1,13
1010	BUTADIENES, STABILIZED	7,5 7,0 7,0 7,0	Allowed	Normal	0,55
1010	BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED	See MAWP definition in 6.7.3.1	Allowed	Normal	see 4.2.2.7
1011	BUTAN	7,0 7,0 7,0 7,0	Allowed	Normal	0,51
1012	BUTYLENE	8,0 7,0 7,0 7,0	Allowed	Normal	0,53
1017	CHLORINE	19,0 17,0 15,0 13,5	Not Allowed	See 6.7.3.7.3	1,25
1018	CHLORODIFLUOROMETHANE (REFRIGERANT GAS R 22)	26,0 24,0 21,0 19,0	Allowed	Normal	1,03
1020	CHLOROPENTAFLUOROETHANE (REFRIGERANT GAS R 115)	23,0 20,0 18,0 16,0	Allowed	Normal	1,06
1021	1-CHLORO-1,2,2,2-TETRAFLUOROETHANE (REFRIGERANT GAS R 124)	10,3 9,8 7,9 7,0	Allowed	Normal	1,20
1027	CYCLOPROPANE	18,0 16,0 14,5 13,0	Allowed	Normal	0,53
1028	DICHLORODIFLUOROMETHANE (REFRIGERANT GAS R 12)	16,0 15,0 13,0 11,5	Allowed	Normal	1,15
1029	DICHLOROFLUOROMETHANE (REFRIGERANT GAS R 21)	7,0 7,0 7,0 7,0	Allowed	Normal	1,23

1030	1,1-DIFLUOROETHANE (REFRIGERANT GAS R 152A)	16,0 14,0 12,4 11,0	Allowed	Normal	0,79
1032	DIMETHYLAMINE, ANHYDROUS	7,0 7,0 7,0 7,0	Allowed	Normal	0,59
1033	DIMETHYL ETHER	15,5 13,8 12,0 10,6	Allowed	Normal	0,58
1036	ETHYLAMINE	7,0 7,0 7,0 7,0	Allowed	Normal	0,61
1037	ETHYL CHLORIDE	7,0 7,0 7,0 7,0	Allowed	Normal	0,8
1040	ETHYLENE OXIDE WITH NITRO- GEN up to a total pressure of 1MPa (10 bar) at 50 °C	– – – 10,0	Not Allowed	See 6.7.3.7.3	0,78
1041	ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE with more than 9% but not more than 87% ethyl- ene oxide	See MAWP definition in 6.7.3.1	Allowed	Normal	See 4.2.2.7
1055	ISOBUTYLENE	8,1 7,0 7,0 7,0	Allowed	Normal	0,52
1060	METHYLLACETYLENE AND PROPADIENE MIXTURE, STABILIZED	28,0 24,5 22,0 20,0	Allowed	Normal	0,43
1061	METHYLAMINE, ANHYDROUS	10,8 9,6 7,8 7,0	Allowed	Normal	0,58
1062	METHYL BROMIDE with not more than 2% chloropicrin	7,0 7,0 7,0 7,0	Not Allowed	See 6.7.3.7.3	1,51
1063	METHYL CHLORIDE (REFRIGERANT GAS R 40)	14,5 12,7 11,3 10,0	Allowed	Normal	0,81
1064	METHYL MERCAPTAN	7,0 7,0 7,0 7,0	Not Allowed	See 6.7.3.7.3	0,78
1067	DINITROGEN TETROXIDE	7,0 7,0 7,0 7,0	Not Allowed	See 6.7.3.7.3	1,30
1075	PETROLEUM GASES, LIQUEFIED	See MAWP definition in 6.7.3.1	Allowed	Normal	See 4.2.2.7
1077	PROPYLENE	28,0 24,5 22,0 20,0	Allowed	Normal	0,43

1078	REFRIGERANT GAS, N.O.S.	See MAWP definition in 6.7.3.1	Allowed	Normal	See 4.2.2.7
1079	SULPHUR DIOXIDE	11,6 10,3 8,5 7,6	Not Allowed	See 6.7.3.7.3	1,23
1082	TRIFLUOROCHLOROETHYLENE, STABILIZED (REFRIGERANT GAS R 1113)	17,0 15,0 13,1 11,6	Not Allowed	See 6.7.3.7.3	1,13
1083	TRIMETHYLAMINE, ANHYDROUS	7,0 7,0 7,0 7,0	Allowed	Normal	0,56
1085	VINYL BROMIDE, STABILIZED	7,0 7,0 7,0 7,0	Allowed	Normal	1,37
1086	VINYL CHLORIDE, STABILIZED	10,6 9,3 8,0 7,0	Allowed	Normal	0,81
1087	VINYL METHYL ETHER, STABILIZED	7,0 7,0 7,0 7,0	Allowed	Normal	0,67
1581	CHLOROPICRIN AND METHYL BROMIDE MIXTURE with more than 2% chloropicrin	7,0 7,0 7,0 7,0	Not Allowed	See 6.7.3.7.3	1,51
1582	CHLOROPICRIN AND METHYL CHLORIDE MIXTURE	19,2 16,9 15,1 13,1	Not Allowed	See 6.7.3.7.3	0,81
1858	HEXAFLUOROPROPYLENE (REFRIGERANT GAS R 1216)	19,2 16,9 15,1 13,1	Allowed	Normal	1,11
1912	METHYL CHLORIDE AND METHYLENE CHLORIDE MIXTURE	15,2 13,0 11,6 10,1	Allowed	Normal	0,81
1958	1,2-DICHLORO-1,1,2,2- TETRAFLUOROETHANE (REFRIGERANT GAS R 114)	7,0 7,0 7,0 7,0	Allowed	Normal	1,30
1965	HYDROCARBON GAS, MIXTURE LIQUEFIED, N.O.S.	See MAWP definition in 6.7.3.1	Allowed	Normal	See 4.2.2.7
1969	ISOBUTANE	8,5 7,5 7,0 7,0	Allowed	Normal	0,49
1973	CHLORODIFLUOROMETHANE AND CHLOROPENTAFLUORO- ETHANE MIXTURE with fixed boiling point, with approximately 49% chlorodifluoromethane (REFRIGERANT GAS R 502)	28,3 25,3 22,8 20,3	Allowed	Normal	1,05



1974	CHLORODIFLUORO-BROMOMETHANE (REFRIGERANT GAS R 12B1)	7,4 7,0 7,0 7,0	Allowed	Normal	1,61
1976	OCTAFLUOROCYCLOBUTANE (REFRIGERANT GAS RC 318)	8,8 7,8 7,0 7,0	Allowed	Normal	1,34
1978	PROPANE	22,5 20,4 18,0 16,5	Allowed	Normal	0,42
1983	1-CHLORO-2,2,2-TRIFLUOROETHANE (REFRIGERANT GAS R 133A)	7,0 7,0 7,0 7,0	Allowed	Normal	1,18
2035	1,1,1-TRIFLUOROETHANE (REFRIGERANT GAS R 143A)	31,0 27,5 24,2 21,8	Allowed	Normal	0,76
2424	OCTAFLUOROPROPANE (REFRIGERANT GAS R 218)	23,1 20,8 18,6 16,6	Allowed	Normal	1,07
2517	1-CHLORO-1,1-DIFLUOROETHANE (REFRIGERANT GAS R 142B)	8,9 7,8 7,0 7,0	Allowed	Normal	0,99
2602	DICHLORODIFLUOROMETHANE AND 1,1-DIFLUOROETHANE AZEOTROPIC MIXTURE with approximately 74% dichlorodifluoromethane (REFRIGERANT GAS R 500)	20,0 18,0 16,0 14,5	Allowed	Normal	1,01
3057	TRIFLUOROACETYL CHLORIDE	14,6 12,9 11,3 9,9	Not Allowed	See 6.7.3.7.3	1,17
3070	ETHYLENE OXIDE AND DICHLORODIFLUOROMETHANE MIXTURE with not more than 12.5% ethylene oxide	14,0 12,0 11,0 9,0	Allowed	See 6.7.3.7.3	1,09
3153	PERFLUORO (METHYL VINYL ETHER)	14,3 13,4 11,2 10,2	Allowed	Normal	1,14
3159	1,1,1,2-TETRAFLUOROETHANE (REFRIGERANT GAS R 134A)	17,7 15,7 13,8 12,1	Allowed	Normal	1,04
3161	LIQUEFIED GAS, FLAMMABLE, N.O.S.	See MAWP definition in 6.7.3.1	Allowed	Normal	See 4.2.2.7
3163	LIQUEFIED GAS, N.O.S.	See MAWP definition in 6.7.3.1	Allowed	Normal	See 4.2.2.7
3220	PENTAFLUOROETHANE (REFRIGERANT GAS R 125)	34,4 30,8 27,5 24,5	Allowed	Normal	0,95

3252	DIFLUOROMETHANE (REFRIGERANT GAS R 32)	43,0 39,0 34,4 30,5	Allowed	Normal	0,78
3296	HEPTAFLUOROPROPANE (REFRIGERANT GAS R 227)	16,0 14,0 12,5 11,0	Allowed	Normal	1,20
3297	ETHYLENE OXIDE AND CHLOROTETRAFLUOROETHANE MIXTURE, with not more than 8.8% ethylene oxide	8,1 7,0 7,0 7,0	Allowed	Normal	1,16
3298	ETHYLENE OXIDE AND PENTA- FLUOROETHANE MIXTURE, with not more than 7.9% ethylene oxide	25,9 23,4 20,9 18,6	Allowed	Normal	1,02
3299	ETHYLENE OXIDE AND TETRA- FLUOROETHANE MIXTURE, with not more than 5.6% ethylene oxide	16,7 14,7 12,9 11,2	Allowed	Normal	1,03
3318	AMMONIA SOLUTION, relative density less than 0.880 at 15 °C in water, with more than 50% ammo- nia	See MAWP definition in 6.7.3.1	Allowed	See 6.7.3.7.3	See 4.2.2.7
3337	REFRIGERANT GAS R 404A	31,6 28,3 25,3 22,5	Allowed	Normal	0,84
3338	REFRIGERANT GAS R 407A	31,3 28,1 25,1 22,4	Allowed	Normal	0,95
3339	REFRIGERANT GAS R 407B	33,0 29,6 26,5 23,6	Allowed	Normal	0,95
3340	REFRIGERANT GAS R 407C	29,9 26,8 23,9 21,3	Allowed	Normal	0,95

- (a) "Small" means tanks having a shell with a diameter of 1.5 m or less; "Bare" means tanks having a shell with a diameter of more than 1.5 m without insulation or sun shield (see 6.7.3.2.12); "Sunshield" means tanks having a shell with a diameter of more than 1.5 m with sun shield (see 6.7.3.2.12); "Insulated" means tanks having a shell with a diameter of more than 1.5 m with insulation (see 6.7.3.2.12); (see definition of "Design reference temperature" in 6.7.3.1).
- (b) The word "Normal" in the pressure relief requirements column indicates that a frangible disc as specified in 6.7.3.7.3 is not required.

<b>T 75</b>	<b>Portable tank instruction</b>	<b>T 75</b>
This portable tank instruction applies to refrigerated liquefied gases. The general provisions of Section 4.2.3 and the requirements of Section 6.7.4 shall be met.		

#### 4.2.5.3 Portable tank special provisions

Portable tank special provisions are assigned to certain substances to indicate provisions which are in addition to or in lieu of those provided by the portable tank instructions or the requirements in Chapter 6.7. Portable tank special provisions are identified by an alpha numeric code beginning with the letters "TP" (tank provision) and are assigned to specific substances in Column (11) of Table A of Chapter 3.2. The following is a list of the portable tank special provisions:

- TP 1** The degree of filling prescribed in 4.2.1.9.2 shall not be exceeded.
- $$\left( \text{Degree of filling} = \frac{97}{1 + \alpha(t_r - t_f)} \right)$$
- TP 2** The degree of filling prescribed in 4.2.1.9.3 shall not be exceeded.
- $$\left( \text{Degree of filling} = \frac{95}{1 + \alpha(t_r - t_f)} \right)$$
- TP 3** The maximum degree of filling (in %) for solids carried above their melting point and for elevated temperature liquids shall be determined in accordance with 4.2.1.9.5.
- TP 4** The degree of filling shall not exceed 90% or, alternatively, any other value approved by the competent authority (see 4.2.1.16.2).
- TP 5** The degree of filling prescribed in 4.2.3.6 shall be met.
- TP 6** To prevent the tank bursting in any event, including fire engulfment, it shall be provided with pressure-relief devices which are adequate in relation to the capacity of the tank and to the nature of the substance carried. The device shall also be compatible with the substance.
- TP 7** Air shall be eliminated from the vapour space by nitrogen or other means.
- TP 8** The test pressure may be reduced to 1.5 bar when the flash point of the substances carried is greater than 0 °C.
- TP 9** A substance under this description shall only be carried in a portable tank under an approval granted by the competent authority.
- TP 10** A lead lining, not less than 5 mm thick, which shall be tested annually, or another suitable lining material approved by the competent authority is required.
- TP 11** (Reserved)
- TP 12** (Deleted)
- TP 13** (Reserved)
- TP 14** (Reserved)
- TP 15** (Reserved)
- TP 16** The tank shall be fitted with a special device to prevent under-pressure and excess pressure during normal carriage conditions. This device shall be approved by the competent authority. Pressure-relief requirements are as indicated in 6.7.2.8.3 to prevent crystallization of the product in the pressure-relief valve.
- TP 17** Only inorganic non-combustible materials shall be used for thermal insulation of the tank.
- TP 18** Temperature shall be maintained between 18 °C and 40 °C. Portable tanks containing solidified methacrylic acid shall not be reheated during carriage.
- TP 19** The calculated shell thickness shall be increased by 3 mm. Shell thickness shall be verified ultrasonically at intervals midway between periodic hydraulic tests.
- TP 20** This substance shall only be carried in insulated tanks under a nitrogen blanket.
- TP 21** The shell thickness shall be not less than 8 mm. Tanks shall be hydraulically tested and internally inspected at intervals not exceeding 2.5 years.
- TP 22** Lubricant for joints or other devices shall be oxygen compatible.

- TP 23** Carriage permitted under special conditions prescribed by the competent authorities.
- TP 24** The portable tank may be fitted with a device located under maximum filling conditions in the vapour space of the shell to prevent the build up of excess pressure due to the slow decomposition of the substance carried. This device shall also prevent an unacceptable amount of leakage of liquid in the case of overturning or entry of foreign matter into the tank. This device shall be approved by the competent authority or its authorized body.
- TP 25** (Reserved)
- TP 26** When carried under heated conditions, the heating device shall be fitted outside the shell. For UN 3176 this requirement only applies when the substance reacts dangerously with water.
- TP 27** A portable tank having a minimum test pressure of 4 bar may be used if it is shown that a test pressure of 4 bar or less is acceptable according to the test pressure definition in 6.7.2.1.
- TP 28** A portable tank having a minimum test pressure of 2.65 bar may be used if it is shown that a test pressure of 2.65 bar or less is acceptable according to the test pressure definition in 6.7.2.1.
- TP 29** A portable tank having a minimum test pressure of 1.5 bar may be used if it is shown that a test pressure of 1.5 bar or less is acceptable according to the test pressure definition in 6.7.2.1.
- TP 30** This substance shall be carried in insulated tanks.
- TP 31** This substance may only be carried in tanks in the solid state.
- TP 32** For UN Nos. 0331, 0332 and 3375, portable tanks may be used subject to the following conditions:
- (a) To avoid unnecessary confinement, each portable tank constructed of metal shall be fitted with a pressure-relief device that may be of the reclosing spring-loaded type, a frangible disc or a fusible element. The set to discharge or burst pressure, as applicable, shall not be greater than 2.65 bar for portable tanks with minimum test pressures greater than 4 bar.
  - (b) The suitability for carriage in tanks shall be demonstrated. One method to evaluate this suitability is test 8 (d) in Test Series 8 (see Manual of Tests and Criteria, Part 1, Sub-section 18.7).
  - (c) Substances shall not be allowed to remain in the portable tank for any period that could result in caking. Appropriate measures shall be taken to avoid accumulation and packing of substances in the tank (e.g. cleaning, etc.).
- TP 33** The portable tank instruction assigned for this substance applies to granular and powdered solids and to solids which are filled and discharged at temperatures above their melting point which are cooled and carried as a solid mass. For solids which are carried above their melting point, see 4.2.1.19.
- TP 34** Portable tanks need not be subjected to the impact test in 6.7.4.14.1 if the portable tank is marked "NOT FOR RAIL TRANSPORT" on the plate specified in 6.7.4.15.1 and also in letters of at least 10 cm high on both sides of the outer jacket.
- TP 35** Portable tank instruction T 14 prescribed in RID applicable up to 31 December 2008 may continue to be applied until 31 December 2014.

### Chapter 4.3

#### Use of tank-wagons, demountable tanks, tank-containers and tank swap bodies with shells made of metallic materials, and battery-wagons and multiple-element gas containers (MEGCs)

**NOTE:** For portable tanks and UN multiple-element gas containers (MEGCs) see Chapter 4.2; for fibre-reinforced plastics tank-containers, see Chapter 4.4; for vacuum-operated waste tanks, see Chapter 4.5.

#### 4.3.1 Scope

**4.3.1.1** Provisions which take up the whole width of the page apply both to tank-wagons, demountable tanks and battery-wagons, and to tank-containers, tank swap bodies and MEGCs. Provisions contained in a single column apply only to:

- tank-wagons, demountable tanks and battery-wagons (left-hand column);
- tank-containers, tank swap bodies and MEGCs (right-hand column).

**4.3.1.2** These provisions apply to tank-wagons, demountable tanks and battery-wagons | tank-containers, tank swap bodies and MEGCs used for the carriage of gaseous, liquid, powdery or granular substances.

**4.3.1.3** Section 4.3.2 lists the provisions applicable to tank-wagons, demountable tanks, tank-containers and tank swap bodies, intended for the carriage of substances of all classes, and to battery-wagons and MEGCs intended for the carriage of gases of Class 2. Sections 4.3.3 and 4.3.4 contain special provisions adding to or amending the provisions of Section 4.3.2.

**4.3.1.4** For requirements concerning the construction, equipment, type approval, tests and marking, see Chapter 6.8.

**4.3.1.5** For transitional measures concerning the application of this Chapter, see: 1.6.3. | 1.6.4.

#### 4.3.2 Provisions applicable to all classes

##### 4.3.2.1 Use

**4.3.2.1.1** A substance subject to RID may be carried in tank-wagons, demountable tanks, battery-wagons, tank-containers, tank swap bodies and MEGCs only when provision is made for a tank code according to 4.3.3.1.1 and 4.3.4.1.1 in Column (12) of Table A in Chapter 3.2.

**4.3.2.1.2** The required type of tank, battery-wagon and MEGC is given in code form in Column (12) of Table A in Chapter 3.2. The identification codes appearing there are made up of letters or numbers in a given order. The explanations for reading the four parts of the code are given in 4.3.3.1.1 (when the substance to be carried belongs to Class 2) and in 4.3.4.1.1 (when the substance to be carried belongs to Classes 3 to 9)<sup>1</sup>.

**4.3.2.1.3** The required type according to 4.3.2.1.2 corresponds to the least stringent construction requirements which are acceptable for the dangerous substance in question unless otherwise prescribed in this Chapter or in Chapter 6.8. It is possible to use tanks corresponding to codes prescribing a higher minimum calculation pressure, or more stringent requirements for filling or discharge openings or for safety valves/devices (see 4.3.3.1.1 for Class 2 and 4.3.4.1.1 for Classes 3 to 9).

**4.3.2.1.4** For certain substances, tanks, battery-wagons or MEGCs are subject to additional provisions which are included as special provisions in Column (13) of Table A in Chapter 3.2.

**4.3.2.1.5** Tanks, battery-wagons and MEGCs shall not be loaded with any dangerous substances other than those for the carriage of which they have been approved according to 6.8.2.3.1 and which, in contact with the materials of the shell, gaskets, equipment and protective linings, are not liable to react dangerously with them (see "dangerous reaction" in 1.2.1), to form dangerous products or appreciably to weaken these materials<sup>2</sup>.

<sup>1</sup> An exception is made for tanks intended for the carriage of substances of classes 5.2 or 7 (see 4.3.4.1.3).

<sup>2</sup> It may be necessary to consult the manufacturer of the substance and the competent authority for guidance on the compatibility of the substance with the materials of the tank, battery-vehicle or MEGC.

**4.3.2.1.6** Foodstuffs shall not be carried in tanks used for dangerous substances unless the necessary steps have been taken to prevent any harm to public health.

**4.3.2.1.7** The tank record shall be retained by the owner or the operator who shall be able to provide this documentation at the request of the competent authority. The tank record shall be maintained throughout the life of the tank and retained for 15 months after the tank is taken out of service.

Should a change of owner or operator occur during the life of the tank the tank record shall be transferred to the new owner or operator.

Copies of the tank record or all necessary documents shall be made available to the expert for tests, inspections and checks on tanks in accordance with 6.8.2.4.5 or 6.8.3.4.16, on the occasion of periodic inspections or exceptional checks.

#### **4.3.2.2 Degree of filling**

**4.3.2.2.1** The following degrees of filling shall not be exceeded in tanks intended for the carriage of liquids at ambient temperatures:

(a) for flammable substances without additional risks (e.g. toxicity or corrosivity), in tanks with a venting system or with safety valves (even where preceded by a bursting disc):

$$\text{Degree of filling} = \frac{100}{1 + \alpha (50 - t_F)} \text{ \% of capacity}$$

(b) for toxic or corrosive substances (whether flammable or not) in tanks with a venting system or with safety valves (even where preceded by a bursting disc):

$$\text{Degree of filling} = \frac{98}{1 + \alpha (50 - t_F)} \text{ \% of capacity}$$

(c) for flammable substances and for slightly toxic or corrosive substances (whether flammable or not) in hermetically closed tanks without a safety device:

$$\text{Degree of filling} = \frac{97}{1 + \alpha (50 - t_F)} \text{ \% of capacity}$$

(d) for highly toxic, toxic, highly corrosive or corrosive substances (whether flammable or not) in hermetically closed tanks without a safety device:

$$\text{Degree of filling} = \frac{95}{1 + \alpha (50 - t_F)} \text{ \% of capacity}$$

**4.3.2.2.2** In these formulae,  $\alpha$  is the mean coefficient of cubical expansion of the liquid between 15 °C and 50 °C, i.e. for a maximum variation in temperature of 35 °C.

$$\alpha \text{ is calculated by the formula: } \alpha = \frac{d_{15} - d_{50}}{35 \times d_{50}}$$

where  $d_{15}$  and  $d_{50}$  are the relative densities of the liquid at 15 °C and 50 °C respectively and  $t_F$  is the mean temperature of the liquid during filling.

**4.3.2.2.3** The provisions of 4.3.2.2.1 (a) to (d) above shall not apply to tanks whose contents are, by means of a heating device, maintained at a temperature above 50 °C during carriage. In this case the degree of filling at the outset shall be such, and the temperature so regulated, that the tank is not full to more than 95% of its capacity and that the filling temperature is not exceeded, at any time during carriage.

**4.3.2.2.4** (Reserved)

Shells intended for the carriage of substances in the liquid state or liquefied gases or refrigerated liquefied gases, which are not divided by partitions or surge plates into sections of not more than 7 500 litres capacity, shall be filled to not less than 80% or not more than 20% of their capacity.

This provision is not applicable to:

– liquids with a kinematic viscosity at 20 °C of at least 2 680 mm<sup>2</sup>/s;

– molten substances with a kinematic viscosity at the temperature of filling of at least 2 680 mm<sup>2</sup>/s;

– UN 1963 HELIUM, REFRIGERATED, LIQUID and UN 1966 HYDROGEN, REFRIGERATED, LIQUID.

**4.3.2.3 Operation**

**4.3.2.3.1** The thickness of the walls of the shell shall not, throughout its use, fall below the minimum figure prescribed in:  
6.8.2.1.17 and 6.8.2.1.18

6.8.2.1.17 to 6.8.2.1.20

**4.3.2.3.2** (Reserved)

During carriage tank-containers/MEGCs shall be loaded on the wagon in such a way as to be adequately protected by the fittings of the wagon or of the tank-container/MEGC itself against lateral and longitudinal impact and against overturning<sup>3</sup>. If the tank-containers/MEGCs, including the service equipment, are so constructed as to withstand impact or overturning they need not be protected in this way.

**4.3.2.3.3** During filling and discharge of tanks, battery-wagons and MEGCs, appropriate measures shall be taken to prevent the release of dangerous quantities of gases and vapours. Tanks, battery-wagons and MEGCs shall be closed so that the contents cannot spill out uncontrolled. The openings of bottom-discharge tanks shall be closed by means of screw-threaded plugs, blank flanges or other equally effective devices. The leakproofness of the closures of the tanks, and of the battery-wagons and MEGCs shall be checked by the filler after the tank is filled. This applies in particular to the upper part of the dip tube.

**4.3.2.3.4** Where several closure systems are fitted in series, that nearest to the substance being carried shall be closed first.

**4.3.2.3.5** No dangerous residue of the filling substance shall adhere to the outside of the tank during carriage.

**4.3.2.3.6** Substances which may react dangerously with each other shall not be carried in adjoining compartments of tanks.

Substances which may react dangerously with each other may be carried in adjoining compartments of tanks, when these compartments are separated by a partition with a wall thickness equal to or greater than that of the tank itself. They may also be carried separated by an empty space or an empty compartment between loaded compartments.

**4.3.2.4 Empty tanks, battery-wagons and MEGCs, uncleaned**

**NOTE:** For empty tanks, battery-wagons and MEGCs, uncleaned, special provisions TU1, TU2, TU4, TU16 and TU35 of 4.3.5 may apply.

**4.3.2.4.1** No dangerous residue of the filling substance shall adhere to the outside of the tank during carriage.

**4.3.2.4.2** To be accepted for carriage, empty tanks, battery-wagons and MEGCs, uncleaned, shall be closed in the same manner and be leakproof to the same degree as if they were full.

**4.3.2.4.3** Where empty tanks, battery-wagons and MEGCs, uncleaned, are not closed in the same manner and are not leakproof to the same degree as if they were full and where the provisions of RID cannot be complied with, they shall be carried, with due regard to adequate safety, to the nearest suitable place where cleaning or repair can be carried out.

Carriage is adequately safe if suitable measures have been taken to ensure equivalent safety commensurate with the provisions of RID and to prevent the uncontrolled release of the dangerous goods.

**4.3.2.4.4** Empty tank-wagons, demountable tanks, battery-wagons, tank-containers, tank swap bodies and MEGCs, uncleaned, may also be carried after the expiry of the periods established in 6.8.2.4.2 and 6.8.2.4.3 for undergoing the inspection.

<sup>3</sup> Examples of protection of shells:

- protection against lateral impact may, for example, consist of longitudinal bars protecting the shell on both sides at the level of the median line;
- protection against overturning may, for example, consist of reinforcing rings or bars fixed transversally in relation to the frame;
- protection against rear impact, may, for example, consist of a bumper or frame.

**4.3.3 Special provisions applicable to Class 2****4.3.3.1 Coding and hierarchy of tanks****4.3.3.1.1 Coding of tanks, battery-wagons and MEGCs**

The four parts of the codes (tank codes) given in Column (12) of Table A in Chapter 3.2 have the following meanings:

Part	Description	Tank Code
1	Types of tank, battery-wagons or MEGC	C = tank, battery-wagon or MEGC for compressed gases; P = tank, battery-wagon or MEGC for liquefied gases or dissolved gases; R = tank for refrigerated liquefied gases.
2	Calculation pressure	x = value of the minimum relevant test pressure according to the table in 4.3.3.2.5; or 22= minimum calculation pressure in bar.
3	Openings (see 6.8.2.2 and 6.8.3.2)	B = tank with bottom filling or discharge openings with 3 closures; or battery-wagon or MEGC with openings below the surface of the liquid or for compressed gases; C = tank with top filling or discharge openings with 3 closures with only cleaning openings below the surface of the liquid; D = tank with top filling or discharge openings with 3 closures; or battery-wagon or MEGC with no openings below the surface of the liquid.
4	Safety valves/devices	N = tank, battery-wagon or MEGC with safety valve according to 6.8.3.2.9 or 6.8.3.2.10 which is not hermetically closed; H = hermetically closed tank, battery-wagon or MEGC (see 1.2.1);

**NOTE 1:** The special provision TU17 indicated in Column (13) of Table A in Chapter 3.2 for certain gases means that the gas may only be carried in a battery-wagon or MEGC, the elements of which are composed of receptacles.

**2:** The pressures indicated on the tank itself or on the panel shall be not less than the value of "X" or the minimum calculation pressure.

**4.3.3.1.2 Hierarchy of tanks**

Tank code	Other tank code(s) permitted for the substances under this code
C*BN	C#BN, C#CN, C#DN, C#BH, C#CH, C#DH
C*BH	C#BH, C#CH, C#DH
C*CN	C#CN, C#DN, C#CH, C#DH
C*CH	C#CH, C#DH
C*DN	C#DN, C#DH
C*DH	C#DH
P*BN	P#BN, P#CN, P#DN, P#BH, P#CH, P#DH
P*BH	P#BH, P#CH, P#DH
P*CN	P#CN, P#DN, P#CH, P#DH
P*CH	P#CH, P#DH
P*DN	P#DN, P#DH
P*DH	P#DH
R*BN	R#BN, R#CN, R#DN



R*CN	R#CN, R#DN
R*DN	R#DN

The figure represented by "#" shall be equal to or greater than the figure represented by "\*\*".

**NOTE:** This hierarchy does not take any special provisions into account (see 4.3.5 and 6.8.4) for each entry.

#### 4.3.3.2 Filling conditions and test pressures

**4.3.3.2.1** The test pressure for tanks intended for the carriage of compressed gases shall be at least 1.5 times the working pressure as defined in 1.2.1 for pressure receptacles.

**4.3.3.2.2** The test pressure for tanks intended for the carriage of:

- high pressure liquefied gases; and
- dissolved gases

shall be such that, when the shell is filled to the maximum filling ratio, the pressure reached in the shell by the substance at 55 °C for tanks with thermal insulation or 65 °C for tanks without thermal insulation does not exceed the test pressure.

**4.3.3.2.3** The test pressure for tanks intended for the carriage of low pressure liquefied gases will be:

- (a) If the tank is equipped with thermal insulation, at least equal to the vapour pressure, reduced by 0.1 MPa (1 bar) of the liquid at 60 °C, but not less than 1 MPa (10 bar);
- (b) If the tank is not equipped with thermal insulation, at least equal to the vapour pressure, reduced by 0.1 MPa (1 bar), of the liquid at 65 °C, but not less than 1 MPa (10 bar).

The maximum permissible mass of contents per litre of capacity is calculated as follows:

Maximum permissible mass of contents per litre of capacity =  $0.95 \times$  density of the liquid phase at 50 °C (in kg/l)

Moreover the vapour phase shall not disappear below 60 °C.

If the shells are not more than 1.5 m in diameter, the values of the test pressure and maximum filling ratio conforming to packing instruction P200 in 4.1.4.1 shall be applicable.

**4.3.3.2.4** The test pressure for tanks intended for the carriage of refrigerated liquefied gases shall be not less than 1.3 times the maximum allowable working pressure and indicated on the tank but not less than 300 kPa (3 bar) (gauge pressure); for tanks with vacuum insulation the test pressure shall be not less than 1.3 times the maximum allowable working pressure increased by 100 kPa (1 bar).

#### **4.3.3.2.5 Table of gases and gas mixtures which may be carried in tank-wagons, battery-wagons, demountable tanks, tank-containers or MEGCs indicating the minimum test pressure for tanks and as far as applicable the filling ratio**

In the case of gases and gas mixtures classified under n.o.s. entries, the values of the test pressure and the filling ratio shall be prescribed by the expert approved by the competent authority.

When tanks for compressed or high pressure liquefied gases have been subjected to a test pressure lower than shown in the table, and the tanks are fitted with thermal insulation, a lower maximum load may be prescribed by the expert approved by the competent authority, provided that the pressure reached in the tank by the substance at 55 °C does not exceed the test pressure stamped on the tank.

UN No.	Name	Classification code	Minimum test pressure for tanks				Maximum permissible mass of contents per litre of capacity  kg
			With thermal insulation		Without thermal insulation		
			MPa	bar	MPa	bar	
1001	ACETYLENE, DISSOLVED	4 F	only in battery-wagons and MEGCs composed of receptacles				
1002	AIR, COMPRESSED	1 A	see 4.3.3.2.1				
1003	AIR, REFRIGERATED LIQUID	3 O	see 4.3.3.2.4				
1005	AMMONIA, ANHYDROUS	2 TC	2.6	26	2.9	29	0.53
1006	ARGON, COMPRESSED	1 A	see 4.3.3.2.1				
1008	BORON TRIFLUORIDE	2 TC	22.5 30	225 300	22.5 30	225 300	0.715 0.86
1009	BROMOTRIFLUORO-METHANE (REFRIGERANT GAS R13B1)	2 A	12	120	4.2 12 25	42 120 250	1.50 1.13 1.44 1.60
1010	BUTADIENES, STABILIZED (1,2-butadiene) or	2 F	1	10	1	10	0.59
1010	BUTADIENES, STABILIZED (1,3-butadiene) or		1	10	1	10	0.55
1010	BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED		1	10	1	10	0.50
1011	BUTANE	2 F	1	10	1	10	0.51
1012	1-BUTYLENE or	2 F	1	10	1	10	0.53
1012	TRANS-2-BUTYLENE or		1	10	1	10	0.54
1012	CIS-2-BUTYLENE or		1	10	1	10	0.55
1012	BUTYLENES MIXTURE		1	10	1	10	0.50
1013	CARBON DIOXIDE	2 A	19 22.5	190 225	19 25	190 250	0.73 0.78 0.66 0.75
1016	CARBON MONOXIDE, COMPRESSED	1 TF	see 4.3.3.2.1				
1017	CHLORINE	2 TOC	1.7	17	1.9	19	1.25
1018	CHLORODIFLUORO-METHANE (REFRIGERANT GAS R22)	2 A	2.4	24	2.6	26	1.03
1020	CHLOROPENTAFLUORO-ETHANE (REFRIGERANT GAS R115)	2 A	2	20	2.3	23	1.08
1021	1-CHLORO-1,2,2,2-TETRAFLUOROETHANE (REFRIGERANT GAS R124)	2 A	1	10	1.1	11	1.2
1022	CHLOROTRIFLUORO-METHANE (REFRIGERANT GAS R13)	2 A	12 22.5	120 225	10 12 19 25	100 120 190 250	0.96 1.12 0.83 0.90 1.04 1.10
1023	COAL GAS, COMPRESSED	1 TF	see 4.3.3.2.1				
1026	CYANOGEN	2 TF	10	100	10	100	0.70

UN No.	Name	Classification code	Minimum test pressure for tanks				Maximum permissible mass of contents per litre of capacity
			With thermal insulation		Without thermal insulation		
			MPa	bar	MPa	bar	kg
1027	CYCLOPROPANE	2 F	1.6	16	1.8	18	0.53
1028	DICHLORODIFLUOROMETHANE (REFRIGERANT GAS R12)	2 A	1.5	15	1.6	16	1.15
1029	DICHLOROFLUOROMETHANE (REFRIGERANT GAS R21)	2 A	1	10	1	10	1.23
1030	1,1-DIFLUOROETHANE (REFRIGERANT GAS R152A)	2 F	1.4	14	1.6	16	0.79
1032	DIMETHYLAMINE, ANHYDROUS	2 F	1	10	1	10	0.59
1033	DIMETHYL ETHER	2 F	1.4	14	1.6	16	0.58
1035	ETHANE	2 F	12	120	9.5 12 30	95 120 300	0.32 0.25 0.29 0.39
1036	ETHYLAMINE	2 F	1	10	1	10	0.61
1037	ETHYL CHLORIDE	2 F	1	10	1	10	0.8
1038	ETHYLENE, REFRIGERATED LIQUID	3 F	see 4.3.3.2.4				
1039	ETHYL METHYL ETHER	2 F	1	10	1	10	0.64
1040	ETHYLENE OXIDE WITH NITROGEN up to a total pressure of 1 MPa (10 bar) at 50 °C	2 TF	1.5	15	1.5	15	0.78
1041	ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE, with more than 9% but not more than 87% ethylene oxide	2 F	2.4	24	2.6	26	0.73
1046	HELIUM, COMPRESSED	1 A	see 4.3.3.2.1				
1048	HYDROGEN BROMIDE, ANHYDROUS	2 TC	5	50	5.5	55	1.54
1049	HYDROGEN, COMPRESSED	1 F	see 4.3.3.2.1				
1050	HYDROGEN CHLORIDE, ANHYDROUS	2 TC	12	120	10 12 15 20	100 120 150 200	0.69 0.30 0.56 0.67 0.74
1053	HYDROGEN SULPHIDE	2 TF	4.5	45	5	50	0.67
1055	ISOBUTYLENE	2 F	1	10	1	10	0.52
1056	KRYPTON, COMPRESSED	1 A	see 4.3.3.2.1				
1058	LIQUEFIED GASES, non flammable, charged with nitrogen, carbon dioxide or air	2 A	1.5 x filling pressure see 4.3.3.2.2 or 4.3.3.2.3				

UN No.	Name	Classification code	Minimum test pressure for tanks				Maximum permissible mass of contents per litre of capacity
			With thermal insulation		Without thermal insulation		
			MPa	bar	MPa	bar	kg
1060	METHYLACETYLENE AND PROPADIENE MIXTURE, STABILIZED:  Mixture P1 Mixture P2 Propadiene with 1% to 4% methylacetylene	2 F	see 4.3.3.2.2 or 4.3.3.2.3				
			2.5	25	2.8	28	0.49
			2.2	22	2.3	23	0.47
			2.2	22	2.2	22	0.50
1061	METHYLAMINE, ANHYDROUS	2 F	1	10	1.1	11	0.58
1062	METHYL BROMIDE with not more than 2% chloropicrin	2 T	1	10	1	10	1.51
1063	METHYL CHLORIDE (REFRIGERANT GAS R40)	2 F	1.3	13	1.5	15	0.81
1064	METHYL MERCAPTAN	2 TF	1	10	1	10	0.78
1065	NEON, COMPRESSED	1 A	see 4.3.3.2.1				
1066	NITROGEN, COMPRESSED	1 A	see 4.3.3.2.1				
1067	DINITROGEN TETROXIDE (NITROGEN DIOXIDE)	2 TOC	only in battery-wagons and MEGCs composed of receptacles				
1070	NITROUS OXIDE	2 O	22.5	225	18 22.52 5	180 225 250	0.78 0.68 0.74 0.75
1071	OIL GAS, COMPRESSED	1 TF	see 4.3.3.2.1				
1072	OXYGEN, COMPRESSED	1 O	see 4.3.3.2.1				
1073	OXYGEN, REFRIGERATED LIQUID	3 O	see 4.3.3.2.4				
1076	PHOSGENE	2 TC	only in battery-wagons and MEGCs composed of receptacles				
1077	PROPYLENE	2 F	2.5	25	2.7	27	0.43
1078	REFRIGERANT GASES, N.O.S. such as:  Mixture F1 Mixture F2 Mixture F3 Other mixtures	2 A	1 1.5 2.4	10 15 24	1.1 1.6 2.7	11 16 27	1.23 1.15 1.03
			see 4.3.3.2.2 or 4.3.3.2.3				
1079	SULPHUR DIOXIDE	2 TC	1	10	1.2	12	1.23
1080	SULPHUR HEXAFLUORIDE	2 A	12	120	7 14 16	70 140 160	1.34 1.04 1.33 1.37
1082	TRIFLUOROCHLOROETHYLENE, STABILIZED	2 TF	1.5	15	1.7	17	1.13
1083	TRIMETHYLAMINE, ANHYDROUS	2 F	1	10	1	10	0.56

UN No.	Name	Classification code	Minimum test pressure for tanks				Maximum permissible mass of contents per litre of capacity
			With thermal insulation		Without thermal insulation		
			MPa	bar	MPa	bar	kg
1085	VINYL BROMIDE, STABILIZED	2 F	1	10	1	10	1.37
1086	VINYL CHLORIDE, STABILIZED	2 F	1	10	1.1	11	0.81
1087	VINYL METHYL ETHER, STABILIZED	2 F	1	10	1	10	0.67
1581	CHLOROPICRIN AND METHYL BROMIDE MIXTURE with more than 2% chloropicrin	2 T	1	10	1	10	1.51
1582	CHLOROPICRIN AND METHYL CHLORIDE MIXTURE	2 T	1.3	13	1.5	15	0.81
1612	HEXAETHYL TETRA-PHOSPHATE AND COMPRESSED GAS MIXTURE	1 T	see 4.3.3.2.1				
1749	CHLORINE TRIFLUORIDE	2 TOC	3	30	3	30	1.40
1858	HEXAFLUOROPROPYLENE (REFRIGERANT GAS R 1216)	2A	1.7	17	1.9	19	1.11
1859	SILICON TETRAFLUORIDE	2 TC	20 30	200 300	20 30	200 300	0.74 1.10
1860	VINYL FLUORIDE, STABILIZED	2 F	12 22.5	120 225	25	250	0.58 0.65 0.64
1912	METHYL CHLORIDE AND METHYLENE CHLORIDE MIXTURE	2 F	1.3	13	1.5	15	0.81
1913	NEON, REFRIGERATED LIQUID	3 A	see 4.3.3.2.4				
1951	ARGON, REFRIGERATED LIQUID	3 A	see 4.3.3.2.4				
1952	ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE, with not more than 9% ethylene oxide	2 A	19 25	190 250	19 25	190 250	0.66 0.75
1953	COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S. <sup>(a)</sup>	1 TF	see 4.3.3.2.1 or 4.3.3.2.2				
1954	COMPRESSED GAS, FLAMMABLE N.O.S.	1 F	see 4.3.3.2.1 or 4.3.3.2.2				
1955	COMPRESSED GAS, TOXIC, N.O.S. <sup>(a)</sup>	1 T	see 4.3.3.2.1 or 4.3.3.2.2				
1956	COMPRESSED GAS, N.O.S.	1 A	see 4.3.3.2.1 or 4.3.3.2.2				
1957	DEUTERIUM, COMPRESSED	1 F	see 4.3.3.2.1				

UN No.	Name	Classification code	Minimum test pressure for tanks				Maximum permissible mass of contents per litre of capacity kg
			With thermal insulation		Without thermal insulation		
			MPa	bar	MPa	bar	
1958	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE (REFRIGERANT GAS R114)	2 A	1	10	1	10	1.3
1959	1,1-DIFLUOROETHYLENE (REFRIGERANT GAS R1132A)	2 F	12 22.5	120 225	25	250	0.66 0.78 0.77
1961	ETHANE, REFRIGERATED LIQUID	3 F	see 4.3.3.2.4				
1962	ETHYLENE	2 F	12 22.5	120 225	22.5 30	225 300	0.25 0.36 0.34 0.37
1963	HELIUM, REFRIGERATED LIQUID	3 A	see 4.3.3.2.4				
1964	HYDROCARBON GAS MIXTURE, COMPRESSED, N.O.S.	1 F	see 4.3.3.2.1 or 4.3.3.2.2				
1965	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. such as:	2 F					
	Mixture A		1	10	1	10	0.50
	Mixture A01		1.2	12	1.4	14	0.49
	Mixture A02		1.2	12	1.4	14	0.48
	Mixture A0		1.2	12	1.4	14	0.47
	Mixture A1		1.6	16	1.8	18	0.46
	Mixture B1		2	20	2.3	23	0.45
	Mixture B2		2	20	2.3	23	0.44
	Mixture B		2	20	2.3	23	0.43
	Mixture C		2.5	25	2.7	27	0.42
	Other mixtures		see 4.3.3.2.2 or 4.3.3.2.3				
1966	HYDROGEN, REFRIGERATED LIQUID	3 F	see 4.3.3.2.4				
1967	INSECTICIDE GAS, TOXIC, N.O.S. <sup>(a)</sup>	2 T	see 4.3.3.2.2 or 4.3.3.2.3				
1968	INSECTICIDE GAS, N.O.S.	2 A	see 4.3.3.2.2 or 4.3.3.2.3				
1969	ISOBUTANE	2 F	1	10	1	10	0.49
1970	KRYPTON, REFRIGERATED LIQUID	3 A	see 4.3.3.2.4				
1971	METHANE, COMPRESSED or	1 F	see 4.3.3.2.1				
1971	NATURAL GAS, COMPRESSED with high methane content						
1972	METHANE, REFRIGERATED LIQUID or	3 F	see 4.3.3.2.4				
1972	NATURAL GAS, REFRIGERATED LIQUID with high methane content						

UN No.	Name	Classification code	Minimum test pressure for tanks				Maximum permissible mass of contents per litre of capacity
			With thermal insulation		Without thermal insulation		
			MPa	bar	MPa	bar	kg
1973	CHLORODIFLUOROMETHANE AND CHLOROPENTAFLUOROETHANE MIXTURE with fixed boiling point, with approximately 49% chlorodifluoromethane (REFRIGERANT GAS R502)	2 A	2.5	25	2.8	28	1.05
1974	CHLORODIFLUOROBROMOMETHANE (REFRIGERANT GAS R12B1)	2 A	1	10	1	10	1.61
1976	OCTAFLUOROCYCLOBUTANE (REFRIGERANT GAS RC318)	2 A	1	10	1	10	1.34
1977	NITROGEN, REFRIGERATED LIQUID	3 A	see 4.3.3.2.4				
1978	PROPANE	2 F	2.1	21	2.3	23	0.42
1982	TETRAFLUOROMETHANE (REFRIGERANT GAS R14)	1 A	20 30	200 300	20 30	200 300	0.62 0.94
1983	1-CHLORO-2,2,2-TRIFLUOROETHANE (REFRIGERANT GAS R133A)	2 A	1	10	1	10	1.18
1984	TRIFLUOROMETHANE (REFRIGERANT GAS R23)	2 A	19 25	190 250	19 25	190 250	0.92 0.99 0.87 0.95
2034	HYDROGEN AND METHANE MIXTURE, COMPRESSED	1 F	see 4.3.3.2.1				
2035	1,1,1-TRIFLUOROETHANE (REFRIGERANT GAS R143A)	2 F	2.8	28	3.2	32	0.79
2036	XENON	2 A	12	120	13	130	1.30 1.24
2044	2,2-DIMETHYLPROPANE	2 F	1	10	1	10	0.53
2073	AMMONIA SOLUTION, relative density less than 0.880 at 15 °C in water, with more than 35% and not more than 40% ammonia	4 A	1	10	1	10	0.80
	with more than 40% and not more than 50% ammonia		1.2	12	1.2	12	0.77
2187	CARBON DIOXIDE, REFRIGERATED LIQUID	3 A	see 4.3.3.2.4				
2189	DICHLOROSILANE	2 TFC	1	10	1	10	0.90
2191	SULFURY FLUORIDE	2 T	5	50	5	50	1.1

UN No.	Name	Classification code	Minimum test pressure for tanks				Maximum permissible mass of contents per litre of capacity  kg
			With thermal insulation		Without thermal insulation		
			MPa	bar	MPa	bar	
2193	HEXAFLUOROETHANE (REFRIGERANT GAS R116)	2 A	16 20	160 200	20 200	200	1.28 1.34 1.10
2197	HYDROGEN IODIDE, ANHYDROUS	2 TC	1.9	19	2.1	21	2.25
2200	PROPADIENE, STABILIZED	2 F	1.8	18	2.0	20	0.50
2201	NITROUS OXIDE, REFRIGERATED LIQUID	3 O	see 4.3.3.2.4				
2203	SILANE <sup>(b)</sup>	2 F	22.5 25	225 250	22.5 25	225 250	0.32 0.36
2204	CARBONYL SULPHIDE	2 TF	2.7	27	3.0	30	0.84
2417	CARBONYL FLUORIDE	2 TC	20 30	200 300	20 30	200 300	0.47 0.70
2419	BROMOTRIFLUORO-ETHYLENE	2 F	1	10	1	10	1.19
2420	HEXAFLUOROACETONE	2 TC	1.6	16	1.8	18	1.08
2422	OCTAFLUOROBUT-2-ENE (REFRIGERANT GAS R1318)	2 A	1	10	1	10	1.34
2424	OCTAFLUOROPROPANE (REFRIGERANT GAS R218)	2 A	2.1	21	2.3	23	1.07
2451	NITROGEN TRIFLUORIDE	2 O	20 30	200 300	20 30	200 300	0.50 0.75
2452	ETHYLACETYLENE, STABILIZED	2 F	1	10	1	10	0.57
2453	ETHYL FLUORIDE (REFRIGERANT GAS R161)	2 F	2.1	21	2.5	25	0.57
2454	METHYL FLUORIDE (REFRIGERANT GAS R41)	2 F	30	300	30	300	0.36
2517	1-CHLORO-1,1-DIFLUOROETHANE (REFRIGERANT GAS R142B)	2 F	1	10	1	10	0.99
2591	XENON, REFRIGERATED LIQUID	3 A	see 4.3.3.2.4				
2599	CHLOROTRIFLUOROMETHANE AND TRIFLUOROMETHANE, AZEOTROPIC MIXTURE with approximately 60% chlorotrifluoromethane (REFRIGERANT GAS R503)	2 A	3.1 4.2 10	31 42 100	3.1 4.2 10	31 42 100	0.11 0.21 0.76 0.20 0.66
2601	CYCLOBUTANE	2 F	1	10	1	10	0.63



UN No.	Name	Classification code	Minimum test pressure for tanks				Maximum permissible mass of contents per litre of capacity
			With thermal insulation		Without thermal insulation		
			MPa	bar	MPa	bar	kg
2602	DICHLORODIFLUOROMETHANE AND DI-FLUORO-1,1 ETHANE, AZEOTROPIC MIXTURE with approximately 74% dichlorodifluoromethane (REFRIGERANT GAS R500)	2 A	1.8	18	2	20	1.01
2901	BROMINE CHLORIDE	2 TOC	1	10	1	10	1.50
3057	TRIFLUOROACETYL CHLORIDE	2 TC	1.3	13	1.5	15	1.17
3070	ETHYLENE OXIDE AND DICHLORODIFLUOROMETHANE MIXTURE with not more than 12.5% ethylene oxide	2 A	1.5	15	1.6	16	1.09
3083	PERCHLORYL FLUORIDE	2 TO	2.7	27	3.0	30	1.21
3136	TRIFLUOROMETHANE, REFRIGERATED LIQUID	3 A	see 4.3.3.2.4				
3138	ETHYLENE, ACETYLENE PROPYLENE IN MIXTURE, REFRIGERATED LIQUID, containing at least 71.5% ethylene with not more than 22.5% acetylene and not more than 6% propylene	3 F	see 4.3.3.2.4				
3153	PERFLUORO(METHYL VINYL ETHER)	2 F	1.4	14	1.5	15	1.14
3154	PERFLUORO(ETHYL VINYL ETHER)	2 F	1	10	1	10	0.98
3156	COMPRESSED GAS, OXIDIZING, N.O.S.	1 O	see 4.3.3.2.1 or 4.3.3.2.2				
3157	LIQUEFIED GAS, OXIDIZING, N.O.S.	2 O	see 4.3.3.2.2 or 4.3.3.2.3				
3158	GAS, REFRIGERATED LIQUID, N.O.S.	3 A	see 4.3.3.2.4				
3159	1,1,1,2-TETRAFLUOROETHANE (REFRIGERANT GAS R134A)	2 A	1.6	16	1.8	18	1.04
3160	LIQUEFIED GAS, TOXIC, FLAMMABLE, N.O.S. <sup>(a)</sup>	2 TF	see 4.3.3.2.2 or 4.3.3.2.3				
3161	LIQUEFIED GAS, FLAMMABLE, N.O.S.	2 F	see 4.3.3.2.2 or 4.3.3.2.3				
3162	LIQUEFIED GAS, TOXIC, N.O.S. <sup>(a)</sup>	2 T	see 4.3.3.2.2 or 4.3.3.2.3				
3163	LIQUEFIED GAS, N.O.S.	2 A	see 4.3.3.2.2 or 4.3.3.2.3				
3220	PENTAFLUOROETHANE (REFRIGERANT GAS R125)	2 A	4.1	41	4.9	49	0.95

UN No.	Name	Classification code	Minimum test pressure for tanks				Maximum permissible mass of contents per litre of capacity
			With thermal insulation		Without thermal insulation		
			MPa	bar	MPa	bar	kg
3252	DIFLUOROMETHANE (REFRIGERANT GAS R32)	2 F	3.9	39	4.3	43	0.78
3296	HEPTAFLUOROPRO-PANE (REFRIGERANT GAS R227)	2 A	1.4	14	1.6	16	1.20
3297	ETHYLENE OXIDE AND CHLOROTETRA-FLUOROETHANE MIXTURE, with not more than 8.8% ethylene oxide	2 A	1	10	1	10	1.16
3298	ETHYLENE OXIDE AND PENTAFLUOROETHANE MIXTURE, with not more than 7.9% ethylene oxide	2 A	2.4	24	2.6	26	1.02
3299	ETHYLENE OXIDE AND TETRAFLUOROETHANE MIXTURE, with not more than 5.6% ethylene oxide	2 A	1.5	15	1.7	17	1.03
3300	ETHYLENE OXIDE AND CARBON DIOXIDE MIX-TURE, with more than 87% ethylene oxide	2 TF	2.8	28	2.8	28	0.73
3303	COMPRESSED GAS, TOXIC, OXIDIZING, N.O.S. <sup>(a)</sup>	1 TO	see 4.3.3.2.1 or 4.3.3.2.2				
3304	COMPRESSED GAS, TOXIC, CORROSIVE, N.O.S. <sup>(a)</sup>	1 TC	see 4.3.3.2.1 or 4.3.3.2.2				
3305	COMPRESSED GAS, TOXIC, FLAMMABLE, CORROSIVE, N.O.S. <sup>(a)</sup>	1 TFC	see 4.3.3.2.1 or 4.3.3.2.2				
3306	COMPRESSED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. <sup>(a)</sup>	1 TOC	see 4.3.3.2.1 or 4.3.3.2.2				
3307	LIQUEFIED GAS, TOXIC, OXIDIZING, N.O.S. <sup>(a)</sup>	2 TO	see 4.3.3.2.2 or 4.3.3.2.3				
3308	LIQUEFIED GAS, TOXIC, CORROSIVE, N.O.S. <sup>(a)</sup>	2 TC	see 4.3.3.2.2 or 4.3.3.2.3				
3309	LIQUEFIED GAS, TOXIC, FLAMMABLE, CORRO-SIVE, N.O.S. <sup>(a)</sup>	2 TFC	see 4.3.3.2.2 or 4.3.3.2.3				
3310	LIQUEFIED GAS, TOXIC, OXIDIZING, CORROSIVE, N.O.S. <sup>(a)</sup>	2 TOC	see 4.3.3.2.2 or 4.3.3.2.3				
3311	GAS, REFRIGERATED LIQUID, OXIDIZING, N.O.S.	3 O	see 4.3.3.2.4				
3312	GAS, REFRIGERATED LIQUID, FLAMMABLE, N.O.S.	3 F	see 4.3.3.2.4				

UN No.	Name	Classification code	Minimum test pressure for tanks				Maximum permissible mass of contents per litre of capacity
			With thermal insulation		Without thermal insulation		
			MPa	bar	MPa	bar	kg
3318	AMMONIA SOLUTION, relative density less than 0.880 at 15 °C in water, with more than 50% ammonia	4 TC	see 4.3.3.2.2				
3337	REFRIGERANT GAS R404A	2 A	2.9	29	3.2	32	0.84
3338	REFRIGERANT GAS R407A	2 A	2.8	28	3.2	32	0.95
3339	REFRIGERANT GAS R407B	2 A	3.0	30	3.3	33	0.95
3340	REFRIGERANT GAS R407C	2 A	2.7	27	3.0	30	0.95
3354	INSECTICIDE GAS, FLAMMABLE, N.O.S.	2 F	see 4.3.3.2.2 or 4.3.3.2.3				
3355	INSECTICIDE GAS, TOXIC, FLAMMABLE, N.O.S. <sup>(a)</sup>	2 TF	see 4.3.3.2.2 or 4.3.3.2.3				

(a) Allowed if LC<sub>50</sub> equal to or greater than 200 ppm.

(b) Considered as pyrophoric.

#### 4.3.3.3 Operation

**4.3.3.3.1** When tanks, battery-wagons or MEGCs are approved for different gases, the change of use shall include emptying, purging and evacuation operations to the extent necessary for safe operation.

**4.3.3.3.2** When tanks, battery-wagons or MEGCs are handed over for carriage, only the particulars specified in 6.8.3.5.6 applicable to the gas loaded or just discharged shall be visible; all particulars concerning other gases shall be covered up (see UIC leaflet 573<sup>4</sup> (Technical conditions for the construction of tank wagons)).

**4.3.3.3.3** All the elements of a battery-wagons or MEGC shall contain only one and the same gas.

**4.3.3.4 Provisions for the filling of liquid gas tank-wagons** (Reserved)

**4.3.3.4.1 Control measures before filling** (Reserved)

(a) For each gas to be carried, the details on the tank plate (see 6.8.2.5.1 and 6.8.3.5.1 to 6.8.3.5.5) shall be checked to agree with those on the wagon panel (see 6.8.2.5.2, 6.8.3.5.6 and 6.8.3.5.7).

Tank-wagons for multiple use shall especially be checked to ensure that the correct folding panels are visible and securely fixed by the means referred to in 6.8.3.5.7 on both sides of the wagon.

The load limits on the wagon panel shall not exceed the maximum permissible filling mass on the tank plate.

(b) The last load shall be determined, either from particulars in the transport document or by

<sup>4</sup> 7<sup>th</sup> edition of the UIC leaflet applicable from 1 October 2008.

analysis. If necessary, the tank shall be cleaned.

- (c) The mass of the residue shall be determined (e.g. by weighing) and taken into account in determining the filling quantity.
- (d) The leakproofness of the shell and its items of equipment, and their ability to function, shall be checked.

#### 4.3.3.4.2 Filling procedure

(Reserved)

For filling, the provisions of the operating instructions of the tank-wagon shall be complied with.

#### 4.3.3.4.3 Control measures after filling

(Reserved)

- (a) After filling, whether the wagon is overfilled or overloaded shall be checked by calibrated checking devices (e.g. by weighing on a calibrated weighbridge).

Overfilled or overloaded tank-wagons shall be immediately discharged in a safe manner until the permitted filling quantity is reached.

- (b) The partial pressure of inert gases in the gas phase shall not exceed 0.2 MPa (2 bar), or the gauge pressure in the gas phase shall not exceed by more than 0.1 MPa (1 bar) the vapour pressure (absolute) of the liquid gas at the temperature of the liquid phase (however, for UN 1040 Ethylene oxide with nitrogen, the maximum allowable total pressure shall be 1 MPa (10 bar) at 50 °C).
- (c) After filling, bottom-discharge wagons shall be checked to ensure that the internal shut-off devices are closed so as to be leak-proof.
- (d) Before blank flanges or other equally effective devices are fitted, the vents shall be checked for leakproofness; any leaks shall be stopped by suitable means.
- (e) Blank flanges or other equally effective devices shall be fitted on the outlet of the vents. These closures shall be equipped with suitable seals. They shall be closed when using all elements provided for in their design types.
- (f) Lastly, a final visual check of the wagon, its equipment and marking shall be made to ensure that no filling substance is escaping.

### 4.3.4 Special provisions applicable to Classes 3 to 9

#### 4.3.4.1 Coding, rationalized approach and hierarchy of tanks

##### 4.3.4.1.1 Coding of tanks

The four parts of the codes (tank codes) given in Column (12) of Table A in Chapter 3.2 have the following meanings:

Part	Description	Tank code
1	Types of tank	L = tank for substances in the liquid state (liquids or solids handed over for carriage in the molten state); S = tank for substances in the solid state (powdery or granular).
2	Calculation pressure	G = minimum calculation pressure according to the general requirements of 6.8.2.1.14; 1,5; 2,65; 4; 10; 15 or 21 = minimum calculation pressure in bar (see 6.8.2.1.14).

3	Openings (see 6.8.2.2.2)	<p>A = tank with bottom-filling or bottom-discharge openings with 2 closures;</p> <p>B = tank with bottom-filling or bottom-discharge openings with 3 closures;</p> <p>C = tank with top-filling and discharge openings with only cleaning openings below the surface of the liquid;</p> <p>D = tank with top-filling and discharge openings with no openings below the surface of the liquid.</p>
4	Safety valves/devices	<p>V = tank with a venting system, according to 6.8.2.2.6, but no flame trap; or non-explosion-pressure proof tank;</p> <p>F = tank with a venting system, according to 6.8.2.2.6, fitted with a flame trap; or explosion-pressure proof tank;</p> <p>N = tank without a venting system according to 6.8.2.2.6 and not hermetically closed;</p> <p>H = hermetically closed tank (see 1.2.1).</p>

#### 4.3.4.1.2 Rationalized approach for assignment of tank codes to groups of substances and hierarchy of tanks

**NOTE:** Certain substances and groups of substances are not included in the rationalized approach, see 4.3.4.1.3

Rationalized approach			
Tank code	Group of permitted substances		
	Class	Classification code	Packing group
<b>Liquids</b>			
<b>LGAV</b>	3	F2	III
	9	M9	III
<b>LGBV</b>	4.1	F2	II, III
	5.1	O1	III
	9	M6	III
	9	M11	III
and groups of permitted substances for tank code LGAV			
<b>LGBF</b>	3	F1	II
			vapour pressure at 50 °C ≤ 1.1 bar
	3	F1	III
	3	D	II
			vapour pressure at 50 °C ≤ 1.1 bar
	3	D	III
			and groups of permitted substances for tank codes LGAV and LGBV
<b>L1.5BN</b>	3	F1	II
			vapour pressure at 50 °C > 1.1 bar
	3	F1	III
			flashpoint < 23 °C, viscous, vapour pressure at 50 °C > 1.1 bar, boiling point > 35 °C
	3	D	II
			vapour pressure at 50 °C > 1.1 bar
			and groups of permitted substances for tank codes LGAV, LGBV and LGBF
<b>L4BN</b>	3	F1	I
			III, boiling point ≤ 35 °C
	3	FC	III
	3	D	I

Rationalized approach			
Tank code	Group of permitted substances		
	Class	Classification code	Packing group
<b>L4BN</b> (cont'd)	5.1	O1	I, II
	5.1	OT1	I
	8	C1	II, III
	8	C3	II, III
	8	C4	II, III
	8	C5	II, III
	8	C7	II, III
	8	C8	II, III
	8	C9	II, III
	8	C10	II, III
	8	CF1	II
	8	CF2	II
	8	CS1	II
	8	CW1	II
	8	CW2	II
	8	CO1	II
	8	CO2	II
	8	CT1	II, III
	8	CT2	II, III
	8	CFT	II
	9	M11	III
	and groups of permitted substances for tank codes LGAV, LGBV, LGBF and L1.5BN		
<b>L4BH</b>	3	FT1	II, III
	3	FT2	II
	3	FC	II
	3	FTC	II
	6.1	T1	II, III
	6.1	T2	II, III
	6.1	T3	II, III
	6.1	T4	II, III
	6.1	T5	II, III
	6.1	T6	II, III
	6.1	T7	II, III
	6.1	TF1	II
	6.1	TF2	II, III
	6.1	TF3	II
	6.1	TS	II
	6.1	TW1	II
	6.1	TW2	II
	6.1	TO1	II
	6.1	TO2	II
	6.1	TC1	II
	6.1	TC2	II
	6.1	TC3	II
	6.1	TC4	II
	6.1	TFC	II

Rationalized approach			
Tank code	Group of permitted substances		
	Class	Classification code	Packing group
<b>L4BH</b> (cont'd)	6.2	I4	
	9	M2	II
	and groups of permitted substances for tank codes LGAV, LGBV, LGBF, L1.5BN and L4BN		
<b>L4DH</b>	4.2	S1	II,III
	4.2	S3	II, III
	4.2	ST1	II, III
	4.2	ST3	II, III
	4.2	SC1	II, III
	4.2	SC3	II, III
	4.3	W1	II, III
	4.3	WF1	II, III
	4.3	WT1	II, III
	4.3	WC1	II, III
	8	CT1	II,III
	and groups of permitted substances for tank codes LGAV, LGBV, LGBF, L1.5BN, L4BN and L4BH		
<b>L10BH</b>	8	C1	I
	8	C3	I
	8	C4	I
	8	C5	I
	8	C7	I
	8	C8	I
	8	C9	I
	8	C10	I
	8	CF1	I
	8	CF2	I
	8	CS1	I
	8	CW1	I
	8	CW2	I
	8	CO1	I
	8	CO2	I
	8	CT1	I
	8	CT2	I
	8	COT	I
	and groups of permitted substances for tank codes LGAV, LGBV, LGBF, L1.5BN, L4BN, and L4BH		
<b>L10CH</b>	3	FT1	I
	3	FT2	I
	3	FC	I
	3	FTC	I
	6.1	T1	I
	6.1	T2	I
	6.1	T3	I
	6.1	T4	I
	6.1	T5	I
	6.1	T6	I
	6.1	T7	I

Rationalized approach			
Tank code	Group of permitted substances		
	Class	Classification code	Packing group
L10CH (cont'd)	6.1	TF1	I
	6.1	TF2	I
	6.1	TF3	I
	6.1	TS	I
	6.1	TW1	I
	6.1	TO1	I
	6.1	TC1	I
	6.1	TC2	I
	6.1	TC3	I
	6.1	TC4	I
	6.1	TFC	I
	and groups of permitted substances for tank codes LGAV, LGBV, LGBF, L1.5BN, L4BN, L4BH, and L10BH		
L10DH	4.3	W1	I
	4.3	WF1	I
	4.3	WT1	I
	4.3	WC1	I
	4.3	WFC	I
	5.1	OTC	I
	8	CT1	I
and groups of permitted substances for tank codes LGAV, LGBV, LGBF, L1.5BN, L4BN, L4BH, L4DH, L10BH and L10CH			
L15CH	3	FT1	I
	6.1	TF1	I
and groups of permitted substances for tank codes LGAV, LGBV, LGBF, L1.5BN, L4BN, L4BH, L10BH and L10CH			
L21DH	4.2	S1	I
	4.2	S3	I
	4.2	SW	I
	4.2	ST3	I
and groups of permitted substances for tank codes LGAV, LGBV, LGBF, L1.5BN, L4BN, L4BH, L4DH, L10BH, L10CH, L10DH and L15CH			
Solids			
SGAV	4.1	F1	III
	4.1	F3	III
	4.2	S2	II, III
	4.2	S4	III
	5.1	O2	II, III
	8	C2	II, III
	8	C4	III
	8	C6	III
	8	C8	III
	8	C10	II, III
	8	CT2	III
	9	M7	III
	9	M11	II, III
SGAN	4.1	F1	II



Rationalized approach			
Tank code	Group of permitted substances		
	Class	Classification code	Packing group
<b>SGAN</b> (cont'd)	4.1	F3	II
	4.1	FT1	II, III
	4.1	FT2	II, III
	4.1	FC1	II, III
	4.1	FC2	II, III
	4.2	S2	II
	4.2	S4	II, III
	4.2	ST2	II, III
	4.2	ST4	II, III
	4.2	SC2	II, III
	4.2	SC4	II, III
	4.3	W2	II, III
	4.3	WF2	II
	4.3	WS	II, III
	4.3	WT2	II, III
	4.3	WC2	II, III
	5.1	O2	II, III
	5.1	OT2	II, III
	5.1	OC2	II, III
	8	C2	II
	8	C4	II
	8	C6	II
	8	C8	II
	8	C10	II
	8	CF2	II
	8	CS2	II
	8	CW2	II
	8	CO2	II
	8	CT2	II
	9	M3	III
and groups of permitted substances for tank codes SGAV			
<b>SGAH</b>	6.1	T2	II, III
	6.1	T3	II, III
	6.1	T5	II, III
	6.1	T7	II, III
	6.1	T9	II
	6.1	TF3	II
	6.1	TS	II
	6.1	TW2	II
	6.1	TO2	II
	6.1	TC2	II
	6.1	TC4	II
	9	M1	II, III
and groups of permitted substances for tanks codes SGAV and SGAN			
<b>S4AH</b>	9	M2	II
and groups of permitted substances for tanks codes SGAV, SGAN and SGAH			

Rationalized approach			
Tank code	Group of permitted substances		
	Class	Classification code	Packing group
<b>S10AN</b>	8	C2	I
	8	C4	I
	8	C6	I
	8	C8	I
	8	C10	I
	8	CF2	I
	8	CS2	I
	8	CW2	I
	8	CO2	I
	8	CT2	I
and groups of permitted substances for tank codes SGAV and SGAN			
<b>S10AH</b>	6.1	T2	I
	6.1	T3	I
	6.1	T5	I
	6.1	T7	I
	6.1	TS	I
	6.1	TW2	I
	6.1	TO2	I
	6.1	TC2	I
	6.1	TC4	I
and groups of permitted substances for tank codes SGAV, SGAN, SGAH and S10AN			

#### Hierarchy of tanks

Tanks with tank codes different from those indicated in this table or in Table A of Chapter 3.2 may also be used provided that any element (number or letter) of parts 1 to 4 of these tank codes correspond to a level of safety at least equivalent to the corresponding element of the tank code indicated in Table A of Chapter 3.2, according to the following increasing order:

Part 1: Types of tanks

S → L

Part 2: Calculation pressure

G → 1.5 → 2.65 → 4 → 10 → 15 → 21 bar

Part 3: Openings

A → B → C → D

Part 4: Safety valves/devices

V → F → N → H.

For example:

- A tank with the tank code L10CN is authorized for the carriage of a substance to which the tank code L4BN has been assigned;
- A tank with the tank code L4BN is authorized for the carriage of a substance to which the tank code SGAN has been assigned.

**NOTE:** The hierarchy does not take account of any special provisions for each entry (see 4.3.5 and 6.8.4).

#### 4.3.4.1.3

The following substances and groups of substances in respect of which a "(+)" is given after the tank code in Column (12) of Table A in Chapter 3.2 are subject to special provisions. In that case the alternate use of the tanks for other substances and groups of substances is permitted only where this is specified in the certificate of type approval. Higher value tanks according to the provisions at the end of the table in 4.3.4.1.2 may be used with due regard to the special provisions indicated in Column (13) of Table A in Chapter 3.2.

The requirements for these tanks are given by the following tank codes supplemented by the relevant special provisions indicated in column (13) of table A in Chapter 3.2.

- (a) Class 4.1  
UN No. 2448 SULPHUR, MOLTEN: code LGBV;
- (b) Class 4.2  
UN No. 1381 PHOSPHORUS, WHITE or YELLOW, DRY, or UNDER WATER or IN SOLUTION and UN No. 2447 PHOSPHORUS, WHITE or YELLOW MOLTEN: code L10DH;
- (c) Class 4.3  
UN No. 1389 ALKALI METAL AMALGAM, LIQUID, UN No. 1391 ALKALI METAL DISPERSION or ALKALINE EARTH METAL DISPERSION, UN No. 1392 ALKALINE EARTH METAL AMALGAM, LIQUID, UN No. 1415 LITHIUM, UN No. 1420 POTASSIUM METAL ALLOYS, LIQUID, UN No. 1421 ALKALI METAL ALLOY, LIQUID, N.O.S., UN No. 1422 POTASSIUM SODIUM ALLOYS, LIQUID, UN No. 1428 SODIUM, UN No. 2257 POTASSIUM, UN No. 3401 ALKALI METAL AMALGAM, SOLID, UN No. 3402 ALKALINE EARTH METAL AMALGAM, SOLID, UN No. 3403 POTASSIUM METAL ALLOYS, SOLID and UN No. 3404 POTASSIUM SODIUM ALLOYS, solid: code L10BN;  
UN No. 1407 CAESIUM and UN No. 1423 RUBIDIUM: code L10CH;
- (d) Class 5.1  
UN No. 1873 PERCHLORIC ACID 50-72%: code L4DN;  
UN No. 2015 HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED with more than 70% hydrogen peroxide: code L4DV;  
UN No. 2014 HYDROGEN PEROXIDE, AQUEOUS SOLUTION with 20-60% hydrogen peroxide, UN No. 2015 HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED with 60-70% hydrogen peroxide, UN No. 2426 AMMONIUM NITRATE, LIQUID, hot concentrated solution with more than 80% but not more than 93% and UN No. 3149 HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE, STABILIZED: code L4BV;  
UN No. 3375 AMMONIUM NITRATE EMULSION, SUSPENSION or GEL, intermediate for blasting explosives, liquid: code LGAV;  
UN No. 3375 AMMONIUM NITRATE EMULSION, SUSPENSION or GEL, intermediate for blasting explosives, solid: code SGAV.
- (e) Class 5.2  
UN No. 3109 ORGANIC PEROXIDE TYPE F, LIQUID: code L4BN;  
UN No. 3110 ORGANIC PEROXIDE, TYPE F, SOLID: code S4AN;
- (f) Class 6.1  
UN No. 1613 HYDROGEN CYANIDE, AQUEOUS SOLUTION and UN No. 3294 HYDROGEN CYANIDE SOLUTION IN ALCOHOL: code L15DH;
- (g) Class 7  
All substances: special tanks;  
Minimum requirements for liquids: code L2.65CN; for solids: code S2.65AN  
Notwithstanding the general requirements of this paragraph, tanks used for radioactive material may also be used for the carriage of other goods provided the requirements of 5.1.3.2 are complied with.
- (h) Class 8  
UN No. 1052 HYDROGEN FLUORIDE, ANHYDROUS, UN No. 1744 BROMINE or BROMINE SOLUTION and UN No. 1790 HYDROFLUORIC ACID, SOLUTION, with more than 85% hydrofluoric acid: code L21DH;  
UN No. 1791 HYPOCHLORITE SOLUTION and UN No. 1908 CHLORITE SOLUTION: code L4BV.

#### 4.3.4.1.4

Tank-containers or tank swap bodies intended for the carriage of liquid waste, which are in accordance with the requirements of Chapter 6.10 and are fitted with two closures in accordance with 6.10.3.2, shall be assigned to tank code L4AH. If the tanks in question are equipped for the carriage of liquids and solids alternatively, they shall be assigned to combined codes L4AH and S4AH.

#### 4.3.4.2 General provisions

- 4.3.4.2.1 Where hot substances are loaded, the temperature of the outer surface of the tank or of the thermal insulation shall not exceed 70 °C during carriage.

<b>4.3.4.2.2</b>	The connecting pipes between the shells of several independent but interconnected tank-wagons (complete train, for example) shall be empty during carriage.	(Reserved)
<b>4.3.4.2.3</b>	When shells approved for liquefied gases of Class 2 are also approved for liquids of other classes, the orange band in accordance with 5.3.5 shall be covered or made unrecognisable by other means so that it is not visible during the carriage of these liquids.  During the carriage of these liquids, the particulars according to 6.8.3.5.6 (b) or (c) shall no longer be visible on the two sides of the tank-wagon or on the panels.	(Reserved)
<b>4.3.5</b>	<b>Special provisions</b>  When they are shown under an entry in Column (13) of Table of A in Chapter 3.2, the following special provisions apply:	
<b>TU1</b>	The tanks shall not be handed over for carriage until the substance has solidified completely and been covered by an inert gas. Uncleaned empty tanks which have contained these substances shall be filled with an inert gas.	
<b>TU2</b>	The substance shall be covered by an inert gas. Uncleaned empty tanks which have contained these substances shall be filled with an inert gas.	
<b>TU3</b>	The inside of the shell and all parts liable to come into contact with the substance shall be kept clean. No lubricant capable of combining dangerously with the substance shall be used for pumps, valves or other devices.	
<b>TU4</b>	During carriage, these substances shall be under a layer of inert gas, the gauge pressure of which shall not be less than 50 kPa (0.5 bar).  Uncleaned empty tanks which have contained these substances shall when handed over for carriage be filled with an inert gas at a gauge pressure of at least 50 kPa (0.5 bar).	
<b>TU5</b>	(Reserved)	
<b>TU6</b>	Not authorized for carriage in tanks, battery-wagons and MEGCs when having a LC <sub>50</sub> lower than 200 ppm.	
<b>TU7</b>	The materials used to ensure leakproofness of the joints or for the maintenance of the closures shall be compatible with the contents.	
<b>TU8</b>	An aluminium-alloy tank shall not be used for carriage unless the tank is reserved solely for such carriage and the acetaldehyde is free from acid.	
<b>TU9</b>	UN No.1203 PETROL (GASOLINE) with a vapour pressure at 50 °C of more than 110 kPa (1.1 bar) but not above 150 kPa (1.5 bar) may also be carried in tanks designed according to 6.8.2.1.14 (a) and having equipment conforming to 6.8.2.2.6.	
<b>TU10</b>	(Reserved)	
<b>TU11</b>	During filling, the temperature of this substance shall not exceed 60 °C. A maximum filling temperature of 80 °C is allowed provided that smoulder spots are prevented and that the following conditions are met. After filling, the tanks shall be pressurized (e.g. with compressed air) to check tightness. It shall be ensured that no depressurization takes place during carriage. Before discharge, it shall be checked if pressure in the tanks is still above atmospheric. If this is not the case, an inert gas shall be introduced into the tanks prior to discharge.	
<b>TU12</b>	In the event of a change of use, shells and equipment shall be thoroughly cleansed of all residues before and after the carriage of this substance.	
<b>TU13</b>	Tanks shall be free from impurities at the time of filling.  Service equipment such as valves and external piping shall be emptied after filling or discharging.	
<b>TU14</b>	The protective caps of closures shall be locked during carriage.	

- TU15** Tanks shall not be used for the carriage of foodstuffs, articles of consumption or animal feeds.
- TU16** Uncleaned empty tanks, shall, when handed over for carriage, either:
- be filled with nitrogen; or
  - be filled with water to not less than 96% and not more than 98% of their capacity; between 1 October and 31 March, this water shall contain sufficient anti-freeze agent to make it impossible for the water to freeze during carriage; the anti-freeze agent shall be free from corrosive action and not liable to react with phosphorus.
- TU17** Only to be carried in battery-wagons or MEGCs the elements of which are composed of receptacles.
- TU18** The degree of filling shall remain below the level at which, if the contents were raised to a temperature at which the vapour pressure equalled the opening pressure of the safety valve, the volume of the liquid would reach 95% of the tank's capacity at that temperature. The provision in 4.3.2.3.4 shall not apply.
- TU19** Tanks may be filled to 98% at the filling temperature and pressure. The provision in 4.3.2.3.4 shall not apply.
- TU20** (Reserved)
- TU21** The substance shall, if water is used as a protective agent, be covered with a depth of not less than 12 cm of water at the time of filling; the degree of filling at a temperature of 60 °C shall not exceed 98%. If nitrogen is used as a protective agent, the degree of filling at a temperature of 60 °C shall not exceed 96%. The remaining space shall be filled with nitrogen in such a way that, even after cooling, the pressure at no time falls below atmospheric pressure. The tank shall be closed in such a way that no leakage of gas occurs.
- TU22** Tanks shall be filled to not more than 90% of their capacity; a space of 5% shall remain empty when the liquid is at an average temperature of 50 °C.
- TU23** The degree of filling shall not exceed 0.93 kg per litre of capacity, if filling is by mass. If filling is by volume, the degree of filling shall not exceed 85%.
- TU24** The degree of filling shall not exceed 0.95 kg per litre of capacity, if filling is by mass. If filling is by volume, the degree of filling shall not exceed 85%.
- TU25** The degree of filling shall not exceed 1.14 kg per litre of capacity, if filling is by mass. If filling is by volume, the degree of filling shall not exceed 85%.
- TU26** The degree of filling shall not exceed 85%.
- TU27** Tanks shall not be filled to more than 98% of their capacity.
- TU28** Tanks shall be filled to not more than 95% of their capacity at a reference temperature of 15 °C.
- TU29** Tanks shall be filled to not more than 97% of their capacity and the maximum temperature after filling shall not exceed 140 °C.
- TU30** Tanks shall be filled as set out in the test report for the type approval of the tank but shall be filled to not more than 90% of their capacity.
- TU31** Tanks shall not be filled to more than 1 kg per litre of capacity.
- TU32** Tanks shall not be filled to more than 88% of their capacity.
- TU33** Tanks shall be filled to not less than 88% and not more than 92% of their capacity or to 2.86 kg per litre of capacity.
- TU34** Tanks shall not be filled to more than 0.84 kg per litre of capacity.
- TU35** Empty fixed tank-wagons, empty demountable tanks and empty tank-containers, uncleaned, which have contained these substances are not subject to the requirements of RID if adequate measures have been taken to nullify any hazard.
- TU36** The degree of filling according to 4.3.2.2, at the reference temperature of 15 °C, shall not exceed 93% of the capacity.
- TU37** Carriage in tanks is limited to substances containing pathogens which are unlikely to be a serious hazard, and for which, while capable of causing serious infection on exposure, effective treatment and preventive measures are available and the risk of spread of infection is limited (i.e. moderate individual risk and low community risk).

**TU38****Procedure following activation of energy absorption elements**

(Reserved)

When energy absorption elements have undergone plastic deformation in accordance with 6.8.4, special provision TE 22, the tank-wagon or battery-wagon shall, after undergoing an inspection, be removed to a repair workshop immediately.

If the loaded tank-wagon or loaded battery-wagon is capable of absorbing the shocks of a collision that might occur in normal conditions of rail transport, e.g. after the energy absorption buffers fitted have been replaced with normal buffers or after the damaged energy absorption elements have been temporarily blocked off, the tank-wagon or battery wagon may, after undergoing an inspection, be moved for the purpose of emptying and finally to a repair workshop.

The information that the energy absorption elements are not working shall be made available with the tank-wagon or battery-wagon.

**TU39**

The suitability of the substance for carriage in tanks shall be demonstrated. The method to evaluate this suitability shall be approved by the competent authority. One method is test 8(d) in Test Series 8 (see Manual of Tests and Criteria, Part 1, sub-section 18.7).

Substances shall not be allowed to remain in the tank for any period that could result in caking. Appropriate measures shall be taken to avoid accumulation and packing of substances in the tank (e.g. cleaning etc.).

## Chapter 4.4

### Use of fibre-reinforced plastics (FRP) tank-containers including tank swap bodies

**NOTE:** For portable tanks and UN multiple-element gas containers (MEGCs), see Chapter 4.2; for tank-wagons, demountable tanks, tank-containers and tank swap bodies, with shells made of metallic materials, and battery-wagons and multiple elements gas containers (MEGCs) other than UN MEGCs, see Chapter 4.3; for vacuum-operated waste containers, see Chapter 4.5.

#### 4.4.1 General

The carriage of dangerous substances in fibre-reinforced plastics (FRP) tank-containers, including tank swap bodies, is permitted only when the following conditions are met:

- (a) The substance is classified in Class 3, 5.1, 6.1, 6.2, 8 or 9;
- (b) The maximum vapour pressure (absolute pressure) at 50 °C of the substance does not exceed 110 kPa (1.1 bar);
- (c) The carriage of the substance in metallic tanks is authorized according to 4.3.2.1.1;
- (d) The calculation pressure specified for that substance in part 2 of the tank code given in Column (12) of Table A in Chapter 3.2 does not exceed 4 bar (see also 4.3.4.1.1) and,
- (e) The tank-container, including tank swap bodies, complies with the provisions of Chapter 6.9 applicable for the carriage of the substance.

#### 4.4.2 Operation

**4.4.2.1** The provisions of 4.3.2.1.5 to 4.3.2.2.4, 4.3.2.3.3 to 4.3.2.3.6, 4.3.2.4.1, 4.3.2.4.2, 4.3.4.1 and 4.3.4.2 shall apply.

**4.4.2.2** The temperature of the substance carried shall not exceed, at the time of filling, the maximum service temperature indicated on the tank plate referred to in 6.9.6.

**4.4.2.3** When applicable to carriage in metallic tanks, the special provisions (TU) of 4.3.5 shall also apply, as indicated in Column (13) of Table A in Chapter 3.2.

## Chapter 4.5

### Use of vacuum-operated waste tanks

**NOTE:** For portable tanks and UN multiple elements gas containers (MEGCs), see Chapter 4.2; for tank-wagons, demountable tanks, tank-containers and tank swap bodies, with shells made of metallic materials, and battery-wagons and multiple elements gas containers (MEGCs) other than UN MEGCs, see Chapter 4.3; for fibre reinforced plastics tank-containers, see Chapter 4.4.

#### 4.5.1 Use

- 4.5.1.1** Wastes consisting of substances in Classes 3, 4.1, 5.1, 6.1, 6.2, 8 and 9 may be carried in vacuum-operated waste tanks conforming to Chapter 6.10 if their carriage in tank-containers or tank swap bodies is permitted according to Chapter 4.3.

Substances assigned to tank code L4BH in Column (12) of Table A of Chapter 3.2 or to another tank code permitted under the hierarchy in 4.3.4.1.2 may be carried in vacuum-operated waste tanks with the letter "A" or "B" in part 3 of the tank code.

#### 4.5.2 Operation

- 4.5.2.1** The requirements of Chapter 4.3 except those of 4.3.2.2.4 and 4.3.2.3.3 apply to the carriage in vacuum-operated waste tanks and are supplemented by the requirements of 4.5.2.2 to 4.5.2.4 below.
- 4.5.2.2** For carriage of liquids classified as flammable, vacuum-operated waste tanks shall be filled through fillings which discharge into the tank at a low level. Measures shall be made to minimize the production of spray.
- 4.5.2.3** When discharging flammable liquids with a flash-point below 23 °C by using air pressure, the maximum working pressure shall be 100 kPa (1 bar).
- 4.5.2.4** The use of tanks fitted with an internal piston operating as a compartment wall is allowed only when the substances on either side of the wall (piston) do not react dangerously with each other (see 4.3.2.3.6).
- 4.5.2.5** It shall be ensured that the stationary position of an existing suction boom does not change during normal conditions of transport.



**Part 5****Consignment procedures**

## Chapter 5.1

### General provisions

#### 5.1.1 Application and general provisions

This Part sets forth the provisions for dangerous goods consignments relative to marking, labelling, and documentation, and, where appropriate, authorization of consignments and advance notifications.

#### 5.1.2 Use of overpacks

##### 5.1.2.1 (a) An overpack shall be:

- (i) marked with the word "OVERPACK"; and
- (ii) marked with the UN number preceded by the letters "UN", and labelled as required for packages in 5.2.2, for each item of dangerous goods contained in the overpack,

unless the UN numbers and the labels representative of all dangerous goods contained in the overpack are visible, except as required in 5.2.2.1.11. If the same UN number or the same label is required for different packages, it only needs to be applied once.

The marking of the word "OVERPACK", which shall be readily visible and legible, shall be in an official language of the country of origin and also, if that language is not English, French or German, in English, French or German, unless any agreements concluded between the countries concerned in the transport operation provide otherwise.

- (b) Orientation arrows illustrated in 5.2.1.9 shall be displayed on two opposite sides of the following overpacks:

- (i) overpacks containing packages which shall be labelled in accordance with 5.2.1.9.1, unless the marking remains visible, and
- (ii) overpacks containing liquids in packages which need not be marked in accordance with 5.2.1.9.2, unless the closures remain visible.

5.1.2.2 Each package of dangerous goods contained in an overpack shall comply with all applicable provisions of RID. The intended function of each package shall not be impaired by the overpack.

5.1.2.3 Each package bearing package orientation markings as prescribed in 5.2.1.9 and which is overpacked or placed in a large packaging shall be oriented in accordance with such markings.

5.1.2.4 The prohibitions on mixed loading also apply to these overpacks.

#### 5.1.3 Empty uncleaned packagings (including IBCs and large packagings), tanks, wagons and containers for carriage in bulk

5.1.3.1 Empty uncleaned packagings (including IBCs and large packagings), tanks (including tank-wagons, battery-wagons, demountable tanks, portable tanks, tank-containers, MEGCs), wagons and containers for carriage in bulk having contained dangerous goods of the different classes other than Class 7, shall be marked and labelled as if they were full.

**NOTE:** For documentation, see Chapter 5.4.

5.1.3.2 Packagings, including IBCs, and tanks used for the carriage of radioactive material shall not be used for the storage or carriage of other goods unless decontaminated below the level of 0.4 Bq/cm<sup>2</sup> for beta and gamma emitters and low toxicity alpha emitters and 0.04 Bq/cm<sup>2</sup> for all other alpha emitters.

#### 5.1.4 Mixed packing

When two or more dangerous goods are packed within the same outer packaging, the package shall be labelled and marked as required for each substance or article. If the same label is required for different goods, it only needs to be applied once.

#### 5.1.5 General provisions for Class 7

##### 5.1.5.1 Approval of shipments and notification

##### 5.1.5.1.1 General

In addition to the approval for package designs described in Chapter 6.4, multilateral shipment approval is also required in certain circumstances (5.1.5.1.2 and 5.1.5.1.3). In some circumstances it is also necessary to notify competent authorities of a shipment (5.1.5.1.4).

**5.1.5.1.2 Shipment approvals**

Multilateral approval shall be required for:

- (a) the shipment of Type B(M) packages not conforming with the requirements of 6.4.7.5 or designed to allow controlled intermittent venting;
- (b) the shipment of Type B(M) packages containing radioactive material with an activity greater than 3000 A<sub>1</sub> or 3000 A<sub>2</sub>, as appropriate, or 1000 TBq, whichever is the lower;
- (c) the shipment of packages containing fissile materials if the sum of the criticality safety indexes of the packages in a single wagon or container exceeds 50;

except that a competent authority may authorize carriage into or through its country without shipment approval, by a specific provision in its design approval (see 5.1.5.2.1).

**5.1.5.1.3 Shipment approval by special arrangement**

Provisions may be approved by a competent authority under which a consignment, which does not satisfy all of the applicable requirements of RID may be carried under special arrangement (see 1.7.4).

**5.1.5.1.4 Notifications**

Notification to competent authorities is required as follows:

- (a) Before the first shipment of any package requiring competent authority approval, the consignor shall ensure that copies of each applicable competent authority certificate applying to that package design have been submitted to the competent authority of each country through or into which the consignment is to be carried. The consignor is not required to await an acknowledgement from the competent authority, nor is the competent authority required to make such acknowledgement of receipt of the certificate;
- (b) For each of the following types of shipments:
  - (i) Type C packages containing radioactive material with an activity greater than 3000 A<sub>1</sub> or 3000 A<sub>2</sub>, as appropriate, or 1000 TBq, whichever is the lower;
  - (ii) Type B(U) packages containing radioactive material with an activity greater than 3000 A<sub>1</sub> or 3000 A<sub>2</sub>, as appropriate, or 1000 TBq, whichever is the lower;
  - (iii) Type B(M) packages;
  - (iv) Shipment under special arrangement;The consignor shall notify the competent authority of each country through or into which the consignment is to be carried. This notification shall be in the hands of each competent authority prior to the commencement of the shipment, and preferably at least 7 days in advance;
- (c) The consignor is not required to send a separate notification if the required information has been included in the application for shipment approval;
- (d) The consignment notification shall include:
  - (i) sufficient information to enable the identification of the package or packages including all applicable certificate numbers and identification marks;
  - (ii) information on the date of shipment, the expected date of arrival and proposed routing;
  - (iii) the name(s) of the radioactive material(s) or nuclide(s);
  - (iv) descriptions of the physical and chemical forms of the radioactive material, or whether it is special form radioactive material or low dispersible radioactive material; and
  - (v) the maximum activity of the radioactive contents during carriage expressed in becquerels (Bq) with an appropriate SI prefix symbol (see 1.2.2.1). For fissile material, the mass of fissile material in grams (g), or multiples thereof, may be used in place of activity.

**5.1.5.2 Certificates issued by the competent authority****5.1.5.2.1** Certificates issued by the competent authority are required for the following:

- (a) Designs for:
  - (i) special form radioactive material;
  - (ii) low dispersible radioactive material;
  - (iii) packages containing 0.1 kg or more of uranium hexafluoride;
  - (iv) all packages containing fissile material unless excepted by 6.4.11.2;
  - (v) Type B(U) packages and Type B(M) packages;
  - (vi) Type C packages;
- (b) Special arrangements;
- (c) Certain shipments (see 5.1.5.1.2).

The certificates shall confirm that the applicable requirements are met, and for design approvals shall attribute to the design an identification mark.

The package design and shipment approval certificates may be combined into a single certificate.

Certificates and applications for these certificates shall be in accordance with the requirements in 6.4.23.

**5.1.5.2.2** The consignor shall be in possession of a copy of each applicable certificate.

**5.1.5.2.3** For package designs where a competent authority issued certificate is not required, the consignor shall, on request, make available for inspection by the competent authority, documentary evidence of the compliance of the package design with all the applicable requirements.

#### **5.1.5.3 Determination of transport index (TI) and criticality safety index (CSI)**

**5.1.5.3.1** The transport index (TI) for a package, overpack or container, or for unpackaged LSA-I or SCO-I, shall be the number derived in accordance with the following procedure:

(a) Determine the maximum radiation level in units of millisieverts per hour (mSv/h) at a distance of 1 m from the external surfaces of the package, overpack, container, or unpackaged LSA-I and SCO-I. The value determined shall be multiplied by 100 and the resulting number is the transport index.

For uranium and thorium ores and their concentrates, the maximum radiation level at any point 1 m from the external surface of the load may be taken as:

0.4 mSv/h for ores and physical concentrates of uranium and thorium;

0.3 mSv/h for chemical concentrates of thorium;

0.02 mSv/h for chemical concentrates of uranium, other than uranium hexafluoride;

(b) For tanks, containers and unpackaged LSA-I and SCO-I, the value determined in step (a) above shall be multiplied by the appropriate factor from Table 5.1.5.3.1;

(c) The value obtained in steps (a) and (b) above shall be rounded up to the first decimal place (e.g. 1.13 becomes 1.2), except that a value of 0.05 or less may be considered as zero.

**Table 5.1.5.3.1: Multiplication factors for tanks, containers and unpackaged LSA-I and SCO-I**

Size of load <sup>(a)</sup>	Multiplication factor
size of load $\leq 1 \text{ m}^2$	1
$1 \text{ m}^2 < \text{size of load} \leq 5 \text{ m}^2$	2
$5 \text{ m}^2 < \text{size of load} \leq 20 \text{ m}^2$	3
$20 \text{ m}^2 < \text{size of load}$	10

(a) Largest cross-sectional area of the load being measured.

**5.1.5.3.2** The transport index for each overpack, container or wagon shall be determined as either the sum of the TIs of all the packages contained, or by direct measurement of radiation level, except in the case of non-rigid overpacks for which the transport index shall be determined only as the sum of the TIs of all the packages.

**5.1.5.3.3** The criticality safety index for each overpack or container shall be determined as the sum of the CSIs of all the packages contained. The same procedure shall be followed for determining the total sum of the CSIs in a consignment or aboard a wagon.

**5.1.5.3.4** Packages and overpacks shall be assigned to either category I-WHITE, II-YELLOW or III-YELLOW in accordance with the conditions specified in Table 5.1.5.3.4 and with the following requirements:

(a) For a package or overpack, both the transport index and the surface radiation level conditions shall be taken into account in determining which is the appropriate category. Where the transport index satisfies the condition for one category but the surface radiation level satisfies the condition for a different category, the package or overpack shall be assigned to the higher category. For this purpose, category I-WHITE shall be regarded as the lowest category;

(b) The transport index shall be determined following the procedures specified in 5.1.5.3.1 and 5.1.5.3.2;

(c) If the surface radiation level is greater than 2 mSv/h, the package or overpack shall be carried under exclusive use and under the provisions of 7.5.11, CW 33 (3.5) (a);

(d) A package carried under a special arrangement shall be assigned to category III-YELLOW except when otherwise specified in the competent authority approval certificate of the country of origin of design (see 2.2.7.2.4.6);

(e) An overpack which contains packages carried under special arrangement shall be assigned to category III-YELLOW except when otherwise specified in the competent authority approval certificate of the country of origin of design (see 2.2.7.2.4.6).

**Table 5.1.5.3.4: Categories of packages and overpacks**

Conditions		Category
Transport index (TI)	Maximum radiation level at any point on external surface	
0 <sup>(a)</sup>	Not more than 0.005 mSv/h	I-WHITE
More than 0 but not more than 1 <sup>(a)</sup>	More than 0.005 mSv/h but not more than 0.5 mSv/h	II-YELLOW
More than 1 but not more than 10	More than 0.5 mSv/h but not more than 2 mSv/h	III-YELLOW
More than 10	More than 2 mSv/h but not more than 10 mSv/h	III- YELLOW <sup>(b)</sup>

<sup>(a)</sup> If the measured TI is not greater than 0.05, the value quoted may be zero in accordance with 5.1.5.3.1 (c).

<sup>(b)</sup> Shall also be carried under exclusive use.

#### 5.1.5.4

#### Summary of approval and prior notification requirements

- NOTE 1:** Before first shipment of any package requiring competent authority approval of the design, the consignor shall ensure that a copy of the approval certificate for that design has been submitted to the competent authority of each country en route (see 5.1.5.1.4 (a)).
- 2:** Notification required if contents exceed  $3 \times 10^3 A_1$ , or  $3 \times 10^3 A_2$ , or 1000 TBq; (see 5.1.5.1.4 (b)).
- 3:** Multilateral approval of shipment required if contents exceed  $3 \times 10^3 A_1$ , or  $3 \times 10^3 A_2$ , or 1000 TBq, or if controlled intermittent venting is allowed (see 5.1.5.1).
- 4:** See approval and prior notification provisions for the applicable package for carrying this material.

Subject	UN Number	Competent authority approval required		Consignor required to notify the competent authorities of the country of origin and of the countries en route <sup>(a)</sup> before each shipment	Reference
		Country of origin	Countries en route <sup>(a)</sup>		
Calculation of unlisted $A_1$ and $A_2$ values	—	Yes	Yes	No	—
Excepted packages — package design — shipment	2908, 2909, 2910, 2911	No No	No No	No No	—
LSA material <sup>(b)</sup> and SCO <sup>(b)</sup> /Industrial packages types 1, 2 or 3, non fissile and fissile excepted — package design — shipment	2912, 2913, 3321, 3322	No No	No No	No No	—
Type A packages <sup>(b)</sup> , non fissile and fissile excepted — package design — shipment	2915, 3332	No No	No No	No No	—
Type B(U) packages <sup>(b)</sup> non fissile and fissile excepted — package design — shipment	2916	Yes No	No No	See Note 1 See Note 2	5.1.5.1.4 (b), 5.1.5.2.1 (a), 6.4.22.2
Type B(M) packages <sup>(b)</sup> , non fissile and fissile excepted — package design — shipment	2917	Yes See Note 3	Yes See Note 3	No Yes	5.1.5.1.4 (b), 5.1.5.2.1 (a), 5.1.5.1.2, 6.4.22.3

Subject	UN Number	Competent authority approval required		Consignor required to notify the competent authorities of the country of origin and of the countries en route <sup>(a)</sup> before each shipment	Reference
		Country of origin	Countries en route <sup>(a)</sup>		
Type C packages <sup>(b)</sup> , non fissile and fissile excepted – package design – shipment	3323	Yes No	No No	See Note 1 See Note 2	5.1.5.1.4 (b), 5.1.5.2.1 (a), 6.4.22.2
Packages for fissile material – package design – shipment: sum of criticality safety indexes not more than 50 sum of criticality safety indexes greater than 50	2977, 3324, 3325, 3326, 3327, 3328, 3329, 3330, 3331, 3333	Yes <sup>(c)</sup>  No <sup>(d)</sup>  Yes	Yes <sup>(c)</sup>  No <sup>(d)</sup>  Yes	No  See Note 2  See Note 2	5.1.5.2.1 (a), 5.1.5.1.2, 6.4.22.4
Special form radioactive material – design – shipment	– See Note 4	Yes See Note 4	No See Note 4	No See Note 4	1.6.6.3, 5.1.5.2.1 (a), 6.4.22.5
Low dispersable radioactive material – design – shipment	– See Note 4	Yes See Note 4	No See Note 4	No See Note 4	5.1.5.2.1 (a), 6.4.22.3
Packages containing 0.1 kg or more of uranium hexafluoride – design – shipment	– See Note 4	Yes See Note 4	No See Note 4	No See Note 4	5.1.5.2.1 (a), 6.4.22.1
Special Arrangement – shipment	2919, 3331	Yes	Yes	Yes	1.7.4.2, 5.1.5.2.1 (b), 5.1.5.1.4 (b)
Approved packages designs subjected to transitional measures		See 1.6.6	See 1.6.6	See Note 1	1.6.6.1, 1.6.6.2, 5.1.5.1.4 (b), 5.1.5.2.1 (a), 5.1.5.1.2

(a) Countries from, through or into which the consignment is carried.

(b) If the radioactive contents are fissile material which is not excepted from the provisions for packages containing fissile material, then the provisions for fissile material packages apply (see 6.4.11).

(c) Designs of packages for fissile material may also require approval in respect of one of the other items in the table.

(d) Shipments may, however, require approval in respect of one of the other items in the table.

## Chapter 5.2

### Marking and labelling

#### 5.2.1 Marking of packages

**NOTE:** For markings related to the construction, testing and approval of packagings, large packagings, pressure receptacles and IBCs, see Part 6.

**5.2.1.1** Unless provided otherwise in RID, the UN number corresponding to the dangerous goods contained, preceded by the letters "UN" shall be clearly and durably marked on each package. In the case of unpackaged articles the marking shall be displayed on the article, on its cradle or on its handling, storage or launching device.

**5.2.1.2** All package markings required by this Chapter:

- (a) shall be readily visible and legible;
- (b) shall be able to withstand open weather exposure without a substantial reduction in effectiveness.

**5.2.1.3** Salvage packagings shall additionally be marked with the word "SALVAGE".

**5.2.1.4** Intermediate bulk containers of more than 450 litres capacity and large packagings shall be marked on two opposite sides.

#### 5.2.1.5 Additional provisions for goods of Class 1

For goods of Class 1, packages shall, in addition, bear the proper shipping name as determined in accordance with 3.1.2. The marking, which shall be clearly legible and indelible, shall be in an official language of the country of origin and also, if that language is not French, German, Italian or English, in French, German, Italian or English unless any agreements concluded between the countries concerned in the transport operation provide otherwise.

For military consignments within the meaning of 1.5.2 carried as a full wagon load or as a closed load, packages may be marked with the descriptions prescribed by the competent military authority instead of the proper shipping name.

#### 5.2.1.6 Additional provisions for goods of Class 2

Refillable receptacles shall bear the following particulars in clearly legible and durable characters:

(a) the UN number and the proper shipping name of the gas or mixture of gases, as determined in accordance with 3.1.2.

In the case of gases classified under an N.O.S. entry, only the technical name<sup>1</sup> of the gas has to be indicated in addition to the UN number.

In the case of mixtures, not more than the two constituents which most predominantly contribute to the hazards have to be indicated;

(b) for compressed gases filled by mass and for liquefied gases, either the maximum filling mass and the tare of the receptacle with fittings and accessories as fitted at the time of filling, or the gross mass;

(c) the date (year) of the next periodic inspection.

These marks can either be engraved or indicated on a durable information disk or label attached on the receptacle or indicated by an adherent and clearly visible marking such as by printing or by any equivalent process.

**NOTE 1:** See also 6.2.2.7.

**2:** For non refillable receptacles, see 6.2.2.8.

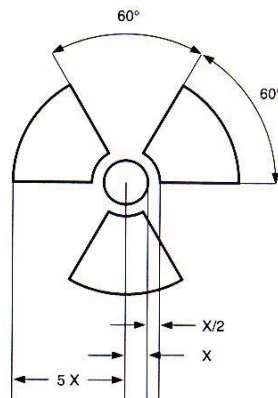
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<sup>1</sup> Instead of the technical name the use of one of the following names is permitted:

- For UN No. 1078 refrigerant gas, n.o.s.: mixture F1, mixture F2, mixture F3;
- For UN No. 1060 methylacetylene and propadiene mixtures, stabilized: mixture P1, mixture P2;
- For UN No. 1965 hydrocarbon gas mixture, liquefied, n.o.s.: mixture A or butane, mixture A01 or butane, mixture A02 or butane, mixture A0 or butane, mixture A1, mixture B1, mixture B2, mixture B, mixture C or propane;
- For UN No. 1010 Butadienes, stabilized: 1,2-Butadiene, stabilized, 1,3-Butadiene, stabilized.

**5.2.1.7 Special marking provisions for goods of Class 7**

- 5.2.1.7.1** Each package shall be legibly and durably marked on the outside of the packaging with an identification of either the consignor or consignee, or both.
- 5.2.1.7.2** For each package, other than excepted packages, the UN number preceded by the letters "UN" and the proper shipping name shall be legibly and durably marked on the outside of the packaging. In the case of excepted packages only the UN number, preceded by the letters "UN", is required.
- 5.2.1.7.3** Each package of gross mass exceeding 50 kg shall have its permissible gross mass legibly and durably marked on the outside of the packaging.
- 5.2.1.7.4** Each package which conforms to:
- (a) a Type IP-1 package, a Type IP-2 package or a Type IP-3 package design shall be legibly and durably marked on the outside of the packaging with "TYPE IP-1", "TYPE IP-2" or "TYPE IP-3" as appropriate;
  - (b) a Type A package design shall be legibly and durably marked on the outside of the packaging with "TYPE A";
  - (c) a Type IP-2 package, a Type IP-3 package or a Type A package design shall be legibly and durably marked on the outside of the packaging with the international vehicle registration code (VRI Code)<sup>2</sup> of the country of origin of design and either the name of the manufacturer or other identification of the packaging specified by the competent authority of the country of origin of design.
- 5.2.1.7.5** Each package which conforms to a design approved by the competent authority shall be legibly and durably marked on the outside of the packaging with:
- (a) the identification mark allocated to that design by the competent authority;
  - (b) a serial number to uniquely identify each packaging which conforms to that design;
  - (c) in the case of a Type B(U) or Type B(M) package design, with "TYPE B(U)" or "TYPE B(M)"; and
  - (d) in the case of a Type C package design, with "TYPE C".
- 5.2.1.7.6** Each package which conforms to a Type B(U), Type B(M) or Type C package design shall have the outside of the outermost receptacle which is resistant to the effects of fire and water plainly marked by embossing, stamping or other means resistant to the effects of fire and water with the trefoil symbol shown in the figure below.



Basic trefoil symbol with proportions based on a central circle of radius X. The minimum allowable size of X shall be 4 mm.

- 5.2.1.7.7** Where LSA-I or SCO-I material is contained in receptacles or wrapping materials and is carried under exclusive use as permitted by 4.1.9.2.3, the outer surface of these receptacles or wrapping materials may bear the marking "RADIOACTIVE LSA-I" or "RADIOACTIVE SCO-I", as appropriate.
- 5.2.1.7.8** In case of international carriage of packages requiring competent authority design or shipment approval, for which different approval types apply in the different countries concerned, marking shall be in accordance with the certificate of the country of origin of the design.

<sup>2</sup> Distinguishing sign for motor vehicles in international traffic prescribed in the Vienna Convention on Road Traffic (1968).



**5.2.1.8 Special marking provisions for environmentally hazardous substances**

**5.2.1.8.1** Packages containing environmentally hazardous substances meeting the criteria of 2.2.9.1.10 shall be durably marked with the environmentally hazardous substance mark shown in 5.2.1.8.3, with the exception of single packagings and combination packagings containing inner packagings with:

- contents of 5 l or less for liquids, or
- contents of 5 kg or less for solids.

**5.2.1.8.2** The environmentally hazardous substance mark shall be located adjacent to the markings required by 5.2.1.1. The requirements of 5.2.1.2 and 5.2.1.4 shall be met.

**5.2.1.8.3** The environmentally hazardous substance mark shall be as shown below. The dimensions shall be 100 mm x 100 mm, except in the case of packages of such dimensions that they can only bear smaller marks.



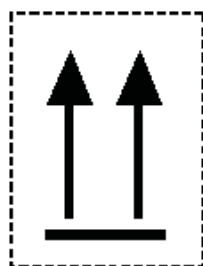
Symbol (fish and tree): black on white or suitable contrasting background

**5.2.1.9 Orientation arrows**

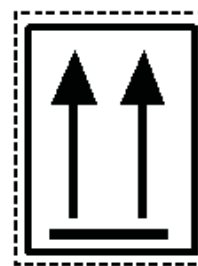
**5.2.1.9.1** Except as provided in 5.2.1.9.2:

- combination packagings having inner packagings containing liquids;
- single packagings fitted with vents; and
- cryogenic receptacles intended for the carriage of refrigerated liquefied gases,

shall be legibly marked with package orientation arrows which are similar to the illustration shown below or with those meeting the specifications of ISO 780:1985. The orientation arrows shall appear on two opposite vertical sides of the package with the arrows pointing in the correct upright direction. They shall be rectangular and of a size that is clearly visible commensurate with the size of the package. Depicting a rectangular border around the arrows is optional.



or



Two black or red arrows on white or suitable contrasting background. The rectangular border is optional.

**5.2.1.9.2** Orientation arrows are not required on packages containing:

- (a) pressure receptacles except for cryogenic receptacles;
- (b) dangerous goods in inner packagings of not more than 120 ml which are prepared with sufficient absorbent material between the inner and outer packagings to completely absorb the liquid contents;
- (c) Class 6.2 infectious substances in primary receptacles of not more than 50 ml;
- (d) Class 7 radioactive material in Type IP-2, Type IP-3, Type A, Type B(U), Type B(M) or Type C packages; or
- (e) articles which are leak-tight in all orientations (e.g. alcohol or mercury in thermometers, aerosols, etc.).

**5.2.1.9.3** Arrows for purposes other than indicating proper package orientation shall not be displayed on a package marked in accordance with this sub-section.

**5.2.2 Labelling of packages**

**NOTE:** For labelling purposes, small containers shall be considered as packages.

**5.2.2.1 Labelling provisions**

**5.2.2.1.1** For each article or substance listed in Table A of Chapter 3.2, the labels shown in Column (5) shall be affixed unless otherwise provided for by a special provision in Column (6).

**5.2.2.1.2** Indelebile danger markings corresponding exactly to the prescribed models may be used instead of labels.

**5.2.2.1.3 -  
5.2.2.1.5** (Reserved)

**5.2.2.1.6** Except as provided in 5.2.2.2.1.2, each label shall:

- (a) be affixed to the same surface of the package, if the dimensions of the package allow; for packages of Class 1 and 7, near the mark indicating the proper shipping name;
- (b) be so placed on the package that it is not covered or obscured by any part or attachment to the packaging or any other label or marking; and
- (c) be displayed next to each other when more than one label is required.

Where a package is of such an irregular shape or small size that a label cannot be satisfactorily affixed, the label may be attached to the package by a securely affixed tag or other suitable means.

**5.2.2.1.7** Intermediate bulk containers of more than 450 litres capacity and large packagings shall be labelled on two opposite sides.

**5.2.2.1.8 Special requirements for the labelling of packages containing explosive substances or articles when carried as a military consignment**

For the carriage of military consignments within the meaning of 1.5.2, as a full wagon load or wagon load it shall not be necessary for packages to bear the danger labels prescribed in column (5) of Table A of Chapter 3.2, provided that the mixed loading requirements prescribed in 7.5.2 are observed on the basis of the information in the transport document, in accordance with 5.4.1.2.1 (f).

**5.2.2.1.9 Special provisions for the labelling of self-reactive substances and organic peroxides**

- (a) The label conforming to model No. 4.1 also implies that the product may be flammable and hence no label conforming to model No. 3 is required. In addition, a label conforming to model No. 1 shall be applied for self-reactive substances Type B, unless the competent authority has permitted this label to be dispensed with for a specific packaging because test data have proven that the self-reactive substance in such a packaging does not exhibit explosive behaviour.
- (b) The label conforming to model No. 5.2 also implies that the product may be flammable and hence no label conforming to model No. 3 is required. In addition, the following labels shall be applied:
  - (i) A label conforming to model No. 1 for organic peroxides type B, unless the competent authority has permitted this label to be dispensed with for a specific packaging because test data have proven that the organic peroxide in such a packaging does not exhibit explosive behaviour;
  - (ii) A label conforming to model No. 8 is required when Packing Group I or II criteria of Class 8 are met.

For self-reactive substances and organic peroxides mentioned by name, the labels to be affixed are indicated in the list found in 2.2.41.4 and 2.2.52.4 respectively.

**5.2.2.1.10 Special provisions for the labelling of infectious substances packages**

In addition to the label conforming to model No. 6.2, infectious substances packages shall bear any other label required by the nature of the contents.

**5.2.2.1.11 Special provisions for the labelling of radioactive material**

**5.2.2.1.11.1** Except when enlarged labels are used in accordance with 5.3.1.1.3, each package, overpack and container containing radioactive material shall bear at least two labels which conform to the models Nos. 7A, 7B, and 7C as appropriate according to the category (see 5.1.5.3.4) of that package, overpack or container. Labels shall be affixed to two opposite sides on the outside of the package or on the outside of all four sides of the container. Each overpack containing radioactive material shall bear at least two labels on opposite sides of the outside of the overpack. In addition, each package, overpack and container containing fissile material, other than fissile material excepted under 6.4.11.2 shall bear labels which conform to model No. 7E; such labels, where applicable shall be affixed adjacent to the labels for radioactive material. Labels shall not cover the markings specified in 5.2.1. Any labels which do not relate to the contents shall be removed or covered.

**5.2.2.1.11.2** Each label conforming to models Nos.7A, 7B, and 7C shall be completed with the following information.

(a) Contents:

(i) except for LSA-I material, the name(s) of the radionuclide(s) as taken from Table 2.2.7.2.1, using the symbols prescribed therein. For mixtures of radionuclides, the most restrictive nuclides shall be listed to the extent the space on the line permits. The group of LSA or SCO shall be shown following the name(s) of the radionuclide(s). The terms "LSA-II", "LSA-III", "SCO-I" and "SCO-II" shall be used for this purpose;

(ii) for LSA-I material, only the term "LSA-I" is necessary; the name of the radionuclide is not necessary;

(b) Activity:

The maximum activity of the radioactive contents during carriage expressed in becquerels (Bq) with the appropriate SI prefix symbol (see 1.2.2.1). For fissile material, the mass of fissile material in grams (g), or multiples thereof, may be used in place of activity;

(c) For overpacks and containers the "contents" and "activity" entries on the label shall bear the information required in (a) and (b) above, respectively, totalled together for the entire contents of the overpack or container except that on labels for overpacks or containers containing mixed loads of packages containing different radionuclides, such entries may read "See transport documents";

(d) Transport index: The number determined in accordance with 5.1.5.3.1 and 5.1.5.3.2 (no transport index entry is required for category I-WHITE).

**5.2.2.1.11.3** Each label conforming to the model No. 7E shall be completed with the criticality safety index (CSI) as stated in the certificate of approval for special arrangement or the certificate of approval for the package design issued by the competent authority.

**5.2.2.1.11.4** For overpacks and containers, the criticality safety index (CSI) on the label shall bear the information required in 5.2.2.1.11.3 totalled together for the fissile contents of the overpack or container.

**5.2.2.1.11.5** In case of international carriage of packages requiring competent authority design or shipment approval, for which different approval types apply in the different countries concerned, labelling shall be in accordance with the certificate of the country of origin of design.

## **5.2.2.2 Provisions for labels**

**5.2.2.2.1** Labels shall satisfy the provisions below and conform, in terms of colour, symbols and general format, to the models shown in 5.2.2.2.2. Corresponding models required for other modes of transport, with minor variations which do not affect the obvious meaning of the label, are also acceptable.

**NOTE:** Where appropriate, labels in 5.2.2.2.2 are shown with a dotted outer boundary as provided for in 5.2.2.2.1.1. This is not required when the label is applied on a background of contrasting colour.

**5.2.2.2.1.1** Labels shall be in the form of a square set at an angle of 45° (diamond-shaped) with minimum dimensions of 100 mm by 100 mm. They shall have a line 5 mm inside the edge and running parallel with it. In the upper half of a label the line shall have the same colour as the symbol and in the lower half it shall have the same colour as the figure in the bottom corner. Labels shall be displayed on a background of contrasting colour, or shall have either a dotted or solid outer boundary line. If the size of the package so requires, the dimensions of the labels may be reduced, provided that they remain clearly visible.

**5.2.2.2.1.2** Cylinders for Class 2 may, on account of their shape, orientation and securing mechanisms for carriage, bear labels representative of those specified in this section, which have been reduced in size, according to the dimensions outlined in ISO 7225:2005, "Gas cylinders – Precautionary labels", for display on the non-cylindrical part (shoulder) of such cylinders.

Notwithstanding the provisions of 5.2.2.1.6, labels may overlap to the extent provided for by ISO 7225:2005. However, in all cases, the primary risk label and the figures appearing on any label shall remain fully visible and the symbols recognizable.

Empty uncleaned pressure receptacles for gases of Class 2 may be carried with obsolete or damaged labels for the purposes of refilling or inspection as appropriate and the application of a new label in conformity with current regulations or for the disposal of the pressure receptacle.

**5.2.2.2.1.3** With the exception of labels for Divisions 1.4, 1.5 and 1.6 of Class 1, the upper half of the label shall contain the pictorial symbol and the lower half shall contain:

(a) For Classes 1, 2, 3, 5.1, 5.2, 7, 8 and 9, the class number;

(b) For Classes 4.1, 4.2 and 4.3, the figure "4";

(c) For Classes 6.1 and 6.2, the figure "6".

The labels may include text such as the UN number or words describing the hazard (e.g. "flammable") in accordance with 5.2.2.2.1.5 provided the text does not obscure or detract from the other required label elements.

- 5.2.2.2.1.4** In addition, except for Divisions 1.4, 1.5 and 1.6, labels for Class 1 shall show in the lower half, above the class number, the division number and the compatibility group letter for the substance or article. Labels for Divisions 1.4, 1.5 and 1.6 shall show in the upper half the division number, and in the lower half the class number and the compatibility group letter.
- 5.2.2.2.1.5** On labels other than those for material of Class 7, the optional insertion of any text (other than the class number) in the space below the symbol shall be confined to particulars indicating the nature of the risk and precautions to be taken in handling.
- 5.2.2.2.1.6** The symbols, text and numbers shall be clearly legible and indelible and shall be shown in black on all labels except for:
- (a) the Class 8 label, where the text (if any) and class number shall appear in white;
  - (b) labels with entirely green, red or blue backgrounds where they may be shown in white;
  - (c) the Class 5.2 label, where the symbol may be shown in white; and
  - (d) labels conforming to model No. 2.1 displayed on cylinders and gas cartridges for gases UN Nos. 1011, 1075, 1965 and 1978, where they may be shown in the background colour of the receptacle if adequate contrast is provided.
- 5.2.2.2.1.7** All labels shall be able to withstand open weather exposure without a substantial reduction in effectiveness.

## 5.2.2.2.2 Specimen labels

## Class 1 hazard

## Explosive substances or articles



(No. 1)

Divisions 1.1, 1.2 and 1.3

Symbol (exploding bomb): black;  
Background: orange; Figure "1" in  
bottom corner

(No. 1.4)

Division 1.4



(No. 1.5)

Division 1.5



(No. 1.6)

Division 1.6

Background: orange; Figures: black; Numerals shall be about 30 mm in height and be about 5 mm thick (for a label measuring 100 mm x 100 mm); Figure "1" in bottom corner

\*\* Place for division – to be left blank if explosive is the subsidiary risk

\* Place for compatibility group – to be left blank if explosive is the subsidiary risk

## Class 2 hazard

## Gases



(No. 2.1)

Flammable gases

Symbol (flame): black or white (except as provided  
for in 5.2.2.2.1.6 (d)); Background: red; Figure "2" in  
bottom corner

(No. 2.2)

Non flammable, non-toxic gases

Symbol (gas cylinder): black or white;  
Background: green; Figure "2" in bottom corner



(No. 2.3)  
Toxic gases  
Symbol (skull and crossbones): black;

Background: white; Figure "2" in bottom corner

**Class 3 hazard  
Flammable liquids**



(No. 3)  
Symbol (flame): black or white; Background: red; Figure  
"3" in bottom corner

**Class 4.1 hazard  
Flammable solids, self-  
reactive substances  
and desensitized ex-  
plosives**



(No. 4.1)  
Symbol (flame): black;  
Background: white with  
seven vertical red  
stripes; Figure "4" in bot-  
tom corner

**Class 4.2 hazard  
Substances liable to  
spontaneous combus-  
tion**



(No. 4.2)  
Symbol (flame): black;  
Background: upper half  
white, lower half red;  
Figure "4" in bottom cor-  
ner

**Class 4.3 hazard  
Substances which, in contact with water, emit  
flammable gases**



(No. 4.3)  
Symbol (flame): black or white; Background: blue;  
Figure "4" in bottom corner

**Class 5.1 hazard  
Oxidizing substances**



(Nr. 5.1)  
Symbol (flame over circle): black;  
Background: yellow;  
Figure "5.1" in bottom corner

**Class 5.2 hazard  
Organic peroxides**



(Nr. 5.2)  
Symbol (flame): black or white; Background: upper half red;  
lower half yellow;  
Figure "5.2" in bottom corner

**Class 6.1 hazard  
Toxic substances**



(No. 6.1)

Symbol (skull and crossbones): black;  
Background: white; Figure "6" in bottom corner

**Class 6.2 hazard  
Infectious substances**



(No. 6.2)

The lower half of the label may bear the inscriptions:  
"INFECTIOUS SUBSTANCE" and "IN THE CASE  
OF DAMAGE OR LEAKAGE IMMEDIATELY NO-  
TIFY PUBLIC HEALTH AUTHORITY"; Symbol  
(three crescents superimposed on a circle) and in-  
scriptions: black; Background: white; Figure "6" in  
bottom corner

**Class 7 hazard  
Radioactive material**



(No. 7A)

Category I – WHITE  
Symbol (trefoil): black; Back-  
ground: white; Text (mandatory):  
black in lower half of label:  
"RADIOACTIVE"  
"CONTENTS ..."  
"ACTIVITY ...";  
One red bar shall follow the word  
"RADIOACTIVE"; Figure "7" in  
bottom corner



(No. 7B)

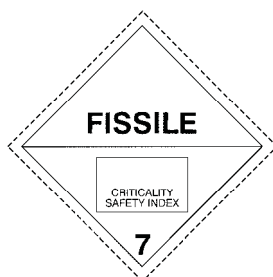
Category II - YELLOW  
Symbol (trefoil): black; Background: upper half yellow with white border,  
lower half white; Text (mandatory): black in lower half of label:  
"RADIOACTIVE"  
"CONTENTS ..."  
"ACTIVITY ...";

In a black outlined box: "TRANSPORT INDEX"  
Two red vertical bars shall follow the word "RADIOACTIVE";  
Three red vertical bars shall follow the word "RADIOACTIVE";  
Figure "7" in bottom corner



(No. 7C)

Category III – YELLOW



(No. 7E)

Class 7 fissile material

Background: white; Text (mandatory): black in upper half of label: "FISSILE";

In a black outlined box in the lower half of the label: "CRITICALITY SAFETY INDEX"; Figure "7" in bottom corner

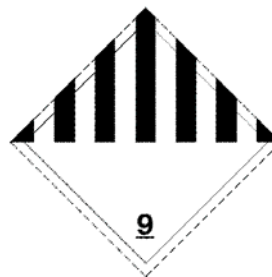
**Class 8 hazard**  
**Corrosive substances**



(No. 8)

Symbol (liquids, spilling from two glass vessels and attacking a hand and a metal): black; Background: upper half white; lower half black with white border; Figure "8" in bottom corner

**Class 9 hazard**  
**Miscellaneous dangerous substances and articles**



(No. 9)

Symbol (seven vertical stripes in upper half): black; Background: white; Figure "9" underlined in bottom corner



## Chapter 5.3

### Placarding and marking

**NOTE:** For placarding and marking of containers, MEGCs, tank-containers and portable tanks for carriage in a transport chain including a maritime journey, see also 1.1.4.2.1.

#### 5.3.1 Placarding

##### 5.3.1.1 General provisions

**5.3.1.1.1** As and when required in this section, placards shall be affixed to the exterior surface of large containers, MEGCs, tank-containers, portable tanks and wagons. Placards shall correspond to the labels required in Column (5) and, where appropriate, Column (6) of Table A of Chapter 3.2 for the dangerous goods contained in the large container, MEGC, tank-container, portable tank or wagon and shall conform to the specifications given in 5.3.1.7. Placards shall be displayed on a background of contrasting colour, or shall have either a dotted or solid outer boundary line.

**NOTE:** For shunting model labels Nos. 13 and 15, see 5.3.4.

**5.3.1.1.2** For Class 1, compatibility groups shall not be indicated on placards if the wagon or large container is carrying substances or articles belonging to two or more compatibility groups. Wagons or large containers carrying substances or articles of different divisions shall bear only placards conforming to the model of the most dangerous division in the order:

1.1 (most dangerous), 1.5, 1.2, 1.3, 1.6, 1.4 (least dangerous).

When 1.5 D substances are carried with substances or articles of Division 1.2, the wagon or large container shall be placarded as Division 1.1.

Placards are not required for the carriage of explosives of Division 1.4, compatibility group S.

Wagons and large containers in which packages are loaded to be carried as military consignments, within the meaning of 1.5.2, and which in conformity with 5.2.2.1.8 do not bear danger labels, shall, in the case of wagons, bear on both sides and, in the case of large containers, bear on all four sides, the placards in accordance with column (5) of Table A of Chapter 3.2.

**5.3.1.1.3** For Class 7, the primary risk placard shall conform to model No. 7D as specified in 5.3.1.7.2. This placard is not required for wagons or large containers carrying excepted packages.

Where both Class 7 labels and placards would be required to be affixed to wagons, large containers, MEGCs, tank-containers or portable tanks, an enlarged label corresponding to the label required may be displayed instead of placard No.7D to serve both purposes.

**5.3.1.1.4** Large containers, MEGCs, tank-containers, portable tanks or wagons containing goods of more than one class need not bear a subsidiary risk placard if the hazard represented by that placard is already indicated by a primary or subsidiary risk placard.

**5.3.1.1.5** Placards which do not relate to the dangerous goods being carried, or residues thereof, shall be removed or covered.

**5.3.1.1.6** When the placarding is affixed to folding panels, they shall be designed and secured so that they cannot unfold or come loose from the holder during carriage (especially as a result of impacts or unintentional actions).

##### 5.3.1.2 Placarding of large containers, MEGCs, tank-containers and portable tanks

The placards shall be affixed to both sides and at each end of the large container, MEGC, tank-container or portable tank.

When the tank-container or portable tank has multiple compartments and carries two or more dangerous goods, the appropriate placards shall be displayed along each side at the position of the relevant compartments and one placard of each model shown on each side at both ends.

##### 5.3.1.3 Placarding of wagons carrying large containers, MEGCs, tank-containers or portable tanks and of wagons used for piggyback transport

**5.3.1.3.1** If the placards affixed to the large containers, MEGCs, tank-containers or portable tanks are not visible from outside the carrying wagons, the same placards shall also be affixed to both sides of the wagon. Otherwise, no placard need be affixed on the carrying wagon.

**5.3.1.3.2** Carrying wagons used in piggyback transport shall bear the placards on both sides.

The placarding of carrying wagons used in piggyback transport is not necessary

- (a) where use is made of the "rolling road" system (loading of lorries with or without trailer and of semi-trailers with tractor on wagons used for this system of transport);
- (b) for other carriage of road tank vehicles and road vehicles carrying dangerous goods in bulk;
- (c) for other carriage of road vehicles carrying packages when these vehicles visibly bear placards corresponding to the packages being carried.

**5.3.1.4 Placarding of wagons for carriage in bulk, tank-wagons, battery-wagons and wagons with demountable tanks**

Placards shall be affixed to both sides.

When the tank-wagon or the demountable tank carried on the wagon has multiple compartments and carries two or more dangerous goods, the appropriate placards shall be displayed along each side at the position of the relevant compartments. However, in such case, if all compartments have to bear the same placards, these placards need be displayed only once along each side.

Where more than one placard is required for the same compartment, these placards shall be displayed adjacent to each other.

**5.3.1.5 Placarding of wagons carrying packages only**

Placards shall be affixed to both sides.

**5.3.1.6 Placarding of empty tank-wagons, battery-wagons, MEGCs, tank-containers, portable tanks and empty wagons and large containers for carriage in bulk**

Empty tank-wagons, wagons with demountable tanks, battery-wagons, MEGCs, tank-containers and portable tanks uncleaned and not degassed or decontaminated, and empty wagons and large containers for carriage in bulk, uncleaned or not decontaminated, shall continue to display the placards required for the previous load.

**5.3.1.7 Specifications for placards**

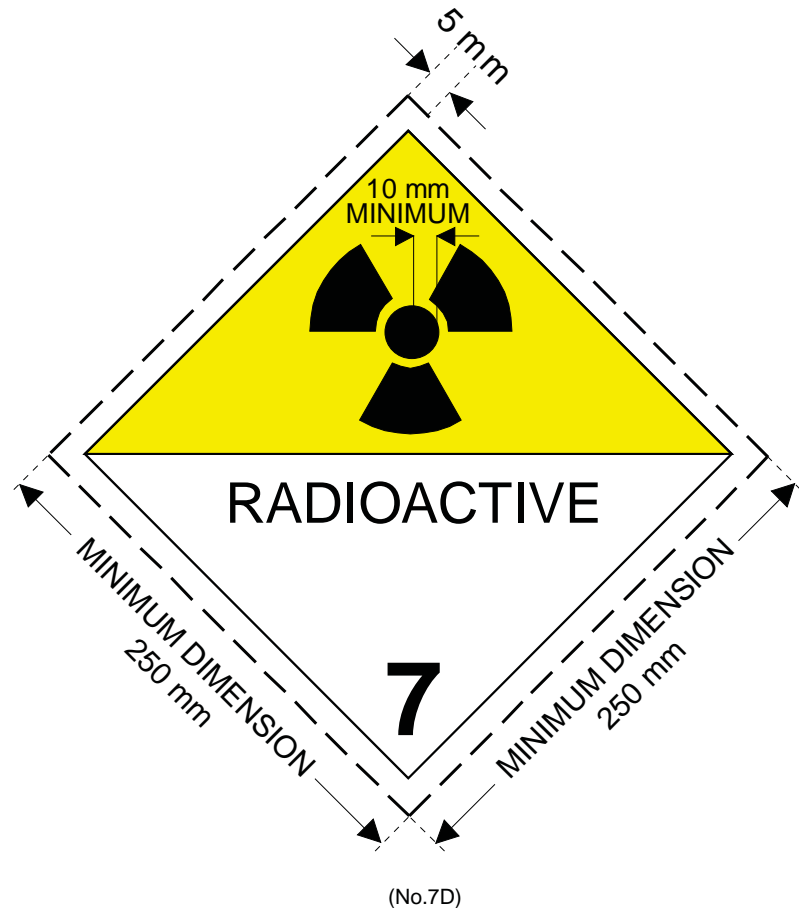
**5.3.1.7.1** Except as provided in 5.3.1.7.2 for the Class 7 placard, a placard shall:

- (a) Be not less than 250 mm by 250 mm and have a line 12.5 mm inside the edge and running parallel with it. In the upper half the line shall have the same colour as the symbol and in the lower half it shall have the same colour as the figure in the bottom corner;
- (b) Correspond to the label required for the dangerous goods in question with respect to colour and symbol (see 5.2.2.2); and
- (c) Display the numbers (and for goods of Class 1, the compatibility group letter) prescribed for the dangerous goods in question in 5.2.2.2 for the corresponding label, in digits not less than 25 mm high.

The requirements of 5.2.2.1.2 shall also apply.

**5.3.1.7.2** The Class 7 placard shall be not less than 250 mm by 250 mm with a black line running 5 mm inside the edge and parallel with it and is otherwise as shown below (Model No. 7D). The number "7" shall not be less than 25 mm high. The background colour of the upper half of the placard shall be yellow and of the lower half white, the colour of the trefoil and the printing shall be black. The use of the word "RADIOACTIVE" in the bottom half is optional to allow the use of this placard to display the appropriate UN number for the consignment.

## Placard for radioactive material of Class 7



Symbol (trefoil): black; Background: upper half yellow with white border, lower half white;

The lower half shall show the word "RADIOACTIVE" or alternatively, when required, the appropriate UN Number (see 5.3.2.1.2) and the figure "7" in the bottom corner.

**5.3.1.7.3** For tank-containers with a capacity of not more than 3 m<sup>3</sup>, placards may be replaced by labels conforming to 5.2.2.2.

**5.3.1.7.4** The dimensions of the placards to be affixed to wagons may be reduced to 150 mm x 150 mm. In this case, the other dimensions prescribed for the trefoil, lines, figures and letters do not apply.

## **5.3.2 Orange-coloured plate marking**

### **5.3.2.1 General orange-coloured plate marking provisions**

**5.3.2.1.1** A rectangular, orange-coloured plate conforming to 5.3.2.2.1, and so as to be clearly visible, shall be affixed on each side of a

- tank-wagon,
- battery-wagon,
- wagon with demountable tanks,
- tank-container,
- MEGC,
- portable tank,
- wagon for carriage in bulk,
- small or large container for carriage in bulk,

- wagons and containers carrying packaged radioactive material with a single UN number under exclusive use and no other dangerous goods

used for the carriage of goods for which a hazard identification number is given in column (20) of Table A of Chapter 3.2.

This plate may also be affixed on both sides of wagon loads made up of packages containing one and the same substance.

- 5.3.2.1.2** These orange-coloured plates shall bear the hazard identification number and the UN number, in accordance with 5.3.2.2.2, prescribed respectively in columns (20) and (1) of Table A of Chapter 3.2 for the substance carried.

When a number of different substances are carried in a tank-wagon, battery-wagon, wagon with demountable tank, tank-container, MEGC or portable tank in separate tanks or separate compartments of the same tank, the consignor shall affix the orange-coloured plate as required in 5.3.2.1.1, bearing the appropriate numbers, on each side of the tanks or tank compartments, parallel to the longitudinal axis of the wagon, tank-container or portable tank and so as to be clearly visible.

- 5.3.2.1.3** (Reserved)

- 5.3.2.1.4** (Reserved)

- 5.3.2.1.5** If the orange-coloured plates prescribed in 5.3.2.1.1 affixed to the containers, tank-containers, MEGCs or portable tanks are not clearly visible from outside the carrying wagon, the same plates shall also be affixed to both sides of the wagon.

**NOTE:** This paragraph need not be applied to the marking with orange coloured plates of closed and sheeted wagons, carrying tanks with a maximum capacity of 3 000 litres.

- 5.3.2.1.6** For road vehicles carried with the orange-coloured plates prescribed in ADR, it shall not be necessary to affix the orange-coloured plates to carrying wagons used for piggyback transport. This does not apply when the tank-vehicles or transport units are marked in accordance with 5.3.2.1.3 or 5.3.2.1.6 of ADR.

- 5.3.2.1.7** The requirements of 5.3.2.1.1 to 5.3.2.1.5 are also applicable to empty

- tank-wagons,
- battery-wagons,
- wagons with demountable tanks,
- tank-containers,
- portable tanks and
- MEGCs,

uncleaned, not degassed or not decontaminated,

as well as to empty wagons, large containers and small containers for carriage in bulk, uncleaned or not decontaminated.

- 5.3.2.1.8** Orange-coloured plates which do not relate to dangerous goods carried, or residues thereof, shall be removed or covered. If plates are covered, the covering shall be total and remain effective after 15 minutes' engulfment in fire.

## **5.3.2.2 Specifications for the orange-coloured plates**

- 5.3.2.2.1** The orange-coloured plates may be reflectorized and shall be of 40 cm base and of 30 cm high; they shall have a black border of 15 mm wide. The material used shall be weather-resistant and ensure durable marking. The plate shall not become detached from its mount in the event of 15 minutes' engulfment in fire. **It shall remain affixed irrespective of the orientation of the wagon.**

The plates prescribed in 5.3.2.1.2 and 5.3.2.1.5 may be replaced by a self-adhesive sheet, by paint or by any other equivalent process. This alternative marking shall conform to the specifications set in this subsection except for the provisions concerning resistance to fire mentioned in 5.3.2.2.1 and 5.3.2.2.2.

**NOTE:** The colour of the orange plates in conditions of normal use should have chromaticity co-ordinates lying within the area on the chromaticity diagram formed by joining the following co-ordinates

Chromaticity co-ordinates of points at the corners of the area on the chromaticity diagram				
x	0,52	0,52	0,578	0,618
y	0,38	0,40	0,422	0,38

Luminance factor of non-reflectorized colour:  $\beta \geq 0.22$ , of reflectorized colour:  $\beta > 0.12$ .

Reference centre E, standard illuminant C, normal incidence 45°, viewed at 0°.

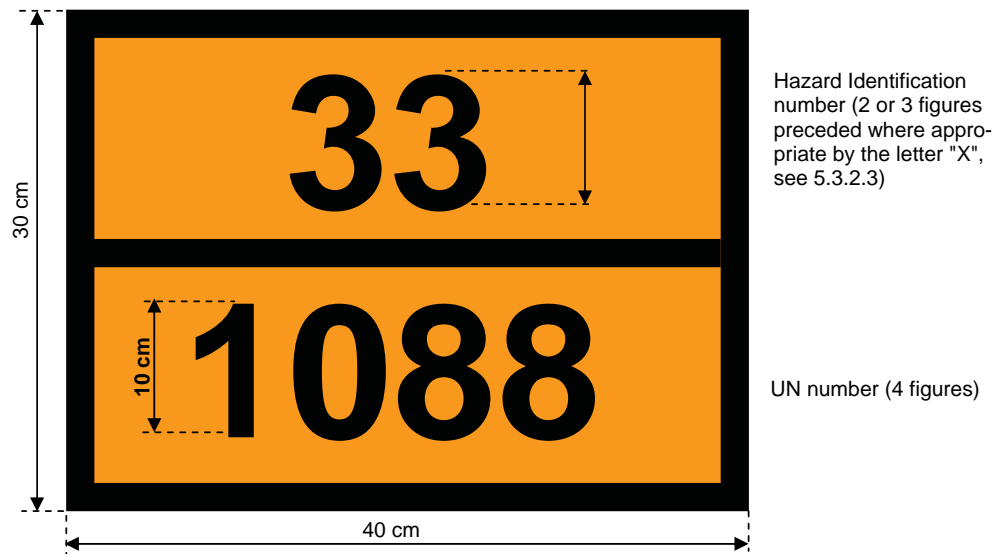
Co-efficient of reflex luminous intensity at an angle of illumination of 5°, viewed at 0.2°: not less than 20 candelas per lux per m<sup>2</sup>.

- 5.3.2.2.2** The hazard identification number and the UN number shall consist of black digits 100 mm high and of 15 mm stroke thickness. The hazard-identification number shall be inscribed in the upper part of the plate and the UN number in the lower part; they shall be separated by a horizontal black line, 15 mm in stroke width, extending from side to side of the plate at mid-height (see 5.3.2.2.3).

The hazard identification number and the UN number shall be indelible and shall remain legible after 15 minutes' engulfment in fire.

Interchangeable numbers and letters on plates presenting the hazard identification number and the UN number shall remain in place during carriage and irrespective of the orientation of the wagon.

- 5.3.2.2.3** Example of orange-coloured plate with hazard identification number and UN number



Background orange.

Border, horizontal line and figures black, 15 mm thickness.

- 5.3.2.2.4** The permitted tolerances for dimensions specified in this sub-section are  $\pm 10\%$ .

- 5.3.2.2.5** When the orange-coloured plate or the alternative marking referred to in 5.3.2.2.1 is affixed to folding panels, they shall be designed and secured so that they cannot unfold or come loose from the holder during carriage (especially as a result of impacts or unintentional actions).

### 5.3.2.3 Meaning of hazard identification numbers

- 5.3.2.3.1** For substances of classes 2 to 9 the hazard identification number consists of two or three figures.

In general, the figures indicate the following hazards:

- 2 Emission of gas due to pressure or to chemical reaction
- 3 Flammability of liquids (vapours) and gases or self-heating liquid
- 4 Flammability of solids or self-heating solid
- 5 Oxidizing (fire-intensifying) effect
- 6 Toxicity or risk of infection
- 7 Radioactivity
- 8 Corrosivity
- 9 Risk of spontaneous violent reaction

**NOTE:** The risk of spontaneous violent reaction within the meaning of figure 9 include the possibility following from the nature of a substance of a risk of explosion, disintegration and polymerization reaction following the release of considerable heat or flammable and/or toxic gases.

Doubling of a figure indicates an intensification of that particular hazard.

Where the hazard associated with a substance can be adequately indicated by a single figure, this is followed by zero.

The following combinations of figures, however, have a special meaning: 22, 323, 333, 362, 382, 423, 44, 446, 462, 482, 539, 606, 623, 642, 823, 842, 90 and 99, see 5.3.2.3.2 below.

If a hazard identification number is prefixed by the letter "X", this indicates that the substance will react dangerously with water. For such substances, water may only be used by approval of experts.

For substances and articles of Class 1, the classification code in accordance with column (3b) of Table A of Chapter 3.2 shall be used as the hazard identification number. The classification code consists of:

- the division number in accordance with 2.2.1.1.5 and
- the compatibility group letter in accordance with 2.2.1.1.6.

**5.3.2.3.2** The hazard identification numbers listed in Column (20) of table A of Chapter 3.2 have the following meanings:

20	Asphyxiant gas or gas with no subsidiary risk
22	Refrigerated liquefied gas, asphyxiant
223	Refrigerated liquefied gas, flammable
225	Refrigerated liquefied gas, oxidizing (fire-intensifying)
23	Flammable gas
238	Gas, flammable corrosive
239	Flammable gas, which can spontaneously lead to violent reaction
25	Oxidizing (fire-intensifying) gas
26	Toxic gas
263	Toxic gas, flammable
265	Toxic gas, oxidizing (fire-intensifying)
268	Toxic gas, corrosive
28	Gas, corrosive
285	Gas, corrosive, oxidizing
30	<ul style="list-style-type: none"> <li>– Flammable liquid (flash-point between 23 °C and 60 °C, inclusive) or</li> <li>– Flammable liquid or solid in the molten state with a flash-point above 60 °C, heated to a temperature equal to or above its flash-point, or</li> <li>– Self-heating liquid</li> </ul>
323	Flammable liquid which reacts with water, emitting flammable gases
X323	Flammable liquid which reacts dangerously with water, emitting flammable gases <sup>3</sup>
33	Highly flammable liquid (flash-point below 23 °C)
333	Pyrophoric liquid
X333	Pyrophoric liquid which reacts dangerously with water <sup>3</sup>
336	Highly flammable liquid, toxic
338	Highly flammable liquid, corrosive
X338	Highly flammable liquid, corrosive, which reacts dangerously with water <sup>3</sup>
339	Highly flammable liquid which can spontaneously lead to violent reaction
36	Flammable liquid (flash-point between 23 °C and 60 °C, inclusive), slightly toxic, or self-heating liquid, toxic
362	Flammable liquid, toxic, which reacts with water, emitting flammable gases
X362	Flammable liquid toxic, which reacts dangerously with water, emitting flammable gases <sup>3</sup>
368	Flammable liquid, toxic, corrosive
38	Flammable liquid (flash-point between 23 °C and 60 °C, inclusive), slightly corrosive or self-heating liquid, corrosive
382	Flammable liquid, corrosive, which reacts with water, emitting flammable gases
X382	Flammable liquid, corrosive, which reacts dangerously with water, emitting flammable gases <sup>3</sup>
39	Flammable liquid, which can spontaneously lead to violent reaction
40	Flammable solid, or self-reactive substance, or self-heating substance
423	Solid which reacts with water, emitting flammable gases, or flammable solid which reacts with water, emitting flammable gases, or self-heating solid which reacts with water, emitting flammable gases
X423	Solid which reacts dangerously with water, emitting flammable gases <sup>3</sup> , or flammable solid which reacts dangerously with water, emitting flammable gases <sup>3</sup> , or self-heating solid which reacts dangerously with water, emitting flammable gases <sup>3</sup>
43	Spontaneously flammable (pyrophoric) solid
X432	Spontaneously flammable (pyrophoric) solid which reacts dangerously with water, emitting flammable gases <sup>3</sup>
44	Flammable solid, in the molten state at an elevated temperature

<sup>3</sup> Water not to be used except by approval of experts.

- 446 Flammable solid, toxic, in the molten state, at an elevated temperature  
46 Flammable or self-heating solid, toxic  
462 Toxic solid which reacts with water, emitting flammable gases  
X462 Solid which reacts dangerously with water, emitting toxic gases<sup>3</sup>  
48 Flammable or self-heating solid, corrosive  
482 Corrosive solid which reacts with water, emitting flammable gases  
X482 Solid which reacts dangerously with water, emitting corrosive gases<sup>3</sup>
- 50 Oxidizing (fire-intensifying) substance  
539 Flammable organic peroxide  
55 Strongly oxidizing (fire-intensifying) substance  
556 Strongly oxidizing (fire-intensifying) substance, toxic  
558 Strongly oxidizing (fire-intensifying) substance, corrosive  
559 Strongly oxidizing (fire-intensifying) substance, which can spontaneously lead to violent reaction  
56 Oxidizing substance (fire-intensifying), toxic  
568 Oxidizing substance (fire-intensifying), toxic, corrosive  
58 Oxidizing substance (fire-intensifying), corrosive  
59 Oxidizing substance (fire-intensifying) which can spontaneously lead to violent reaction
- 60 Toxic or slightly toxic substance  
606 Infectious substance  
623 Toxic liquid, which reacts with water, emitting flammable gases  
63 Toxic substance, flammable (flash-point between 23 °C and 60 °C, inclusive)  
638 Toxic substance, flammable (flash-point between 23 °C and 60 °C, inclusive), corrosive  
639 Toxic substance, flammable (flash-point not above 60 °C) which can spontaneously lead to violent reaction  
64 Toxic solid, flammable or self-heating  
642 Toxic solid, which reacts with water, emitting flammable gases  
65 Toxic substance, oxidizing (fire-intensifying)  
66 Highly toxic substance  
663 Highly toxic substance, flammable (flash-point not above 60 °C)  
664 Highly toxic solid, flammable or self-heating  
665 Highly toxic substance, oxidizing (fire-intensifying)  
668 Highly toxic substance, corrosive  
669 Highly toxic substance which can spontaneously lead to violent reaction  
68 Toxic substance, corrosive  
69 Toxic or slightly toxic substance, which can spontaneously lead to violent reaction
- 70 Radioactive material  
78 Radioactive material, corrosive
- 80 Corrosive or slightly corrosive substance  
X80 Corrosive or slightly corrosive substance, which reacts dangerously with water<sup>3</sup>  
823 Corrosive liquid which reacts with water, emitting flammable gases  
83 Corrosive or slightly corrosive substance, flammable (flash-point between 23 °C and 60 °C, inclusive)  
X83 Corrosive or slightly corrosive substance, flammable (flash-point between 23 °C and 60 °C, inclusive), which reacts dangerously with water<sup>3</sup>  
839 Corrosive or slightly corrosive substance, flammable (flash-point between 23 °C and 60 °C inclusive) which can spontaneously lead to violent reaction  
X839 Corrosive or slightly corrosive substance, flammable (flash-point between 23 °C and 60 °C inclusive), which can spontaneously lead to violent reaction and which reacts dangerously with water<sup>3</sup>  
84 Corrosive solid, flammable or self-heating  
842 Corrosive solid which reacts with water, emitting flammable gases  
85 Corrosive or slightly corrosive substance, oxidizing (fire-intensifying)  
856 Corrosive or slightly corrosive substance, oxidizing (fire-intensifying) and toxic  
86 Corrosive or slightly corrosive substance, toxic  
88 Highly corrosive substance  
X88 Highly corrosive substance, which reacts dangerously with water<sup>3</sup>  
883 Highly corrosive substance, flammable (flash-point between 23 °C and 60 °C inclusive)  
884 Highly corrosive solid, flammable or self-heating  
885 Highly corrosive substance, oxidizing (fire-intensifying)  
886 Highly corrosive substance, toxic  
X886 Highly corrosive substance, toxic, which reacts dangerously with water<sup>3</sup>  
89 Corrosive or slightly corrosive substance, which can spontaneously lead to violent reaction
- 90 Environmentally hazardous substance; miscellaneous dangerous substances  
99 Miscellaneous dangerous substance carried at an elevated temperature.

### 5.3.3 Mark for elevated temperature substances

Tank-wagons, tank-containers, portable tanks, special wagons or large containers or especially equipped wagons or large containers for which a mark for elevated temperature substances is required according to special provision 580 in Column (6) of Table A of Chapter 3.2 shall bear on both sides for wagons, and on both sides and at each end for large containers, tank-containers and portable tanks, a triangular shaped mark with sides of at least 250 mm, to be shown in red, as reproduced below.



### 5.3.4 Shunting labels conforming to Models 13 and 15

#### 5.3.4.1 General provisions

The general provisions of 5.3.1.1.1 and 5.3.1.1.5 and of 5.3.1.3 to 5.3.1.6 shall also apply to the shunting labels conforming to models Nos. 13 and 15.

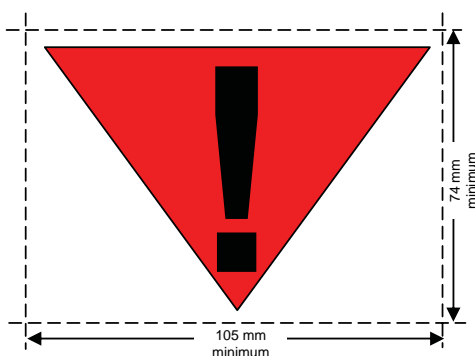
Instead of the shunting labels, indelible marking corresponding exactly to the prescribed models may be affixed. This may simply consist of the red triangle with a black exclamation mark (at least 100 mm base by 70 mm height).

#### 5.3.4.2 Description of shunting labels conforming to Models 13 and 15

The shunting labels conforming to Models 13 and 15 shall have the shape of a rectangle not smaller than A7 format (74 mm x 105 mm).

No. 13

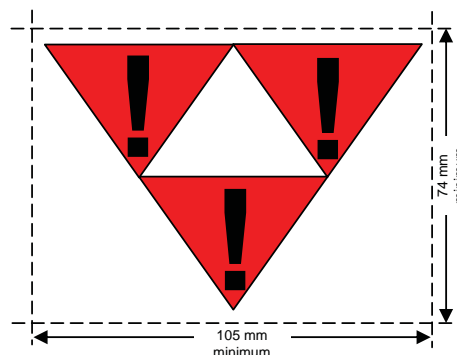
Shunt with care



red triangle with an exclamation mark in black on white background

No. 15

Loose shunting or hump shunting forbidden. Shall be accompanied by a motive power unit. Shall not bump, or be bumped by, other wagons.



three triangles, red, with black exclamation mark



**5.3.5 Orange band**

Tank wagons intended for the carriage of liquefied, refrigerated liquefied or dissolved gases shall be marked with an unbroken, orange<sup>4</sup>, non-reflectorized band, about 30cm wide, encircling the shell at mid-height.

**5.3.6 Environmentally hazardous substance mark**

When a placard is required to be displayed in accordance with the provisions of 5.3.1, large containers, MEGCs, tank-containers, portable tanks and wagons containing environmentally hazardous substances meeting the criteria of 2.2.9.1.10 shall be marked with the environmentally hazardous substance mark shown in 5.2.1.8.3. The provisions of section 5.3.1 concerning placards shall apply mutatis mutandis to the mark.

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<sup>4</sup> See 5.3.2.2.1 NOTE.

## Chapter 5.4

### Documentation

**5.4.0** Any carriage of goods governed by RID shall be accompanied by the documentation prescribed in this Chapter, as appropriate, unless exempted under 1.1.3.1 to 1.1.3.5.

**NOTE:** The use of electronic data processing (EDP) or electronic data interchange (EDI) techniques as an aid to or instead of paper documentation is permitted, provided that the procedures used for the capture, storage and processing of electronics data meet the legal requirements as regards the evidential value and availability of data during transport in a manner at least equivalent to that of paper documentation.

#### **5.4.1 Dangerous goods transport document and related information**

##### **5.4.1.1 General information required in the transport document**

**5.4.1.1.1** Next to the cross to be entered in the appropriate box, the transport document(s) shall contain the following information for each dangerous substance, material or article handed over for carriage,

- (a) the UN number preceded by the letters "UN";
- (b) the proper shipping name supplemented, when applicable (see 3.1.2.8.1) with the technical name in brackets (see 3.1.2.8.1.1), as determined in accordance with 3.1.2;
- (c) – for substances and articles of Class 1: the classification code given in Column (3 b) of Table A in Chapter 3.2.

When, in Column (5) of Table A of Chapter 3.2, label model numbers other than 1, 1.4, 1.5, 1.6, 13 or 15 are given, these label model numbers, in brackets, shall follow the classification code;

- for radioactive material of Class 7: the Class number "7";

**NOTE:** For radioactive material with a subsidiary risk, see also special provision 172 in Chapter 3.3.

- for substances and articles of other classes: the label model numbers, apart from the shunting label conforming to model number 13, given in Column (5) of Table A in Chapter 3.2 or applicable according to a special provision referred to in Column (6). When more than one label model numbers are given, the numbers following the first one shall be given in brackets. For substances and articles for which no label model is given in Column (5) of Table A in Chapter 3.2, their class according to Column (3a) shall be given instead;

- (d) where assigned, the packing group for the substance which may be preceded by the letters "PG" (e.g. "PG II"), or the initials corresponding to the words "Packing Group" in the languages used according to 5.4.1.4.1;

**NOTE:** For radioactive material of Class 7 with subsidiary risks, see special provision 172 (b) in Chapter 3.3.

- (e) the number and a description of the packages when applicable (see also CIM Article 7 § 1 (h) and (i)); UN packaging codes may only be used to supplement the description of the kind of package (e.g. one box (4G));
- (f) the total quantity of each type of dangerous goods bearing a different UN number, proper shipping name or packing group (as a volume or as a gross mass, or as a net mass as appropriate);

##### **NOTE 1: (Reserved)**

**2:** For dangerous goods in machinery or equipment specified in RID, the quantity indicated shall be the total quantity of dangerous goods contained therein in kilograms or litres as appropriate.

- (g) the name and address of the consignor (see also CIM Article 7 § 1 (b));
- (h) the name and address of the consignee(s) (see also CIM Article 7 § 1 (g));
- (i) a declaration as required by the terms of any special agreement;
- (j) when a marking in accordance with 5.3.2.1 is prescribed, the hazard identification number shall also be inscribed before the UN number. The hazard identification number shall also be shown where full wagon loads made up of packages containing one and the same substance are marked in accordance with 5.3.2.1.

The location and order in which the elements of information required appear in the transport document is left optional, except that (a), (b), (c) and (d) shall be shown in the order listed above (i.e. (a), (b), (c), (d)) with no information interspersed, except as provided in RID.

Examples of such permitted dangerous goods descriptions are:

"UN 1098 ALLYL ALCOHOL, 6.1 (3), I" or

"UN 1098 ALLYL ALCOHOL, 6.1 (3), PG I"

When a marking in accordance with 5.3.2.1 is required, (a), (b), (c), (d), and (j) shall be shown in the sequence (j), (a), (b), (c), (d) with no information interspersed, except as provided in RID.

Examples of such permitted dangerous goods descriptions taking account of the marking in accordance with 5.3.2.1 are:

"663, UN 1098 ALLYL ALCOHOL, 6.1(3), I" or

"663, UN 1098 ALLYL ALCOHOL, 6.1(3), PG I".

**5.4.1.1.2** The information required on a transport document shall be legible.

Although upper case is used in Chapter 3.1 and in Table A in Chapter 3.2 to indicate the elements which shall be part of the proper shipping name, and although upper and lower case are used in this Chapter to indicate the information required in the transport document, the use of upper or of lower case for entering the information in the transport document is left optional.

**5.4.1.1.3 Special provisions for wastes**

If waste containing dangerous goods (other than radioactive wastes) is being carried, the UN number and the proper shipping name shall be preceded by the word "WASTE", unless this term is part of the proper shipping name, e.g.

- "WASTE, UN 1230 METHANOL, 3 (6.1), II" or
- "WASTE, UN 1230 METHANOL, 3 (6.1), PG II" or
- "WASTE, UN 1993 FLAMMABLE LIQUID, N.O.S. (toluene and ethyl alcohol), 3, II" or
- "WASTE, UN 1993 FLAMMABLE LIQUID, N.O.S. (toluene and ethyl alcohol), 3, PG II".

If a marking in accordance with 5.3.2.1 is prescribed, the hazard identification number in accordance with 5.4.1.1.1 (j) shall be preceded by the word "WASTE", e.g.

- "WASTE, 33, UN 1993 FLAMMABLE LIQUID, N.O.S. (toluene and ethyl alcohol), 3, II" or
- "WASTE, 33, UN 1993 FLAMMABLE LIQUID, N.O.S. (toluene and ethyl alcohol), 3, PG II".

If the provision for waste as set out in 2.1.3.5.5 is applied, the following shall be added to the proper shipping name:

"WASTE IN ACCORDANCE WITH 2.1.3.5.5" (e.g. "UN 3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., 8, II, WASTE IN ACCORDANCE WITH 2.1.3.5.5").

The technical name, as prescribed in Chapter 3.3, special provision 274, need not be added.

**5.4.1.1.4 Special provisions for dangerous goods packed in limited quantities**

No information is required in the transport document, if any, for carriage of dangerous goods packed in limited quantities according to Chapter 3.4.

**5.4.1.1.5 Special provisions for salvage packagings**

When dangerous goods are carried in a salvage packaging, the words "SALVAGE PACKAGE" shall be added after the description of the goods in the transport document.

**5.4.1.1.6 Special provisions for empty means of containment, uncleaned**

**5.4.1.1.6.1** For empty means of containment, uncleaned, which contain the residue of dangerous goods of classes other than Class 7, the words "EMPTY, UNCLEARED" or "RESIDUE, LAST CONTAINED" shall be indicated before or after the proper shipping name required in 5.4.1.1.1 (b). Moreover, 5.4.1.1.1 (f) does not apply.

**5.4.1.1.6.2** The special provision of 5.4.1.1.6.1 may be replaced with the provisions of 5.4.1.1.6.2.1 or 5.4.1.1.6.2.2, as appropriate.

**5.4.1.1.6.2.1** For empty packagings, uncleaned, which contain the residue of dangerous goods of classes other than Class 7, including empty uncleaned receptacles for gases with a capacity of not more than 1000 litres, the particulars according to 5.4.1.1.1 (a), (b), (c), (d), (e), (f) and (j) are replaced with "EMPTY PACKAGING", "EMPTY RECEPTACLE", "EMPTY IBC" or "EMPTY LARGE PACKAGING", as appropriate, followed by the information of the goods last loaded, as described in 5.4.1.1.1 (c).

See example as follows: "EMPTY PACKAGING, 6.1 (3)".

In addition, in such a case, if the dangerous goods last loaded are goods of Class 2, the information prescribed in 5.4.1.1.1 (c) may be replaced by the number of the class "2".

**5.4.1.1.6.2.2** For empty means of containment other than packagings, uncleaned, which contain the residue of dangerous goods of classes other than Class 7 and for empty uncleaned receptacles for gases with a capacity of more than 1000 litres, the particulars according to 5.4.1.1.1 (a) to (d) and (j) are preceded by "EMPTY

TANK-WAGON", "EMPTY TANK-VEHICLE", "EMPTY DEMOUNTABLE TANK", "EMPTY BATTERY-WAGON", "EMPTY BATTERY-VEHICLE", "EMPTY PORTABLE TANK", "EMPTY TANK-CONTAINER", "EMPTY MEGC", "EMPTY WAGON", "EMPTY VEHICLE", "EMPTY CONTAINER" or "EMPTY RECEP-TACLE", as appropriate, followed by the words "LAST LOAD:". Moreover, paragraph 5.4.1.1.1 (f) does not apply.

See examples as follows:

"EMPTY TANK-WAGON, LAST LOAD: 663 UN 1098 ALLYL ALCOHOL, 6.1 (3), I" or

"EMPTY TANK-WAGON, LAST LOAD: 663 UN 1098 ALLYL ALCOHOL, 6.1 (3), PG I".

**5.4.1.1.6.2.3** (Reserved)

**5.4.1.1.6.3** (a) If empty tanks, battery-wagons, battery-vehicles and MEGCs, uncleaned, are carried to the nearest place where cleaning or repair can be carried out in accordance with the provisions of 4.3.2.4.3, the following additional entry shall be made in the transport document:

"CARRIAGE IN ACCORDANCE WITH 4.3.2.4.3".

(b) If empty wagons, vehicles and containers, uncleaned, are carried to the nearest place where cleaning or repair can be carried out in accordance with the provisions of 7.5.8.1, the following additional entry shall be made in the transport document:

"CARRIAGE IN ACCORDANCE WITH 7.5.8.1".

**5.4.1.1.6.4** For the carriage of tank-wagons, demountable tanks, battery-wagons, tank-containers and MEGCs under the conditions of 4.3.2.4.4, the following entry shall be included in the transport document:

"CARRIAGE IN ACCORDANCE WITH 4.3.2.4.4."

**5.4.1.1.7 Special provisions for carriage in a transport chain including maritime or air carriage<sup>5</sup>**

For carriage in accordance with 1.1.4.2.1, a statement shall be included in the transport document, as follows:

"CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1".

**5.4.1.1.8** (Reserved)

**5.4.1.1.9 Special provisions for piggyback transport**

For the carriage of tanks or dangerous goods in bulk which, in accordance with ADR 5.3.2.1.4 to 5.3.2.1.6, must bear plates, the hazard identification number shall also be entered in the transport document before the name of the goods.

**5.4.1.1.10** (Reserved)

**5.4.1.1.11 Special provisions for the carriage of IBCs or portable tanks after the date of expiry of the last periodic test or inspection**

For carriage in accordance with 4.1.2.2 (b), 6.7.2.19.6 (b), 6.7.3.15.6 (b) or 6.7.4.14.6 (b), a statement to this effect shall be included in the transport document, as follows:

"CARRIAGE IN ACCORDANCE WITH 4.1.2.2 (b)",

"CARRIAGE IN ACCORDANCE WITH 6.7.2.19.6 (b)",

"CARRIAGE IN ACCORDANCE WITH 6.7.3.15.6 (b)" or

"CARRIAGE IN ACCORDANCE WITH 6.7.4.14.6 (b)" as appropriate.

**5.4.1.1.12 Special provisions for carriage in accordance with transitional requirements**

For carriage in accordance with 1.6.1.1, a statement shall be included in the transport document, as follows:

"CARRIAGE IN ACCORDANCE WITH RID IN FORCE BEFORE 1 JANUARY 2009".

**5.4.1.1.13** (Reserved)

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<sup>5</sup> For carriage in a transport chain including maritime or air carriage, a copy of the documentation (e.g. form for the multimodal transport of dangerous goods in accordance with 5.4.4) prescribed for maritime or air carriage may be attached to the transport document. These documents shall be the same size as the transport document. If the form for the multimodal transport of dangerous goods in accordance with 5.4.4 is attached to the transport document, the information concerning the dangerous goods already contained on this form need not be shown in the transport document, but a reference to this supplementary sheet shall be entered in the appropriate box on the transport document.

**5.4.1.1.14 Special provisions for the carriage of substances carried under elevated temperature**

If the proper shipping name of a substance which is carried or offered for carriage in a liquid state at a temperature equal to or exceeding 100 °C, or in a solid state at a temperature equal to or exceeding 240 °C, does not convey the elevated temperature condition (for example, by using the term "MOLTEN" or "ELEVATED TEMPERATURE" as part of the proper shipping name), the word "HOT" shall immediately precede the proper shipping name.

**5.4.1.1.15 (Reserved)****5.4.1.1.16 Information required in accordance with special provision 640 in Chapter 3.3**

Where it is required by special provision 640 of Chapter 3.3, the transport document shall bear the inscription "SPECIAL PROVISION 640X" where "X" is the capital letter appearing after the pertinent reference to special provision 640 in column (6) of Table A of Chapter 3.2.

**5.4.1.1.17 Special provisions for the carriage of solids in bulk containers conforming to 6.11.4**

When solid substances are carried in bulk containers conforming to 6.11.4, the following statement shall be shown in the transport document (see Note at the beginning of 6.11.4):

"BULK CONTAINER BK(X) APPROVED BY THE COMPETENT AUTHORITY OF ...".

**5.4.1.2 Additional or special information required for certain classes****5.4.1.2.1 Special provisions for Class 1**

- (a) For wagon loads or full wagon loads, the transport document shall indicate the number of packages, the mass of each package in kg and the total net mass in kg of explosive substance. In addition to the information in accordance with 5.4.1.1.1 (f), the transport document shall indicate the net mass in kg of explosive substance;
- (b) For mixed packing of two different goods, the description of the goods in the transport document shall include the UN numbers and names printed in capitals in Columns (1) and (2) of Table A of Chapter 3.2 of both substances or articles. If more than two different goods are contained in the same package in conformity with the mixed packing provisions given in 4.1.10 special provisions MP1, MP2 and MP20 to MP24, the transport document shall indicate under the description of the goods the UN numbers of all the substances and articles contained in the package, in the form, "GOODS OF UN NOS ...";
- (c) For the carriage of substances and articles assigned to an n.o.s. entry or the entry "0190 SAMPLES, EXPLOSIVE" or packed conforming to packing instruction P101 of 4.1.4.1, a copy of the competent authority approval with the conditions of carriage shall be attached to the transport document. It shall be drafted in an official language of the forwarding country and also, if that language is not English, French, German or Italian, in English, French, German or Italian, unless any agreements concluded between the countries concerned in the transport operation provide otherwise;
- (d) If packages containing substances and articles of compatibility groups B and D are loaded together in the same wagon in accordance with the requirements of 7.5.2.2, a copy of the competent authority approval of the protective compartment or containment system in accordance with 7.5.2.2, footnote (a) under the table, shall be attached to the transport document. It shall be drafted in an official language of the forwarding country and also, if that language is not English, French, German or Italian, in English, French, German or Italian unless any agreements concluded between the countries concerned in the transport operation provide otherwise;
- (e) When explosive substances or articles are carried in packagings conforming to packing instruction P101, the transport document shall bear the inscription "PACKAGING APPROVED BY THE COMPETENT AUTHORITY OF (indication of the state (distinguishing sign of the states for motor vehicles in international traffic), on whose behalf the competent authority is acting)" (see 4.1.4.1, packing instruction P101);
- (f) In the case of military consignments within the meaning of 1.5.2, the descriptions prescribed by the competent military authority may be used in place of the descriptions in accordance with Table A of Chapter 3.2.

For the carriage of military consignments to which the derogations in accordance with 5.2.1.5, 5.2.2.1.8 and 5.3.1.1.2 and in 7.2.4, special provision W2, the following shall be entered in the transport document: "MILITARY CONSIGNMENT".

- (g) When fireworks of UN Nos. 0333, 0334, 0335, 0336 and 0337 are carried, the transport document shall bear the inscription:

"CLASSIFICATION RECOGNIZED BY THE COMPETENT AUTHORITY OF ... (State referred to in special provision 645 of 3.3.1)".

**NOTE:** The commercial or technical name of the goods may be entered additionally to the proper shipping name in the transport document.

**5.4.1.2.2 Additional provisions for Class 2**

- (a) For the carriage of mixtures (see 2.2.2.1.1) in tank-wagons, battery-wagons, wagons with demountable tanks, portable tanks, tank-containers or MEGCs, the composition of the mixture as a percentage of the volume or as a percentage of the mass shall be given. Constituents below 1% need not be indicated (see also 3.1.2.8.1.2). The composition of the mixture need not be given when the technical names authorized by special provisions 581, 582 or 583 are used to supplement the proper shipping name;
- (b) For the carriage of cylinders, tubes, pressure drums, cryogenic receptacles and bundles of cylinders under the conditions of 4.1.6.10, the following entry shall be included in the transport document:  
"CARRIAGE IN ACCORDANCE WITH 4.1.6.10".
- (c) Where tank-wagons have been refilled without having been previously cleaned out, the transport document shall show, as total weight of goods carried, the sum of the weight of the new load and of the residual load, which will be the same as the gross weight of the tank-wagon, less its registered unladen weight. In addition, the words "MASS OF NEW LOAD ... KG" may also be added.
- (d) In the case of tank-wagons, portable tanks and tank-containers containing refrigerated liquefied gases, the consignor shall enter in the transport document:  
"THE TANK IS GUARANTEED AS INSULATED IN ORDER THAT THE SAFETY VALVES CANNOT OPEN BEFORE ... (date accepted by the railway)".

**5.4.1.2.3 Additional provisions for self-reactive substances of Class 4.1 and organic peroxides of Class 5.2****5.4.1.2.3.1** (Reserved)**5.4.1.2.3.2** When for certain self-reactive substances of Class 4.1 and certain organic peroxides of Class 5.2 the competent authority has permitted the label conforming to model No.1 to be dispensed with for a specific packaging (see 5.2.2.1.9), a statement to this effect shall be included in the transport document, as follows:

"THE LABEL CONFORMING TO MODEL NO.1 IS NOT REQUIRED".

**5.4.1.2.3.3** When organic peroxides and self-reactive substances are carried under conditions where approval is required (for organic peroxides see 2.2.52.1.8, 4.1.7.2.2 and special provision TA2 of 6.8.4; for self-reactive substances see 2.2.41.1.13 and 4.1.7.2.2, a statement to this effect shall be included in the transport document, e.g.

"CARRIAGE IN ACCORDANCE WITH 2.2.52.1.8".

A copy of the competent authority approval with the conditions of carriage shall be attached to the transport document. It shall be drafted in an official language of the forwarding country and also, if that language is not English, French, German or Italian, in English, French, German or Italian unless any agreements concluded between the countries concerned in the transport operation provide otherwise.

**5.4.1.2.3.4** When a sample of an organic peroxide (see 2.2.52.1.9) or a self-reactive substance (see 2.2.41.1.15) is carried, a statement to this effect shall be included in the transport document, e.g.

"CARRIAGE IN ACCORDANCE WITH 2.2.52.1.9".

**5.4.1.2.3.5** When self-reactive substances type G (see Manual of Tests and Criteria, Part II, paragraph 20.4.2 (g)) are carried, the following statement may be given in the transport document:

"NOT A SELF-REACTIVE SUBSTANCE OF CLASS 4.1".

When organic peroxides type G (see Manual of Tests and Criteria, Part II, paragraph 20.4.3 (g)) are carried, the following statement may be given in the transport document:

"NOT A SUBSTANCE OF CLASS 5.2".

**5.4.1.2.4 Additional provisions for Class 6.2**

In addition to the information concerning the consignee (see 5.4.1.1.1 (h)), the name and telephone number of a responsible person shall be indicated.

**5.4.1.2.5 Additional provisions for Class 7****5.4.1.2.5.1** The following information shall be inserted in the transport document for each consignment of Class 7 material, as applicable, in the order given and immediately after the information required under 5.4.1.1.1 (a) to (c):

- (a) The name or symbol of each radionuclide or, for mixtures of radionuclides, an appropriate general description or a list of the most restrictive nuclides;

- (b) A description of the physical and chemical form of the material, or a notation that the material is special form radioactive material or low dispersible radioactive material. A generic chemical description is acceptable for chemical form. For radioactive material with a subsidiary risk, see last sentence of special provision 172 of Chapter 3.3;
- (c) The maximum activity of the radioactive contents during carriage expressed in becquerels (Bq) with an appropriate SI prefix symbol (see 1.2.2.1). For fissile material, the mass of fissile material in grams (g), or appropriate multiples thereof, may be used in place of activity;
- (d) The category of the package, i.e. I-WHITE, II-YELLOW, III-YELLOW;
- (e) The transport index (categories II-YELLOW and III-YELLOW only);
- (f) For consignments including fissile material other than consignments excepted under 6.4.11.2, the criticality safety index;
- (g) The identification mark for each competent authority approval certificate (special form radioactive material, low dispersible radioactive material, special arrangement, package design, or shipment) applicable to the consignment;
- (h) For consignments of more than one package, the information required in 5.4.1.1.1 and in (a) to (g) above shall be given for each package. For packages in an overpack, container or wagon, a detailed statement of the contents of each package within the overpack, container or wagon and, where appropriate, of each overpack, container or wagon shall be included. If packages are to be removed from the overpack, container or wagon at a point of intermediate unloading, appropriate transport documents shall be made available;
- (i) Where a consignment is required to be shipped under exclusive use, the statement "EXCLUSIVE USE SHIPMENT"; and
- (j) For LSA-II and LSA-III substances, SCO-I and SCO-II, the total activity of the consignment as a multiple of  $A_2$ .

**5.4.1.2.5.2** The consignor shall provide in the transport document a statement regarding actions, if any, that are required to be taken by the carrier. The statement shall be in the languages deemed necessary by the carrier or the authorities concerned, and shall include at least the following information:

- (a) Supplementary requirements for loading, stowage, carriage, handling and unloading of the package, overpack or container including any special stowage provisions for the safe dissipation of heat (see special provision CW33 (3.2) of 7.5.11), or a statement that no such requirements are necessary;
- (b) Restrictions on the mode of carriage or wagon and any necessary routing instructions;
- (c) Emergency arrangements appropriate to the consignment.

**5.4.1.2.5.3** In case of international carriage of packages requiring competent authority design or shipment approval, for which different approval types apply in the different countries concerned, the UN number and proper shipping name required in 5.4.1.1.1 shall be in accordance with the certificate of the country of origin of design.

**5.4.1.2.5.4** The applicable competent authority certificates need not necessarily accompany the consignment. The consignor shall make them available to the carrier(s) before loading and unloading.

**5.4.1.3** (Reserved)

**5.4.1.4 Format and language to be used**

**5.4.1.4.1** The transport document shall be filled out in one or more languages, one of which shall be English, French or German, unless any agreements concluded between the countries concerned in the transport operation provide otherwise.

**5.4.1.4.2** A separate transport document shall be made out for consignments which, because of the prohibitions in 7.5.2, may not be loaded together in the same wagon or container.

In addition to the transport document, for multimodal carriage, the use of documents corresponding to the example shown in 5.4.4 is considered advisable<sup>6</sup>.

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<sup>6</sup> If used, the relevant recommendations of the UNECE **United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT)** may be consulted, in particular Recommendation No. 1 (United Nations Layout Key for Trade Documents) (ECE/TRADE/137, edition 81.3), **UN Layout Key for Trade Documents – Guidelines for Applications** (ECE/TRADE/270, edition 2002), Recommendation No. 11 (Documentary Aspects of the International Transport of Dangerous Goods) (ECE/TRADE/204, edition 96.1 – **currently under revision**) and Recommendation No. 22 (Layout Key for Standard Consignment Instructions) (ECE/TRADE/168, edition 1989). Refer also to the **UN/CEFACT Summary of Trade Facilitation Recommendations** (ECE/TRADE/346, edition 2006) and the **United Nations Trade Data Elements Directory (UNTD)** (ECE/TRADE/362, edition 2005).



#### 5.4.1.5 Non-dangerous goods

When goods mentioned by name in Table A of Chapter 3.2, are not subject to RID because they are considered as non-dangerous according to Part 2, the consignor may enter in the transport document a statement to that effect, e.g.:

"NOT GOODS OF CLASS ...".

**NOTE:** This provision may be used in particular when the consignor considers that, due to the chemical nature of the goods (e.g. solutions and mixtures) carried or to the fact that such goods are deemed dangerous for other regulatory purposes the consignment might be subject to control during the journey.

#### 5.4.2 Container packing certificate

If the carriage of dangerous goods in a large container precedes a voyage by sea, a container packing certificate conforming to section 5.4.2 of the IMDG Code<sup>7</sup> shall be provided with the transport document<sup>8</sup>.

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<sup>7</sup> Guidelines for use in practice and in training for loading goods in transport units have also been drawn up by the International Maritime Organization (IMO), the International Labour Organization (ILO) and the United Nations Economic Commission for Europe (UNECE) and have been published by IMO ("IMO/ILO/UNECE Guidelines for Packing of Cargo Transport Units (CTUs)").

<sup>8</sup> Section 5.4.2 of the IMDG Code requires the following:

##### "5.4.2 Container/vehicle packing certificate

5.4.2.1 When dangerous goods are packed or loaded into any container or vehicle, those responsible for packing the container or vehicle shall provide a "container/vehicle packing certificate" specifying the container/vehicle identification number(s) and certifying that the operation has been carried out in accordance with the following conditions:

- .1 The container/vehicle was clean, dry and apparently fit to receive the goods;
- .2 Packages, which need to be segregated in accordance with applicable segregation requirements, have not been packed together onto or in the container/vehicle [unless approved by the competent authority concerned in accordance with 7.2.2.3 (of the IMDG Code)];
- .3 All packages have been externally inspected for damage, and only sound packages have been loaded;
- .4 Drums have been stowed in an upright position, unless otherwise authorized by the competent authority, and all goods have been properly loaded, and, where necessary, adequately braced with securing material to suit the mode(s) of transport for the intended journey;
- .5 Goods loaded in bulk have been evenly distributed within the container/vehicle;
- .6 For consignments including goods of class 1, other than division 1.4, the container/vehicle is structurally serviceable in conformity with 7.4.6 (of the IMDG Code);
- .7 The container/vehicle and packages are properly marked, labelled, and placarded, as appropriate;
- .8 When solid carbon dioxide (CO<sub>2</sub>-dry ice) is used for cooling purposes, the container/vehicle is externally marked or labelled in a conspicuous place, such as, at the door end, with the words: "DANGEROUS CO<sub>2</sub> GAS (DRY ICE) INSIDE. VENTILATE THOROUGHLY BEFORE ENTERING"; and
- .9 A dangerous goods transport document, as indicated in 5.4.1 (of the IMDG Code) has been received for each dangerous goods consignment loaded in the container/vehicle.

**NOTE:** The container/vehicle packing certificate is not required for tanks.

5.4.2.2 The information required in the dangerous goods transport document and the container/vehicle packing certificate may be incorporated into a single document; if not, these documents shall be attached one to the other. If the information is incorporated into a single document, the document shall include a signed declaration such as "It is declared that the packing of the goods into the container/vehicle has been carried out in accordance with the applicable provisions". This declaration shall be dated and the person signing this declaration shall be identified on the document. Facsimile signatures are acceptable where applicable laws and regulations recognize the legal validity of facsimile signatures.



The functions of the transport document required under 5.4.1 and of the container packing certificate as provided above may be incorporated into a single document; if not, these documents shall be attached one to the other. If these functions are incorporated into a single document, the inclusion in the transport document of a statement that the loading of the container has been carried out in accordance with the applicable modal regulations together with the identification of the person responsible for the container packing certificate shall be sufficient.

**NOTE:** The container packing certificate is not required for portable tanks, tank-containers and MEGCs.

**5.4.3** (Reserved)

**5.4.4 Example of a multimodal dangerous goods form**

Example of a form which may be used as a combined dangerous goods declaration and container packing certificate for multimodal carriage of dangerous goods.

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**5.4.2.3** If the dangerous goods documentation is presented to the carrier by means of electronic data processing (EDP) or electronic data interchange (EDI) transmission techniques, the signature(s) may be replaced by the name(s) (in capitals) of the person(s) authorized to sign."

**MULTIMODAL DANGEROUS GOODS FORM** (right edge black hatchings)

1. Shipper/Consignor/Sender		2. Transport document number			
		3. Page 1 of ... Pages	4. Shipper's reference		
			5. Freight Forwarder's reference		
6. Consignee		7. Carrier (to be completed by the carrier)			
		<b>SHIPPER'S DECLARATION</b> I hereby declare that the contents of this consignment are fully and accurately described below by the proper shipping name, and are classified, packaged, marked and labeled /placarded and are in all respects in proper condition for transport according to the applicable international and national governmental regulations.			
8. This shipment is within the limitations prescribed for: (Delete non-applicable)  PASSENGER AND CARGO AIRCRAFT      CARGO AIRCRAFT ONLY		9. Additional handling information			
10. Vessel/flight no. and date	11. Port/place of loading				
12. Port/place of discharge	13. Destination				
14. Shipping marks      * Number and kind of packages; description of goods      Gross mass (kg)      Net mass      Cube (m <sup>3</sup> ) * FOR DANGEROUS GOODS: you must specify: UN No., proper shipping name, hazard class, packing group (where assigned) and any other element of information required under applicable national and international regulations.					
15. Container identification No./vehicle registration No.	16. Seal number (s)	17. Container/vehicle size & type	18. Tare (kg)	19. Total gross mass (including tare) (kg)	
<b>CONTAINER/VEHICLE PACKING CERTIFICATE</b> I hereby declare that the goods described above have been packed/loaded into the container/vehicle identified above in accordance with the applicable provisions**. <b>MUST BE COMPLETED AND SIGNED FOR ALL CONTAINER/VEHICLE LOADS BY PERSON RESPONSIBLE FOR PACKING/LOADING</b>		21. RECEIVING ORGANISATION RECEIPT Received the above number of packages/containers/trailers in apparent good order and condition unless stated hereon: RECEIVING ORGANISATION REMARKS:			
20. Name of company	Haulier's name		22. Name of company (OF SHIPPER PREPARING THIS NOTE)		
Name/Status of declarant	Vehicle reg. no.		Name/Status of declarant		
Place and date	Signature and date		Place and date		
Signature of declarant	DRIVER'S SIGNATURE		Signature of declarant		

\*\* See 5.4.2.

**MULTIMODAL DANGEROUS GOODS FORM****Continuation Sheet**

(right edge black hatchings)

1. Shipper/Consignor /Sender	2. Transport document number			
	3. Page 2 of ... Pages		4. Shipper's reference	
			5. Freight Forwarder's reference	
14. Shipping marks	* Number and kind of packages; description of goods	Gross mass (kg)	Net mass	Cube (m <sup>3</sup> )
* FOR DANGEROUS GOODS: you must specify: UN No., proper shipping name, hazard class, packing group (where assigned) and any other element of information required under applicable national and international regulations.				

## Chapter 5.5

### Special provisions

5.5.1 (Deleted)

5.5.2 **Special provisions for fumigated wagons, containers and tanks**

5.5.2.1 For the carriage of UN No. 3359 fumigated unit (wagon, container or tank) the transport document shall show the information required in 5.4.1.1.1, the date of fumigation and the type and amount of the fumigant used. In addition, instructions for disposal of any residual fumigant including fumigation devices (if used) shall be provided.

These particulars shall be drafted in an official language of the forwarding country and also, if the language is not English, French, German or Italian, in English, French, German or Italian, unless any agreements concluded between the countries concerned in the transport operation provide otherwise.

5.5.2.2 A warning sign as specified in 5.5.2.3 shall be placed on each fumigated wagon, container or tank in a location where it will be easily seen by persons attempting to enter the interior of wagon, container or tank.

The particulars concerning the warning sign shall be drafted in a language considered appropriate by the consignor.

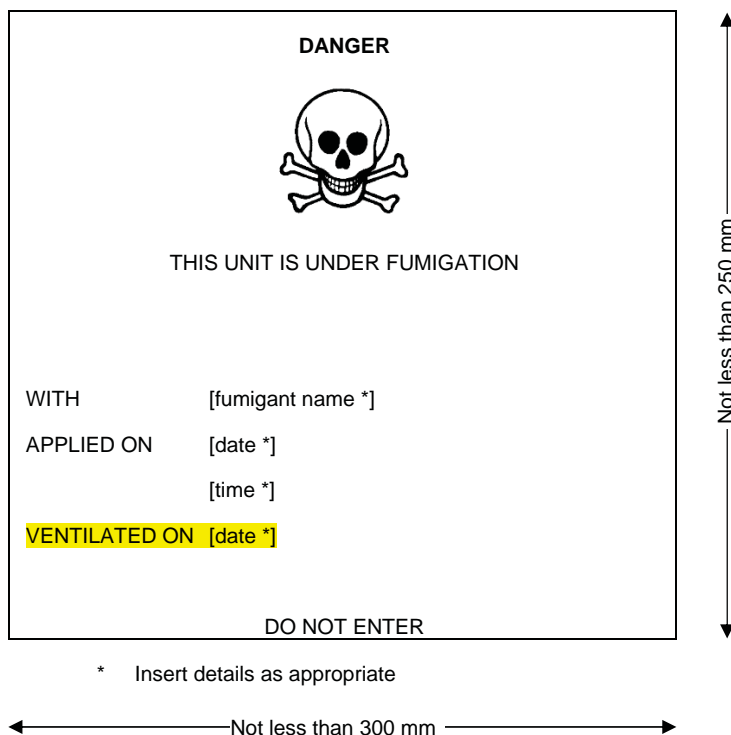
The warning sign, as required by this sub-section, shall remain on the wagon, container or tank until the following provisions are met:

(a) The fumigated wagon, container or tank has been ventilated to remove harmful concentrations of fumigant gas; and

(b) The fumigated goods or materials have been unloaded.

5.5.2.3 The fumigation warning sign shall be rectangular and shall not be less than 300 mm wide and not less than 250 mm high. The markings shall be black print on a white background with lettering not less than 25 mm high. An illustration of this sign is given in the figure below.

#### Fumigation warning sign



**Part 6**

**Requirements for the construction and testing of packagings, intermediate bulk containers (IBCs), large packagings and tanks**

## Chapter 6.1

### Requirements for the construction and testing of packagings

#### 6.1.1 General

6.1.1.1 The requirements of this Chapter do not apply to:

- (a) Packages containing radioactive material of Class 7, unless otherwise provided (see 4.1.9);
- (b) Packages containing infectious substances of Class 6.2, unless otherwise provided (see Chapter 6.3, Note and packing instruction P621 of 4.1.4.1);
- (c) Pressure receptacles containing gases of Class 2;
- (d) Packages whose net mass exceeds 400 kg;
- (e) Packagings with a capacity exceeding 450 litres.

6.1.1.2 The requirements for packagings in 6.1.4 are based on packagings currently used. In order to take into account progress in science and technology, there is no objection to the use of packagings having specifications different from those in 6.1.4, provided that they are equally effective, acceptable to the competent authority and able successfully to withstand the tests described in 6.1.1.3 and 6.1.5. Methods of testing other than those described in this Chapter are acceptable, provided they are equivalent, and are recognized by the competent authority.

6.1.1.3 Every packaging intended to contain liquids shall successfully undergo a suitable leakproofness test, and be capable of meeting the appropriate test level indicated in 6.1.5.4.3:

- (a) before it is first used for carriage;
- (b) after remanufacturing or reconditioning, before it is re-used for carriage;

For this test, packagings need not have their own closures fitted.

The inner receptacle of composite packagings may be tested without the outer packaging provided the test results are not affected.

This test is not necessary for:

- inner packagings of combination packagings;
- inner receptacles of composite packagings (glass, porcelain or stoneware), marked with the symbol "RID/ADR" according to 6.1.3.1 (a) (ii);
- light gauge metal packagings, marked with the symbol "RID/ADR" according to 6.1.3.1 (a) (ii).

6.1.1.4 Packagings shall be manufactured, reconditioned and tested under a quality assurance programme which satisfies the competent authority in order to ensure that each packaging meets the requirements of this Chapter.

**NOTE:** ISO 16106:2006 "Packaging – Transport packages for dangerous goods – Dangerous goods packagings, intermediate bulk containers (IBCs) and large packagings – Guidelines for the application of ISO 9001" provides acceptable guidance on procedures which may be followed.

6.1.1.5 Manufacturers and subsequent distributors of packagings shall provide information regarding procedures to be followed and a description of the types and dimensions of closures (including required gaskets) and any other components needed to ensure that packages as presented for carriage are capable of passing the applicable performance tests of this Chapter.

#### 6.1.2 Code for designating types of packagings

6.1.2.1 The code consists of:

- (a) an Arabic numeral indicating the kind of packaging, e.g. drum, jerrican, etc., followed by;
- (b) a capital letter(s) in Latin characters indicating the nature of the material, e.g. steel, wood, etc., followed where necessary by;
- (c) an Arabic numeral indicating the category of packaging within the kind to which the packaging belongs.

6.1.2.2 In the case of composite packagings, two capital letters in Latin characters are used in sequence in the second position of the code. The first indicates the material of the inner receptacle and the second that of the outer packaging.

6.1.2.3 In the case of combination packagings only the code number for the outer packaging is used.

6.1.2.4 The letters "T", "V" or "W" may follow the packaging code. The letter "T" signifies a salvage packaging conforming to the requirements of 6.1.5.1.11. The letter "V" signifies a special packaging conforming to the requirements of 6.1.5.1.7. The letter "W" signifies that the packaging, although of the same type indicated

by the code, is manufactured to a specification different to that in 6.1.4 and is considered equivalent under the requirements of 6.1.1.2.

**6.1.2.5** The following numerals shall be used for the kinds of packaging:

1. Drum
2. (Reserved)
3. Jerrican
4. Box
5. Bag
6. Composite packaging
7. (Reserved)
0. Light gauge metal packagings

**6.1.2.6** The following capital letters shall be used for the types of material:

- A. Steel (all types and surface treatments)
- B. Aluminium
- C. Natural wood
- D. Plywood
- F. Reconstituted wood
- G. Fibreboard
- H. Plastics material
- L. Textile
- M. Paper, multiwall
- N. Metal (other than steel or aluminium)
- P. Glass, porcelain or stoneware

**NOTE:** Plastics materials, is taken to include other polymeric materials such as rubber.

**6.1.2.7** The following table indicates the codes to be used for designating types of packagings depending on the kind of packagings, the material used for their construction and their category; it also refers to the sub-sections to be consulted for the appropriate requirements:

Kind	Material	Category	Code	Sub-section
1. Drums	A. Steel	non-removable head	1A1	6.1.4.1
		removable head	1A2	
	B. Aluminium	non-removable head	1B1	6.1.4.2
		removable head	1B2	
	D. Plywood		1D	6.1.4.5
	G. Fibre		1G	6.1.4.7
	H. Plastics	non-removable head	1H1	6.1.4.8
		removable head	1H2	
	N. Metal, other than steel or aluminium	non-removable head	1N1	6.1.4.3
		removable head	1N2	
2. (Reserved)				
3. Jerricans	A. Steel	non-removable head	3A1	6.1.4.4
		removable head	3A2	
	B. Aluminium	non-removable head	3B1	6.1.4.4
		removable head	3B2	
	H. Plastics	non-removable head	3H1	6.1.4.8
		removable head	3H2	
4. Boxes	A. Steel		4A	6.1.4.14
	B. Aluminium		4B	6.1.4.14

Kind	Material	Category	Code	Sub-section
4. Boxes (cont'd)	C. Natural wood	ordinary	4C1	6.1.4.9
		with sift-proof walls	4C2	
	D. Plywood		4D	6.1.4.10
	F. Reconstituted wood		4F	6.1.4.11
	G. Fibreboard		4G	6.1.4.12
	H. Plastics	expanded	4H1	6.1.4.13
		solid	4H2	
5. Bags	H. Woven plastics	without inner liner or coating	5H1	6.1.4.16
		sift-proof	5H2	
		water resistant	5H3	
	H. Plastics film		5H4	6.1.4.17
	L. Textile	without inner liner or coating	5L1	6.1.4.15
		sift-proof	5L2	
		water resistant	5L3	
	M. Paper	multiwall	5M1	6.1.4.18
		multiwall, water resistant	5M2	
6. Composite packagings	H. Plastics receptacle	with outer steel drum	6HA1	6.1.4.19
		with outer steel crate or box	6HA2	6.1.4.19
		with outer aluminium drum	6HB1	6.1.4.19
		with outer aluminium crate or box	6HB2	6.1.4.19
		with outer wooden box	6HC	6.1.4.19
		with outer plywood drum	6HD1	6.1.4.19
		with outer plywood box	6HD2	6.1.4.19
		with outer fibre drum	6HG1	6.1.4.19
		with outer fibreboard box	6HG2	6.1.4.19
		with outer plastics drum	6HH1	6.1.4.19
		with outer solid plastics box	6HH2	6.1.4.19
	P. Glass, porcelain or stoneware receptacle	with outer steel drum	6PA1	6.1.4.20
		with outer steel crate or box	6PA2	6.1.4.20
		with outer aluminium drum	6PB1	6.1.4.20
		with outer aluminium crate or box	6PB2	6.1.4.20
		with outer wooden box	6PC	6.1.4.20
		with outer plywood drum	6PD1	6.1.4.20
		with outer wickerwork hamper	6PD2	6.1.4.20
		with outer fibre drum	6PG1	6.1.4.20
		with outer fibreboard box	6PG2	6.1.4.20
		with outer expanded plastics packaging	6PH1	6.1.4.20
		with outer solid plastics packaging	6PH2	6.1.4.20
7. (Reserved)				



Kind	Material	Category	Code	Sub-section
0. Light gauge metal packagings	A. Steel	non-removable head	0A1	6.1.4.22
		removable head	0A2	

## 6.1.3

## Marking

**NOTE 1:** The marking indicates that the packaging which bears it corresponds to a successfully tested design type and that it complies with the requirements of this Chapter which are related to the manufacture, but not to the use, of the packaging. In itself, therefore, the mark does not necessarily confirm that the packaging may be used for any substance: generally the type of packaging (e.g. steel drum), its maximum capacity and/or mass, and any special requirements are specified for each substance in Table A of Chapter 3.2.


**2:** The marking is intended to be of assistance to packaging manufacturers, reconditioners, packaging users, carriers and regulatory authorities. In relation to the use of a new packaging, the original marking is a means for its manufacturer(s) to identify the type and to indicate those performance test regulations that have been met.

**3:** The marking does not always provide full details of the test levels, etc., and these may need to be taken further into account, e.g. by reference to a test certificate, to test reports or to a register of successfully tested packagings. For example, a packaging having an X or Y marking may be used for substances to which a packing group having a lesser degree of danger has been assigned with the relevant maximum permissible value of the relative density<sup>1</sup> determined by taking into account the factor 1.5 or 2.25 indicated in the packaging test requirements in 6.1.5 as appropriate, i.e. packing group I packaging tested for products of relative density 1.2 could be used as a packing group II packaging for products of relative density 1.8 or a packing group III packaging for products of relative density 2.7, provided of course that all the performance criteria can still be met with the higher relative density product.

## 6.1.3.1

Each packaging intended for use according to the RID shall bear markings which are durable, legible and placed in a location and of such a size relative to the packaging as to be readily visible. For packages with a gross mass of more than 30 kg, the markings or a duplicate thereof shall appear on the top or on a side of the packaging. Letters, numerals and symbols shall be at least 12 mm high, except for packagings of 30 litres or 30 kg capacity or less, when they shall be at least 6 mm in height and for packagings of 5 litres or 5 kg or less when they shall be of an appropriate size.

The marking shall show:

- (a) (i) The United Nations packaging symbol . This symbol shall not be used for any purpose other than certifying that a packaging complies with the relevant requirements in Chapter 6.1, 6.2, 6.3, 6.5 or 6.6. This symbol shall not be used for packagings which comply with the simplified conditions of 6.1.1.3, 6.1.5.3.1 (e), 6.1.5.3.5 (c), 6.1.5.4, 6.1.5.5.1 and 6.1.5.6 (see also (ii) below). For embossed metal packagings, the capital letters "UN" may be applied instead of the symbol; or
- (ii) The symbol "RID/ADR" for composite packagings (glass, porcelain or stoneware) and light gauge metal packagings conforming to simplified conditions (see 6.1.1.3, 6.1.5.3.1 (e), 6.1.5.3.5 (c), 6.1.5.4, 6.1.5.5.1 and 6.1.5.6);

**NOTE:** Packagings bearing this symbol are approved for rail, road and inland waterways transport operations which are subject to the provisions of RID, ADR and ADN respectively. They are not necessarily accepted for carriage by other modes of transport or for transport operations by road, rail or inland waterways which are governed by other regulations.

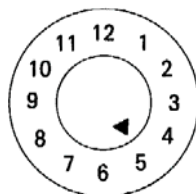
(b) The code designating the type of packaging according to 6.1.2;

(c) A code in two parts:

- (i) a letter designating the packing group(s) for which the design type has been successfully tested:  
X for packing groups I, II and III;  
Y for packing groups II and III;  
Z for packing group III only;
- (ii) the relative density, rounded off to the first decimal, for which the design type has been tested for packagings without inner packagings intended to contain liquids; this may be omitted when the relative density does not exceed 1.2. For packagings intended to contain solids or inner packagings, the maximum gross mass in kilograms.  
For light-gauge metal packagings, marked with the symbol "RID/ADR" according to 6.1.3.1 (a) (ii) intended to contain liquids having a viscosity at 23 °C exceeding 200 mm<sup>2</sup>/s, the maximum gross mass in kg;

<sup>1</sup> Relative density (d) is considered to be synonymous with Specific Gravity (SG) and is used throughout this text.

- (d) Either the letter "S" denoting that the packaging is intended for the carriage of solids or inner packagings or, for packagings (other than combination packagings) intended to contain liquids, the hydraulic test pressure which the packaging was shown to withstand in kPa rounded down to the nearest 10 kPa. For light-gauge metal packagings, marked with the symbol "RID/ADR", according to 6.1.3.1(a) (ii) intended to contain liquids having a viscosity at 23 °C exceeding 200 mm<sup>2</sup>/s, the letter "S";
- (e) The last two digits of the year during which the packaging was manufactured. Packagings of types 1H and 3H shall also be appropriately marked with the month of manufacture; this may be marked on the packaging in a different place from the remainder of the marking. An appropriate method is:



- (f) The State authorizing the allocation of the mark, indicated by the distinguishing sign for motor vehicles in international traffic<sup>2</sup>;
- (g) The name of the manufacturer or other identification of the packaging specified by the competent authority.

**6.1.3.2** In addition to the durable markings prescribed in 6.1.3.1, every new metal drum of a capacity greater than 100 litres shall bear the marks described in 6.1.3.1 (a) to (e) on the bottom, with an indication of the nominal thickness of at least the metal used in the body (in mm, to 0.1 mm), in permanent form (e.g. embossed). When the nominal thickness of either head of a metal drum is thinner than that of the body, the nominal thickness of the top head, body, and bottom head shall be marked on the bottom in permanent form (e.g. embossed), for example "1.0-1.2-1.0" or "0.9-1.0-1.0". Nominal thickness of metal shall be determined according to the appropriate ISO standard, for example ISO 3574:1999 for steel. The marks indicated in 6.1.3.1 (f) and (g) shall not be applied in a permanent form except as provided in 6.1.3.5.

**6.1.3.3** Every packaging other than those referred to in 6.1.3.2 liable to undergo a reconditioning process shall bear the marks indicated in 6.1.3.1 (a) to (e) in a permanent form. Marks are permanent if they are able to withstand the reconditioning process (e.g. embossed). For packagings other than metal drums of a capacity greater than 100 litres, these permanent marks may replace the corresponding durable markings prescribed in 6.1.3.1.

**6.1.3.4** For remanufactured metal drums, if there is no change to the packaging type and no replacement or removal of integral structural components, the required markings need not be permanent. Every other remanufactured metal drum shall bear the markings in 6.1.3.1 (a) to (e) in a permanent form (e.g. embossed) on the top head or side.

**6.1.3.5** Metal drums made from materials (e.g. stainless steel) designed to be reused repeatedly may bear the markings indicated in 6.1.3.1 (f) and (g) in a permanent form (e.g. embossed).

**6.1.3.6** The marking in accordance with 6.1.3.1 is valid for only one design type or series of design types. Different surface treatments may fall within the same design type.

A "series of design types" means packagings of the same structural design, wall thickness, material and cross-section, which differ only in their lesser design heights from the design type approved.

The closures of receptacles shall be identifiable as those referred to in the test report.

**6.1.3.7** Marking shall be applied in the sequence of the sub-paragraphs in 6.1.3.1; each element of the marking required in these sub-paragraphs and when appropriate sub-paragraphs (h) to (j) of 6.1.3.8 shall be clearly separated, e.g. by a slash or space, so as to be easily identifiable. For examples, see 6.1.3.11.

Any additional markings authorized by a competent authority shall still enable the parts of the mark to be correctly identified with reference to 6.1.3.1.

**6.1.3.8** After reconditioning a packaging, the reconditioner shall apply to it a durable marking showing, in the following sequence:

- (h) The State in which the reconditioning was carried out, indicated by the distinguishing sign for motor vehicles in international traffic<sup>2</sup>;






<sup>2</sup> Distinguishing sign for motor vehicles in international traffic prescribed in Vienna Convention on Road Traffic (1968).

- (i) The name of the reconditioner or other identification of the packaging specified by the competent authority;
- (j) The year of reconditioning; the letter "R"; and, for every packaging successfully passing the leakproofness test in 6.1.1.3, the additional letter "L".



**6.1.3.9** When, after reconditioning, the markings required by 6.1.3.1 (a) to (d) no longer appear on the top head or the side of a metal drum, the reconditioner also shall apply them in a durable form followed by 6.1.3.8 (h), (i) and (j). These markings shall not identify a greater performance capability than that for which the original design type had been tested and marked.

**6.1.3.10** Packagings manufactured with recycled plastics material as defined in 1.2.1 shall be marked "REC". This mark shall be placed near the mark prescribed in 6.1.3.1.


**6.1.3.11** Examples of markings for NEW packagings

 4G/Y145/S/02 NL/VL823	as in 6.1.3.1 a) (i), b), c), d) and e) as in 6.1.3.1 f) and g)	For a new fibreboard box
 1A1/Y1.4/150/98 NL/VL824	as in 6.1.3.1 a) (i), b), c), d) and e) as in 6.1.3.1 f) and g)	For a new steel drum to contain liquids
 1A2/Y150/S/01 NL/VL825	as in 6.1.3.1 a) (i), b), c), d) and e) as in 6.1.3.1 f) and g)	For a new steel drum to contain solids, or inner packagings
 4HW/Y136/S/98 NL/VL826	as in 6.1.3.1 a) (i), b), c), d) and e) as in 6.1.3.1 f) and g)	For a new plastics box of equivalent specification
 1A2/Y/100/01 USA/MM5	as in 6.1.3.1 a) (i), b), c), d) and e) as in 6.1.3.1 f) and g)	For a remanufactured steel drum to contain liquids
RID/ADR/0A1/Y100/89 NL/VL123	as in 6.1.3.1 a) (ii), b), c), d) and e) as in 6.1.3.1 f) and g)	For a new light gauge metal packaging, non-removable head
RID/ADR/0A2/Y20/S/04 NL/VL124	as in 6.1.3.1 a) (ii), b), c), d) and e) as in 6.1.3.1 f) and g)	For a new light gauge metal packaging, removable head, intended to contain solids, or liquids with a viscosity at 23 °C exceeding 200 mm <sup>2</sup> /s.

**6.1.3.12** Examples of markings for RECONDITIONED packagings

 1A1/Y1.4/150/97 NL/RB/01 RL	as in 6.1.3.1 a) (i), b), c), d) and e) as in 6.1.3.8 h), i) and j)
 1A2/Y150/S/99 USA/RB/00 R	as in 6.1.3.1 a) (i), b), c), d) and e) as in 6.1.3.8 h), i) and j)

**6.1.3.13** Example of marking for SALVAGE packagings

 1A2T/Y300/S/01 USA/abc	as in 6.1.3.1 a) (i), b), c), d) and e) as in 6.1.3.1 f) and g)
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**NOTE:** The markings, for which examples are given in 6.1.3.11, 6.1.3.12 and 6.1.3.13 may be applied in a single line or in multiple lines provided the correct sequence is respected.

**6.1.3.14 Certification**

By affixing marking in accordance with 6.1.3.1, it is certified that mass-produced packagings correspond to the approved design type and that the requirements referred to in the approval have been met.

**6.1.4 Requirements for packagings**

**6.1.4.1 Steel drums**

- 1A1 non-removable head
- 1A2 removable head

**6.1.4.1.1** Body and heads shall be constructed of steel sheet of a suitable type and of adequate thickness in relation to the capacity of the drum and to its intended use.

**NOTE:** In the case of carbon steel drums, "suitable" steels are identified in ISO 3573:1999 "Hot rolled carbon steel sheet of commercial and drawing qualities" and ISO 3574:1999 "Cold-reduced carbon steel sheet of commercial and drawing qualities".

For carbon steel drums below 100 litres "suitable" steels in addition to the above standards are also identified in ISO 11949:1995 "Cold-reduced electrolytic tinplate", ISO 11950:1995 "Cold-reduced electrolytic chromium/chromium oxide-coated steel" and ISO 11951:1995 "Cold-reduced blackplate in coil form for the production of tinplate or electrolytic chromium/chromium-oxide coated steel.

- 6.1.4.1.2** Body seams shall be welded on drums intended to contain more than 40 litres of liquid. Body seams shall be mechanically seamed or welded on drums intended to contain solids or 40 litres or less of liquids.
- 6.1.4.1.3** Chimes shall be mechanically seamed or welded. Separate reinforcing rings may be applied.
- 6.1.4.1.4** The body of a drum of a capacity greater than 60 litres shall, in general, have at least two expanded rolling hoops or, alternatively, at least two separate rolling hoops. If there are separate rolling hoops they shall be fitted tightly on the body and so secured that they cannot shift. Rolling hoops shall not be spot welded.
- 6.1.4.1.5** Openings for filling, emptying and venting in the bodies or heads of non-removable head (1A1) drums shall not exceed 7 cm in diameter. Drums with larger openings are considered to be of the removable head type (1A2). Closures for openings in the bodies and heads of drums shall be so designed and applied that they will remain secure and leakproof under normal conditions of carriage. Closure flanges may be mechanically seamed or welded in place. Gaskets or other sealing elements shall be used with closures, unless the closure is inherently leakproof.
- 6.1.4.1.6** Closure devices for removable head (1A2) drums shall be so designed and applied that they will remain secure and drums will remain leakproof under normal conditions of carriage. Gaskets or other sealing elements shall be used with all removable heads.
- 6.1.4.1.7** If materials used for body, heads, closures and fittings are not in themselves compatible with the contents to be carried, suitable internal protective coatings or treatments shall be applied. These coatings or treatments shall retain their protective properties under normal conditions of carriage.
- 6.1.4.1.8** Maximum capacity of drum: 450 litres.
- 6.1.4.1.9** Maximum net mass: 400 kg.
- 6.1.4.2 Aluminium drums**
- 1B1 non-removable head
- 1B2 removable head
- 6.1.4.2.1** Body and heads shall be constructed of aluminium at least 99% pure or of an aluminium base alloy. Material shall be of a suitable type and of adequate thickness in relation to the capacity of the drum and to its intended use.
- 6.1.4.2.2** All seams shall be welded. Chime seams, if any, shall be reinforced by the application of separate reinforcing rings.
- 6.1.4.2.3** The body of a drum of a capacity greater than 60 litres shall, in general, have at least two expanded rolling hoops or, alternatively, at least two separate rolling hoops. If there are separate rolling hoops they shall be fitted tightly on the body and so secured that they cannot shift. Rolling hoops shall not be spot welded.
- 6.1.4.2.4** Openings for filling, emptying and venting in the bodies or heads of non-removable head (1B1) drums shall not exceed 7 cm in diameter. Drums with larger openings are considered to be of the removable head type (1B2). Closures for openings in the bodies and heads of drums shall be so designed and applied that they will remain secure and leakproof under normal conditions of carriage. Closure flanges shall be welded in place so that the weld provides a leakproof seam. Gaskets or other sealing elements shall be used with closures, unless the closure is inherently leakproof.
- 6.1.4.2.5** Closure devices for removable head (1B2) drums shall be so designed and applied that they will remain secure and drums will remain leakproof under normal conditions of carriage. Gaskets or other sealing elements shall be used with all removable heads.
- 6.1.4.2.6** Maximum capacity of drum: 450 litres.
- 6.1.4.2.7** Maximum net mass: 400 kg.
- 6.1.4.3 Drums of metal other than aluminium or steel**
- 1N1 non-removable head
- 1N2 removable head
- 6.1.4.3.1** The body and heads shall be constructed of a metal or of a metal alloy other than steel or aluminium. Material shall be of a suitable type and of adequate thickness in relation to the capacity of the drum and to its intended use.

- 6.1.4.3.2** Chime seams, if any, shall be reinforced by the application of separate reinforcing rings. All seams, if any, shall be joined (welded, soldered, etc.) in accordance with the technical state of the art for the used metal or metal alloy.
- 6.1.4.3.3** The body of a drum of a capacity greater than 60 litres shall, in general, have at least two expanded rolling hoops or, alternatively, at least two separate rolling hoops. If there are separate rolling hoops they shall be fitted tightly on the body and so secured that they cannot shift. Rolling hoops shall not be spot welded.
- 6.1.4.3.4** Openings for filling, emptying and venting in the bodies or heads of non-removable head (1N1) drums shall not exceed 7 cm in diameter. Drums with larger openings are considered to be of the removable head type (1N2). Closures for openings in the bodies and heads of drums shall be so designed and applied that they will remain secure and leakproof under normal conditions of carriage. Closure flanges shall be joined in place (welded, soldered, etc.) in accordance with the technical state of the art for the used metal or metal alloy so that the seam join is leakproof. Gaskets or other sealing elements shall be used with closures, unless the closure is inherently leakproof.
- 6.1.4.3.5** Closure devices for removable head (1N2) drums shall be so designed and applied that they will remain secure and drums will remain leakproof under normal conditions of carriage. Gaskets or other sealing elements shall be used with all removable heads.
- 6.1.4.3.6** Maximum capacity of drum: 450 litres.
- 6.1.4.3.7** Maximum net mass: 400 kg.
- 6.1.4.4 Steel or aluminium jerricans**
- 3A1 steel, non-removable head
- 3A2 steel, removable head
- 3B1 aluminium, non-removable head
- 3B2 aluminium, removable head
- 6.1.4.4.1** Body and heads shall be constructed of steel sheet, of aluminium at least 99% pure or of an aluminium base alloy. Material shall be of a suitable type and of adequate thickness in relation to the capacity of the jerrican and to its intended use.
- 6.1.4.4.2** Chimes of steel jerricans shall be mechanically seamed or welded. Body seams of steel jerricans intended to contain more than 40 litres of liquid shall be welded. Body seams of steel jerricans intended to contain 40 litres or less shall be mechanically seamed or welded. For aluminium jerricans, all seams shall be welded. Chime seams, if any, shall be reinforced by the application of a separate reinforcing ring.
- 6.1.4.4.3** Openings in non-removable head jerricans (3A1 and 3B1) shall not exceed 7 cm in diameter. Jerricans with larger openings are considered to be of the removable head type (3A2 and 3B2). Closures shall be so designed that they will remain secure and leakproof under normal conditions of carriage. Gaskets or other sealing elements shall be used with closures, unless the closure is inherently leakproof.
- 6.1.4.4.4** If materials used for body, heads, closures and fittings are not in themselves compatible with the contents to be carried, suitable internal protective coatings or treatments shall be applied. These coatings or treatments shall retain their protective properties under normal conditions of carriage.
- 6.1.4.4.5** Maximum capacity of jerrican: 60 litres.
- 6.1.4.4.6** Maximum net mass: 120 kg.
- 6.1.4.5 Plywood drums**
- 1D
- 6.1.4.5.1** The wood used shall be well seasoned, commercially dry and free from any defect likely to lessen the effectiveness of the drum for the purpose intended. If a material other than plywood is used for the manufacture of the heads, it shall be of a quality equivalent to the plywood.
- 6.1.4.5.2** At least two-ply plywood shall be used for the body and at least three-ply plywood for the heads; the plies shall be firmly glued together by a water resistant adhesive with their grain crosswise.
- 6.1.4.5.3** The body and heads of the drum and their joins shall be of a design appropriate to the capacity of the drum and to its intended use.
- 6.1.4.5.4** In order to prevent sifting of the contents, lids shall be lined with kraft paper or some other equivalent material which shall be securely fastened to the lid and extend to the outside along its full circumference.
- 6.1.4.5.5** Maximum capacity of drum: 250 litres.

- 6.1.4.5.6** Maximum net mass: 400 kg.
- 6.1.4.6** (Deleted)
- 6.1.4.7 Fibre drums**
- 1G
- 6.1.4.7.1** The body of the drum shall consist of multiple plies of heavy paper or fibreboard (without corrugations) firmly glued or laminated together and may include one or more protective layers of bitumen, waxed kraft paper, metal foil, plastics material, etc.
- 6.1.4.7.2** Heads shall be of natural wood, fibreboard, metal, plywood, plastics or other suitable material and may include one or more protective layers of bitumen, waxed kraft paper, metal foil, plastics material, etc.
- 6.1.4.7.3** The body and heads of the drum and their joins shall be of a design appropriate to the capacity of the drum and to its intended use.
- 6.1.4.7.4** The assembled packaging shall be sufficiently water resistant so as not to delaminate under normal conditions of carriage.
- 6.1.4.7.5** Maximum capacity of drum: 450 litres.
- 6.1.4.7.6** Maximum net mass: 400 kg.
- 6.1.4.8 Plastics drums and jerricans**
- 1H1 drums, non-removable head
- 1H2 drums, removable head
- 3H1 jerricans, non-removable head
- 3H2 jerricans, removable head
- 6.1.4.8.1** The packaging shall be manufactured from suitable plastics material and be of adequate strength in relation to its capacity and intended use. Except for recycled plastics material as defined in 1.2.1, no used material other than production residues or regrind from the same manufacturing process may be used. The packaging shall be adequately resistant to ageing and to degradation caused either by the substance contained or by ultra-violet radiation. Any permeation of the substance contained in the package, or recycled plastics material used to produce new packaging, shall not constitute a danger under normal conditions of carriage.
- 6.1.4.8.2** If protection against ultra-violet radiation is required, it shall be provided by the addition of carbon black or other suitable pigments or inhibitors. These additives shall be compatible with the contents and remain effective throughout the life of the packaging. Where use is made of carbon black, pigments or inhibitors other than those used in the manufacture of the tested design type, retesting may be waived if the carbon black content does not exceed 2% by mass or if the pigment content does not exceed 3% by mass; the content of inhibitors of ultra-violet radiation is not limited.
- 6.1.4.8.3** Additives serving purposes other than protection against ultra-violet radiation may be included in the composition of the plastics material provided that they do not adversely affect the chemical and physical properties of the material of the packaging. In such circumstances, retesting may be waived.
- 6.1.4.8.4** The wall thickness at every point of the packaging shall be appropriate to its capacity and intended use, taking into account the stresses to which each point is liable to be exposed.
- 6.1.4.8.5** Openings for filling, emptying and venting in the bodies or heads of non-removable head drums (1H1) and jerricans (3H1) shall not exceed 7 cm in diameter. Drums and jerricans with larger openings are considered to be of the removable head type (1H2 and 3H2). Closures for openings in the bodies or heads of drums and jerricans shall be so designed and applied that they will remain secure and leakproof under normal conditions of carriage. Gaskets or other sealing elements shall be used with closures unless the closure is inherently leakproof.
- 6.1.4.8.6** Closure devices for removable head drums and jerricans (1H2 and 3H2) shall be so designed and applied that they will remain secure and leakproof under normal conditions of carriage. Gaskets shall be used with all removable heads unless the drum or jerrican design is such that, where the removable head is properly secured, the drum or jerrican is inherently leakproof.
- 6.1.4.8.7** The maximum permissible permeability for flammable liquids shall be  $0.008 \frac{\text{g}}{\text{l} \cdot \text{h}}$  at 23 °C (see 6.1.5.7).
- 6.1.4.8.8** Where recycled plastics material is used for production of new packaging, the specific properties of the recycled material shall be assured and documented regularly as part of a quality assurance programme recognised by the competent authority. The quality assurance programme shall include a record of proper pre-sorting and verification that each batch of recycled plastics material has the proper melt flow rate, den-

sity, and tensile yield strength, consistent with that of the design type manufactured from such recycled material. This necessarily includes knowledge about the packaging material from which the recycled plastics have been derived, as well as the awareness of the prior contents of those packagings if those prior contents might reduce the capability of new packaging produced using that material. In addition, the packaging manufacturer's quality assurance programme under 6.1.1.4 shall include performance of the mechanical design type test in 6.1.5 on packagings manufactured from each batch of recycled plastics material. In this testing, stacking performance may be verified by appropriate dynamic compression testing rather than stacking test according to 6.1.5.6.

**NOTE:** ISO 16103:2005 "Packaging – Transport packagings for dangerous goods – Recycled plastics material" provides additional guidance on procedures to be followed in approving the use of recycled plastics material.

**6.1.4.8.9** Maximum capacity of drums and jerricans:

1H1, 1H2: 450 litres

3H1, 3H2: 60 litres.

**6.1.4.8.10** Maximum net mass:

1H1, 1H2: 400 kg

3H1, 3H2: 120 kg.

**6.1.4.9 Boxes of natural wood**

4C1 ordinary

4C2 with sift-proof walls

**6.1.4.9.1** The wood used shall be well seasoned, commercially dry and free from defects that would materially lessen the strength of any part of the box. The strength of the material used and the method of construction shall be appropriate to the capacity and intended use of the box. The tops and bottoms may be made of water resistant reconstituted wood such as hardboard, particle board or other suitable type.

**6.1.4.9.2** Fastenings shall be resistant to vibration experienced under normal conditions of carriage. End grain nailing shall be avoided whenever practicable. Joins which are likely to be highly stressed shall be made using clenched or annular ring nails or equivalent fastenings.

**6.1.4.9.3** Box 4C2: each part shall consist of one piece or be equivalent thereto. Parts are considered equivalent to one piece when one of the following methods of glued assembly is used: Lindermann joint, tongue and groove joint, ship lap or rabbet joint or butt joint with at least two corrugated metal fasteners at each joint.

**6.1.4.9.4** Maximum net mass: 400 kg.

**6.1.4.10 Plywood boxes**

4D

**6.1.4.10.1** Plywood used shall be at least 3-ply. It shall be made from well seasoned rotary cut, sliced or sawn veneer, commercially dry and free from defects that would materially lessen the strength of the box. The strength of the material used and the method of construction shall be appropriate to the capacity and intended use of the box. All adjacent plies shall be glued with water resistant adhesive. Other suitable materials may be used together with plywood in the construction of boxes. Boxes shall be firmly nailed or secured to corner posts or ends or be assembled by equally suitable devices.

**6.1.4.10.2** Maximum net mass: 400 kg.

**6.1.4.11 Reconstituted wood boxes**

4F

**6.1.4.11.1** The walls of boxes shall be made of water resistant reconstituted wood such as hardboard, particle board or other suitable type. The strength of the material used and the method of construction shall be appropriate to the capacity of the boxes and to their intended use.

**6.1.4.11.2** Other parts of the boxes may be made of other suitable material.

**6.1.4.11.3** Boxes shall be securely assembled by means of suitable devices.

**6.1.4.11.4** Maximum net mass: 400 kg.



**6.1.4.12 Fibreboard boxes**

4G

- 6.1.4.12.1** Strong and good quality solid or double-faced corrugated fibreboard (single or multiwall) shall be used, appropriate to the capacity of the box and to its intended use. The water resistance of the outer surface shall be such that the increase in mass, as determined in a test carried out over a period of 30 minutes by the Cobb method of determining water absorption, is not greater than 155 g/m<sup>2</sup> - see ISO 535:1991. It shall have proper bending qualities. Fibreboard shall be cut, creased without scoring, and slotted so as to permit assembly without cracking, surface breaks or undue bending. The fluting of corrugated fibreboard shall be firmly glued to the facings.
- 6.1.4.12.2** The ends of boxes may have a wooden frame or be entirely of wood or other suitable material. Reinforcements of wooden battens or other suitable material may be used.
- 6.1.4.12.3** Manufacturing joins in the body of boxes shall be taped, lapped and glued, or lapped and stitched with metal staples. Lapped joins shall have an appropriate overlap.
- 6.1.4.12.4** Where closing is effected by gluing or taping, a water resistant adhesive shall be used.
- 6.1.4.12.5** Boxes shall be designed so as to provide a good fit to the contents.
- 6.1.4.12.6** Maximum net mass: 400 kg.

**6.1.4.13 Plastics boxes**

4H1 expanded plastics boxes

4H2 solid plastics boxes

- 6.1.4.13.1** The box shall be manufactured from suitable plastics material and be of adequate strength in relation to its capacity and intended use. The box shall be adequately resistant to ageing and to degradation caused either by the substance contained or by ultra-violet radiation.
- 6.1.4.13.2** An expanded plastics box shall comprise two parts made of a moulded expanded plastics material, a bottom section containing cavities for the inner packagings and a top section covering and interlocking with the bottom section. The top and bottom sections shall be designed so that the inner packagings fit snugly. The closure cap for any inner packaging shall not be in contact with the inside of the top section of this box.
- 6.1.4.13.3** For dispatch, an expanded plastics box shall be closed with a self-adhesive tape having sufficient tensile strength to prevent the box from opening. The adhesive tape shall be weather resistant and its adhesive compatible with the expanded plastics material of the box. Other closing devices at least equally effective may be used.
- 6.1.4.13.4** For solid plastics boxes, protection against ultra-violet radiation, if required, shall be provided by the addition of carbon black or other suitable pigments or inhibitors. These additives shall be compatible with the contents and remain effective throughout the life of the box. Where use is made of carbon black, pigments or inhibitors other than those used in the manufacture of the tested design type, retesting may be waived if the carbon black content does not exceed 2% by mass or if the pigment content does not exceed 3% by mass; the content of inhibitors of ultra-violet radiation is not limited.
- 6.1.4.13.5** Additives serving purposes other than protection against ultra-violet radiation may be included in the composition of the plastics material provided that they do not adversely affect the chemical or physical properties of the material of the box. In such circumstances, retesting may be waived.
- 6.1.4.13.6** Solid plastics boxes shall have closure devices made of a suitable material of adequate strength and so designed as to prevent the box from unintentional opening.
- 6.1.4.13.7** Where recycled plastics material is used for production of new packaging, the specific properties of the recycled material shall be assured and documented regularly as part of a quality assurance programme recognised by the competent authority. The quality assurance programme shall include a record of proper pre-sorting and verification that each batch of recycled plastics material has the proper melt flow rate, density, and tensile yield strength, consistent with that of the design type manufactured from such recycled material. This necessarily includes knowledge about the packaging material from which the recycled plastics have been derived, as well as the awareness of the prior contents of those packagings if those prior contents might reduce the capability of new packaging produced using that material. In addition, the packaging manufacturer's quality assurance programme under 6.1.1.4 shall include performance of the mechanical design type test in 6.1.5 on packagings manufactured from each batch of recycled plastics material. In this testing, stacking performance may be verified by appropriate dynamic compression testing rather than stacking test according to 6.1.5.6.



- 6.1.4.13.8** Maximum net mass:  
4H1: 60 kg  
4H2: 400 kg.
- 6.1.4.14 Steel or aluminium boxes**  
4A steel  
4B aluminium
- 6.1.4.14.1** The strength of the metal and the construction of the box shall be appropriate to the capacity of the box and to its intended use.
- 6.1.4.14.2** Boxes shall be lined with fibreboard or felt packing pieces or shall have an inner liner or coating of suitable material, as required. If a double seamed metal liner is used, steps shall be taken to prevent the ingress of substances, particularly explosives, into the recesses of the seams.
- 6.1.4.14.3** Closures may be of any suitable type; they shall remain secured under normal conditions of carriage.
- 6.1.4.14.4** Maximum net mass: 400 kg.
- 6.1.4.15 Textile bags**  
5L1 without inner liner or coating  
5L2 sift-proof  
5L3 water resistant
- 6.1.4.15.1** The textiles used shall be of good quality. The strength of the fabric and the construction of the bag shall be appropriate to the capacity of the bag and to its intended use.
- 6.1.4.15.2** Bags, sift-proof, 5L2: the bag shall be made sift-proof, for example by the use of:  
(a) paper bonded to the inner surface of the bag by a water resistant adhesive such as bitumen; or  
(b) plastics film bonded to the inner surface of the bag; or  
(c) one or more inner liners made of paper or plastics material.
- 6.1.4.15.3** Bags, water resistant, 5L3: to prevent the entry of moisture the bag shall be made waterproof, for example by the use of:  
(a) separate inner liners of water resistant paper (e.g. waxed kraft paper, tarred paper or plastics-coated kraft paper); or  
(b) plastics film bonded to the inner surface of the bag; or  
(c) one or more inner liners made of plastics material.
- 6.1.4.15.4** Maximum net mass: 50 kg.
- 6.1.4.16 Woven plastics bags**  
5H1 without inner liner or coating  
5H2 sift-proof  
5H3 water resistant
- 6.1.4.16.1** Bags shall be made from stretched tapes or monofilaments of a suitable plastics material. The strength of the material used and the construction of the bag shall be appropriate to the capacity of the bag and to its intended use.
- 6.1.4.16.2** If the fabric is woven flat, the bags shall be made by sewing or some other method ensuring closure of the bottom and one side. If the fabric is tubular, the bag shall be closed by sewing, weaving or some other equally strong method of closure.
- 6.1.4.16.3** Bags, sift-proof, 5H2: the bag shall be made sift-proof, for example by means of:  
(a) paper or a plastics film bonded to the inner surface of the bag; or  
(b) one or more separate inner liners made of paper or plastics material.
- 6.1.4.16.4** Bags, water resistant, 5H3: to prevent the entry of moisture, the bag shall be made waterproof, for example by means of:  
(a) separate inner liners of water resistant paper (e.g. waxed kraft paper, double-tarred kraft paper or plastics-coated kraft paper); or  
(b) plastics film bonded to the inner or outer surface of the bag; or  
(c) one or more inner plastics liners.

**6.1.4.16.5** Maximum net mass: 50 kg.

**6.1.4.17 Plastics film bags**

5H4

**6.1.4.17.1** Bags shall be made of a suitable plastics material. The strength of the material used and the construction of the bag shall be appropriate to the capacity of the bag and to its intended use. Joins and closures shall withstand pressures and impacts liable to occur under normal conditions of carriage.

**6.1.4.17.2** Maximum net mass: 50 kg.

**6.1.4.18 Paper bags**

5M1 multiwall

5M2 multiwall, water resistant

**6.1.4.18.1** Bags shall be made of a suitable kraft paper or of an equivalent paper with at least three plies, the middle ply of which may be net-cloth and adhesive bonding to the outer paper plies. The strength of the paper and the construction of the bags shall be appropriate to the capacity of the bag and to its intended use. Joins and closures shall be sift-proof.

**6.1.4.18.2** Bags 5M2: to prevent the entry of moisture, a bag of four plies or more shall be made waterproof by the use of either a water resistant ply as one of the two outermost plies or a water resistant barrier made of a suitable protective material between the two outermost plies; a bag of three plies shall be made waterproof by the use of a water resistant ply as the outermost ply. Where there is a danger of the substance contained reacting with moisture or where it is packed damp, a waterproof ply or barrier, such as double-tarred kraft paper, plastics-coated kraft paper, plastics film bonded to the inner surface of the bag, or one or more inner plastics liners, shall also be placed next to the substance. Joins and closures shall be waterproof.

**6.1.4.18.3** Maximum net mass : 50 kg.

**6.1.4.19 Composite packagings (plastics material)**

6HA1 plastics receptacle with outer steel drum

6HA2 plastics receptacle with outer steel crate or box

6HB1 plastics receptacle with outer aluminium drum

6HB2 plastics receptacle with outer aluminium crate or box

6HC plastics receptacle with outer wooden box

6HD1 plastics receptacle with outer plywood drum

6HD2 plastics receptacle with outer plywood box

6HG1 plastics receptacle with outer fibre drum

6HG2 plastics receptacle with outer fibreboard box

6HH1 plastics receptacle with outer plastics drum

6HH2 plastics receptacle with outer solid plastics box

**6.1.4.19.1 Inner receptacle**

**6.1.4.19.1.1** The requirements of 6.1.4.8.1 and 6.1.4.8.4 to 6.1.4.8.7 apply to plastics inner receptacles.

**6.1.4.19.1.2** The plastics inner receptacle shall fit snugly inside the outer packaging, which shall be free of any projection that might abrade the plastics material.

**6.1.4.19.1.3** Maximum capacity of inner receptacle:

6HA1, 6HB1, 6HD1, 6HG1, 6HH1: 250 litres

6HA2, 6HB2, 6HC, 6HD2, 6HG2, 6HH2: 60 litres.

**6.1.4.19.1.4** Maximum net mass:

6HA1, 6HB1, 6HD1, 6HG1, 6HH1: 400 kg

6HA2, 6HB2, 6HC, 6HD2, 6HG2, 6HH2: 75 kg.

**6.1.4.19.2 Outer packaging**

**6.1.4.19.2.1** Plastics receptacle with outer steel or aluminium drum 6HA1 or 6HB1; the relevant requirements of 6.1.4.1 or 6.1.4.2, as appropriate, apply to the construction of the outer packaging.

**6.1.4.19.2.2** Plastics receptacle with outer steel or aluminium crate or box 6HA2 or 6HB2; the relevant requirements of 6.1.4.14 apply to the construction of the outer packaging.

- 6.1.4.19.2.3** Plastics receptacle with outer wooden box 6HC; the relevant requirements of 6.1.4.9 apply to the construction of the outer packaging.
- 6.1.4.19.2.4** Plastics receptacle with outer plywood drum 6HD1; the relevant requirements of 6.1.4.5 apply to the construction of the outer packaging.
- 6.1.4.19.2.5** Plastics receptacle with outer plywood box 6HD2; the relevant requirements of 6.1.4.10 apply to the construction of the outer packaging.
- 6.1.4.19.2.6** Plastics receptacle with outer fibre drum 6HG1; the requirements of 6.1.4.7.1 to 6.1.4.7.4 apply to the construction of the outer packaging.
- 6.1.4.19.2.7** Plastics receptacle with outer fibreboard box 6HG2; the relevant requirements of 6.1.4.12 apply to the construction of the outer packaging.
- 6.1.4.19.2.8** Plastics receptacle with outer plastics drum 6HH1; the requirements of 6.1.4.8.1 to 6.1.4.8.6 apply to the construction of the outer packaging.
- 6.1.4.19.2.9** Plastics receptacles with outer solid plastics box (including corrugated plastics material) 6HH2; the requirements of 6.1.4.13.1 and 6.1.4.13.4 to 6.1.4.13.6 apply to the construction of the outer packaging.

**6.1.4.20 Composite packagings (glass, porcelain or stoneware)**

- 6PA1 receptacle with outer steel drum
- 6PA2 receptacle with outer steel crate or box
- 6PB1 receptacle with outer aluminium drum
- 6PB2 receptacle with outer aluminium crate or box
- 6PC receptacle with outer wooden box
- 6PD1 receptacle with outer plywood drum
- 6PD2 receptacle with outer wickerwork hamper
- 6PG1 receptacle with outer fibre drum
- 6PG2 receptacle with outer fibreboard box
- 6PH1 receptacle with outer expanded plastics packaging
- 6PH2 receptacle with outer solid plastics packaging

**6.1.4.20.1 Inner receptacle**

- 6.1.4.20.1.1** Receptacles shall be of a suitable form (cylindrical or pear-shaped) and be made of good quality material free from any defect that could impair their strength. The walls shall be sufficiently thick at every point and free from internal stresses.
- 6.1.4.20.1.2** Screw-threaded plastics closures, ground glass stoppers or closures at least equally effective shall be used as closures for receptacles. Any part of the closure likely to come into contact with the contents of the receptacle shall be resistant to those contents. Care shall be taken to ensure that the closures are so fitted as to be leakproof and are suitably secured to prevent any loosening during carriage. If vented closures are necessary, they shall comply with 4.1.1.8.
- 6.1.4.20.1.3** The receptacle shall be firmly secured in the outer packaging by means of cushioning and/or absorbent materials.
- 6.1.4.20.1.4** Maximum capacity of receptacle: 60 litres.
- 6.1.4.20.1.5** Maximum net mass: 75 kg.

**6.1.4.20.2 Outer packaging**

- 6.1.4.20.2.1** Receptacle with outer steel drum 6PA1; the relevant requirements of 6.1.4.1 apply to the construction of the outer packaging. The removable lid required for this type of packaging may nevertheless be in the form of a cap.
- 6.1.4.20.2.2** Receptacle with outer steel crate or box 6PA2; the relevant requirements of 6.1.4.14 apply to the construction of the outer packaging. For cylindrical receptacles the outer packaging shall, when upright, rise above the receptacle and its closure. If the crate surrounds a pear-shaped receptacle and is of matching shape, the outer packaging shall be fitted with a protective cover (cap).
- 6.1.4.20.2.3** Receptacle with outer aluminium drum 6PB1; the relevant requirements of 6.1.4.2 apply to the construction of the outer packaging.
- 6.1.4.20.2.4** Receptacle with outer aluminium crate or box 6PB2; the relevant requirements of 6.1.4.14 apply to the construction of the outer packaging.

- 6.1.4.20.2.5** Receptacle with outer wooden box 6PC; the relevant requirements of 6.1.4.9 apply to the construction of the outer packaging.
- 6.1.4.20.2.6** Receptacle with outer plywood drum 6PD1; the relevant requirements of 6.1.4.5 apply to the construction of the outer packaging.
- 6.1.4.20.2.7** Receptacle with outer wickerwork hamper 6PD2. The wickerwork hamper shall be properly made with material of good quality. It shall be fitted with a protective cover (cap) so as to prevent damage to the receptacle.
- 6.1.4.20.2.8** Receptacle with outer fibre drum 6PG1; the relevant requirements of 6.1.4.7.1 to 6.1.4.7.4 apply to the construction of the outer packaging.
- 6.1.4.20.2.9** Receptacle with outer fibreboard box 6PG2; the relevant requirements of 6.1.4.12 apply to the construction of the outer packaging.
- 6.1.4.20.2.10** Receptacle with outer expanded plastics or solid plastics packaging (6PH1 or 6PH2); the materials of both outer packagings shall meet the relevant requirements of 6.1.4.13. Outer solid plastics packaging shall be manufactured from high density polyethylene or some other comparable plastics material. The removable lid for this type of packaging may nevertheless be in the form of a cap.

**6.1.4.21 Combination packagings**

The relevant requirements of section 6.1.4 for the outer packagings to be used, are applicable.

**NOTE:** For the inner and outer packagings to be used, see the relevant packing instructions in Chapter 4.1.

**6.1.4.22 Light gauge metal packagings**

0A1 non-removable-head

0A2 removable-head

- 6.1.4.22.1** The sheet metal for the body and ends shall be of suitable steel, and of a gauge appropriate to the capacity and intended use of the packaging.
- 6.1.4.22.2** The joints shall be welded, at least double-seamed by welting or produced by a method ensuring a similar degree of strength and leakproofness.
- 6.1.4.22.3** Inner coatings of zinc, tin, lacquer, etc. shall be tough and shall adhere to the steel at every point, including the closures.
- 6.1.4.22.4** Openings for filling, emptying and venting in the bodies or heads of non-removable head (0A1) packagings shall not exceed 7 cm in diameter. Packagings with larger openings shall be considered to be of the removable-head type (0A2).
- 6.1.4.22.5** The closures of non-removable-head packagings (0A1) shall either be of the screw-threaded type or be capable of being secured by a screwable device or a device at least equally effective. The closures of removable-head packagings (0A2) shall be so designed and fitted that they stay firmly closed and the packagings remain leakproof in normal conditions of carriage.
- 6.1.4.22.6** Maximum capacity of packagings: 40 litres.
- 6.1.4.22.7** Maximum net mass: 50 kg.

**6.1.5 Test requirements for packagings**

**6.1.5.1 Performance and frequency of tests**

- 6.1.5.1.1** The design type of each packaging shall be tested as provided in 6.1.5 in accordance with procedures established by the competent authority allowing the allocation of the mark and shall be approved by this competent authority.
- 6.1.5.1.2** Each packaging design type shall successfully pass the tests prescribed in this Chapter before being used. A packaging design type is defined by the design, size, material and thickness, manner of construction and packing, but may include various surface treatments. It also includes packagings which differ from the design type only in their lesser design height.
- 6.1.5.1.3** Tests shall be repeated on production samples at intervals established by the competent authority. For such tests on paper or fibreboard packagings, preparation at ambient conditions is considered equivalent to the requirements of 6.1.5.2.3.
- 6.1.5.1.4** Tests shall also be repeated after each modification which alters the design, material or manner of construction of a packaging.

- 6.1.5.1.5** The competent authority may permit the selective testing of packagings that differ only in minor respects from a tested type, e.g. smaller sizes of inner packagings or inner packagings of lower net mass; and packagings such as drums, bags and boxes which are produced with small reductions in external dimension(s).
- 6.1.5.1.6** (Reserved)
- NOTE:** For the conditions for assembling different inner packagings in an outer packaging and permissible variations in inner packagings, see 4.1.1.5.1.
- 6.1.5.1.7** Articles or inner packagings of any type for solids or liquids may be assembled and carried without testing in an outer packaging under the following conditions:
- (a) The outer packaging shall have been successfully tested in accordance with 6.1.5.3 with fragile (e.g. glass) inner packagings containing liquids using the packing group I drop height;
  - (b) The total combined gross mass of inner packagings shall not exceed one half the gross mass of inner packagings used for the drop test in (a) above;
  - (c) The thickness of cushioning material between inner packagings and between inner packagings and the outside of the packaging shall not be reduced below the corresponding thicknesses in the originally tested packaging; and if a single inner packaging was used in the original test, the thicknesses of cushioning between inner packagings shall not be less than the thickness of cushioning between the outside of the packaging and the inner packaging in the original test. If either fewer or smaller inner packagings are used (as compared to the inner packagings used in the drop test), sufficient additional cushioning material shall be used to take up void spaces;
  - (d) The outer packaging shall have passed successfully the stacking test in 6.1.5.6 while empty. The total mass of identical packages shall be based on the combined mass of inner packagings used for the drop test in (a) above;
  - (e) Inner packagings containing liquids shall be completely surrounded with a sufficient quantity of absorbent material to absorb the entire liquid contents of the inner packagings;
  - (f) If the outer packaging is intended to contain inner packagings for liquids and is not leakproof, or is intended to contain inner packagings for solids and is not siftproof, a means of containing any liquid or solid contents in the event of leakage shall be provided in the form of a leakproof liner, plastics bag or other equally efficient means of containment. For packagings containing liquids, the absorbent material required in (e) above shall be placed inside the means of containing the liquid contents;
  - (g) Packagings shall be marked in accordance with 6.1.3 as having been tested to packing group I performance for combination packagings. The marked gross mass in kilograms shall be the sum of the mass of the outer packaging plus one half of the mass of the inner packaging(s) as used for the drop test referred to in (a) above. Such a package mark shall also contain a letter "V" as described in 6.1.2.4.
- 6.1.5.1.8** The competent authority may at any time require proof, by tests in accordance with this section, that serially-produced packagings meet the requirements of the design type tests. For verification purposes records of such tests shall be maintained.
- 6.1.5.1.9** If an inner treatment or coating is required for safety reasons, it shall retain its protective properties even after the tests.
- 6.1.5.1.10** Provided the validity of the test results is not affected and with the approval of the competent authority, several tests may be made on one sample.
- 6.1.5.1.11** **Salvage packagings**
- Salvage packagings (see 1.2.1) shall be tested and marked in accordance with the requirements applicable to packing group II packagings intended for the carriage of solids or inner packagings, except as follows:
- (a) The test substance used in performing the tests shall be water, and the packagings shall be filled to not less than 98% of their maximum capacity. It is permissible to use additives, such as bags of lead shot, to achieve the requisite total package mass so long as they are placed so that the test results are not affected. Alternatively, in performing the drop test, the drop height may be varied in accordance with 6.1.5.3.5 (b);
  - (b) Packagings shall, in addition, have been successfully subjected to the leakproofness test at 30 kPa, with the results of this test reflected in the test report required by 6.1.5.8; and
  - (c) Packagings shall be marked with the letter "T" as described in 6.1.2.4.
- 6.1.5.2** **Preparation of packagings for testing**
- 6.1.5.2.1** Tests shall be carried out on packagings prepared as for carriage including, with respect to combination packagings, the inner packagings used. Inner or single receptacles or packagings shall be filled to not less than 98% of their maximum capacity for liquids or 95% for solids. For combination packagings other than bags where the inner packaging is designed to carry liquids and solids, separate testing is required for both liquid and solid contents. Bags shall be filled to the maximum mass at which they may be used. The substances or articles to be carried in the packagings may be replaced by other substances or articles except where this would invalidate the results of the tests. For solids, when another substance is used it shall have

the same physical characteristics (mass, grain size, etc.) as the substance to be carried. It is permissible to use additives, such as bags of lead shot, to achieve the requisite total package mass, so long as they are placed so that the test results are not affected.

**6.1.5.2.2** In the drop tests for liquids, when another substance is used, it shall be of similar relative density and viscosity to those of the substance being carried. Water may also be used for the liquid drop test under the conditions in 6.1.5.3.5.

**6.1.5.2.3** Paper or fibreboard packagings shall be conditioned for at least 24 hours in an atmosphere having a controlled temperature and relative humidity (r.h.). There are three options, one of which shall be chosen. The preferred atmosphere is  $23\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$  and  $50\% \pm 2\%$  r.h. The two other options are  $20\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$  and  $65\% \pm 2\%$  r.h. or  $27\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$  and  $65\% \pm 2\%$  r.h.

**NOTE:** Average values shall fall within these limits. Short-term fluctuations and measurement limitations may cause individual measurements to vary by up to  $\pm 5\%$  relative humidity without significant impairment of test reproducibility.

**6.1.5.2.4** (Reserved)

**6.1.5.2.5** To check that their chemical compatibility with the liquids is sufficient, plastics drums and jerricans in accordance with 6.1.4.8 and if necessary composite packagings (plastics material) in accordance with 6.1.4.19 shall be subjected to storage at ambient temperature for six months, during which time the test samples shall be kept filled with the goods they are intended to carry.

For the first and last 24 hours of storage, the test samples shall be placed with the closure downwards. However, packagings fitted with a vent shall be so placed on each occasion for five minutes only. After this storage the test samples shall undergo the tests prescribed in 6.1.5.3 to 6.1.5.6.

When it is known that the strength properties of the plastics material of the inner receptacles of composite packagings (plastics material) are not significantly altered by the action of the filling substance, it shall not be necessary to check that the chemical compatibility is sufficient.

A significant alteration in strength properties means:

- (a) distinct embrittlement; or
- (b) a considerable decrease in elasticity, unless related to a not less than proportionate increase in the elongation under load.

Where the behaviour of the plastics material has been established by other means, the above compatibility test may be dispensed with. Such procedures shall be at least equivalent to the above compatibility test and be recognized by the competent authority.

**NOTE:** For plastics drums and jerricans and composite packagings (plastics material) made of polyethylene, see also 6.1.5.2.6 below.

**6.1.5.2.6** For polyethylene drums and jerricans in accordance with 6.1.4.8 and if necessary, polyethylene composite packagings in accordance with 6.1.4.19, chemical compatibility with filling liquids assimilated in accordance with 4.1.1.19 may be verified as follows with standard liquids (see 6.1.6).

The standard liquids are representative for the processes of deterioration on polyethylene, as there are softening through swelling, cracking under stress, molecular degradation and combinations thereof. The sufficient chemical compatibility of the packagings may be verified by storage of the required test samples for three weeks at  $40\text{ }^{\circ}\text{C}$  with the appropriate standard liquid(s); where this standard liquid is water, storage in accordance with this procedure is not required. Storage is not required either for test samples which are used for the stacking test in case of the standard liquids "wetting solution" and "acetic acid".

For the first and last 24 hours of storage, the test samples shall be placed with the closure downwards. However, packagings fitted with a vent shall be so placed on each occasion for five minutes only. After this storage, the test samples shall undergo the tests prescribed in 6.1.5.3 to 6.1.5.6.

The compatibility test for tert-Butyl hydroperoxide with more than 40% peroxide content and peroxyacetic acids of Class 5.2 shall not be carried out using standard liquids. For these substances, sufficient chemical compatibility of the test samples shall be verified during a storage period of six months at ambient temperature with the substances they are intended to carry.

Results of the procedure in accordance with this paragraph from polyethylene packagings can be approved for an equal design type, the internal surface of which is fluorinated.

**6.1.5.2.7** For packagings made of polyethylene, as specified in 6.1.5.2.6, which have passed the test in 6.1.5.2.6, filling substances other than those assimilated in accordance with 4.1.1.19 may also be approved. Such approval shall be based on laboratory tests<sup>3</sup> verifying that the effect of such filling substances on the test specimens is less than that of the appropriate standard liquid(s) taking into account the relevant processes of deterioration. The same conditions as those set out in 4.1.1.19.2 shall apply with respect to relative density and vapour pressure.

**6.1.5.2.8** Provided that the strength properties of the plastics inner packagings of a combination packaging are not significantly altered by the action of the filling substance, proof of chemical compatibility is not necessary. A significant alteration in strength properties means:

- (a) distinct embrittlement;
- (b) a considerable decrease in elasticity, unless related to a not less than proportionate increase in elastic elongation.

### **6.1.5.3 Drop test<sup>4</sup>**

**6.1.5.3.1** Number of test samples (per design type and manufacturer) and drop orientation

For other than flat drops the centre of gravity shall be vertically over the point of impact.

Where more than one orientation is possible for a given drop test, the orientation most likely to result in failure of the packaging shall be used.

Packaging	No. of test samples	Drop orientation
(a) Steel drums Aluminium drums Drums of metal other than steel or aluminium Steel jerricans Aluminium jerricans Plywood drums Fibre drums Plastics drums and jerricans Composite packagings which are in the shape of a drum Light gauge metal packagings	Six (three for each drop)	First drop (using three samples): packaging shall strike the target diagonally on the chime or, if the packaging has no chime, on a circumferential seam or an edge.  Second drop (using the other three samples): the packaging shall strike the target on the weakest part not tested by the first drop, for example a closure or, for some cylindrical drums, the welded longitudinal seam of the drum body.
(b) Boxes of natural wood Plywood boxes Reconstituted wood boxes Fibreboard boxes Plastics boxes Steel or aluminium boxes Composite packagings which are in the shape of a box	Five (one for each drop)	First drop: flat on the bottom Second drop: flat on the top Third drop: flat on the long side Fourth drop: flat on the short side Fifth drop: on a corner
(c) Bags – single-ply with a side seam	Three (three drops per bag)	First drop: flat on a wide face Second drop: flat on a narrow face Third drop: on an end of the bag
(d) Bags – single-ply without a side seam, or multi-ply	Three (two drops per bag)	First drop: flat on a wide face Second drop: on an end of the bag

<sup>3</sup> Laboratory tests for the proof of the chemical compatibility of polyethylene according to 6.1.5.2.6 proving that the effect of filling substances (substances, mixtures and preparations) is less than that of the standard liquids set out in 6.1.6 see guidelines in the non-legally binding part of RID published by the Secretariat of OTIF.

<sup>4</sup> See ISO Standard 2248.



(e) Composite packagings (glass, stoneware or porcelain), marked with the symbol "RID/ADR" according to 6.1.3.1 (a) (ii) and which are in the shape of a drum or box	Three (one for each drop)	Diagonally on the bottom chime, or, if there is no chime, on a circumferential seam or the bottom edge.
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#### 6.1.5.3.2 Special preparation of test samples for the drop test

The temperature of the test sample and its contents shall be reduced to  $-18^{\circ}\text{C}$  or lower for the following packagings:

- (a) plastics drums (see 6.1.4.8);
- (b) plastics jerricans (see 6.1.4.8);
- (c) plastics boxes other than expanded plastics boxes (see 6.1.4.13);
- (d) composite packagings (plastics material) (see 6.1.4.19) and;
- (e) combination packagings with plastics inner packagings, other than plastics bags intended to contain solids or articles.

Where test samples are prepared in this way, the conditioning in 6.1.5.2.3 may be waived. Test liquids shall be kept in the liquid state by the addition of anti-freeze if necessary.

#### 6.1.5.3.3 Removable head packagings for liquids shall not be dropped until at least 24 hours after filling and closing to allow for any possible gasket relaxation.

#### 6.1.5.3.4 Target

The target shall be a non-resilient and horizontal surface and shall be:

- Integral and massive enough to be immovable;
- Flat with a surface kept free from local defects capable of influencing the test results;
- Rigid enough to be non-deformable under test conditions and not liable to become damaged by the tests; and
- Sufficiently large to ensure that the test package falls entirely upon the surface.

#### 6.1.5.3.5 Drop height

For solids and liquids, if the test is performed with the solid or liquid to be carried or with another substance having essentially the same physical characteristics:

Packing Group I	Packing Group II	Packing Group III
1.8 m	1.2 m	0.8 m

For liquids in single packagings and for inner packagings of combination packagings, if the test is performed with water:

**NOTE:** The term water includes water/antifreeze solutions with a minimum specific gravity of 0.95 for testing at  $-18^{\circ}\text{C}$ .

- (a) where the substances to be carried have a relative density not exceeding 1.2:

Packing Group I	Packing Group II	Packing Group III
1.8 m	1.2 m	0.8 m

- (b) where the substances to be carried have a relative density exceeding 1.2, the drop height shall be calculated on the basis of the relative density (d) of the substance to be carried, rounded up to the first decimal, as follows:

Packing Group I	Packing Group II	Packing Group III
$d \times 1.5$ (m)	$d \times 1.0$ (m)	$d \times 0.67$ (m)

- (c) for light-gauge metal packagings, marked with symbol "RID/ADR" according to 6.1.3.1(a) (ii) intended for the carriage of substances having a viscosity at  $23^{\circ}\text{C}$  greater than  $200 \text{ mm}^2/\text{s}$  (corresponding to a flow time of 30 seconds with an ISO flow cup having a jet orifice of 6 mm diameter in accordance with ISO Standard 2431:1993)

- (i) if the relative density does not exceed 1.2:

Packing Group II	Packing Group III
0.6 m	0.4 m



- (ii) where the substances to be carried have a relative density (d) exceeding 1.2 the drop height shall be calculated on the basis of the relative density (d) of the substance to be carried, rounded up to the first decimal place, as follows:

Packing Group II	Packing Group III
$d \times 0.5$ (m)	$d \times 0.33$ (m)

**6.1.5.3.6** Criteria for passing the test:

- 6.1.5.3.6.1** Each packaging containing liquid shall be leakproof when equilibrium has been reached between the internal and external pressures, however for inner packagings of combination packagings and except for inner receptacles of composite packagings (glass, porcelain or stoneware), marked with the symbol "RID/ADR" according to 6.1.3.1 (a) (ii) it is not necessary that the pressures be equalized.
- 6.1.5.3.6.2** Where a packaging for solids undergoes a drop test and its upper face strikes the target, the test sample passes the test if the entire contents are retained by an inner packaging or inner receptacle (e.g. a plastics bag), even if the closure while retaining its containment function, is no longer sift-proof.
- 6.1.5.3.6.3** The packaging or outer packaging of a composite or combination packaging shall not exhibit any damage liable to affect safety during carriage. There shall be no leakage of the filling substance from the inner receptacle or inner packaging(s).
- 6.1.5.3.6.4** Neither the outermost ply of a bag nor an outer packaging may exhibit any damage liable to affect safety during carriage.
- 6.1.5.3.6.5** A slight discharge from the closure(s) upon impact is not considered to be a failure of the packaging provided that no further leakage occurs.
- 6.1.5.3.6.6** No rupture is permitted in packagings for goods of Class 1 which would permit the spillage of loose explosive substances or articles from the outer packaging.

**6.1.5.4 Leakproofness test**

The leakproofness test shall be performed on all design types of packagings intended to contain liquids; however, this test is not required for

- inner packagings of combination packagings;
- inner receptacles of composite packagings (glass, porcelain or stoneware), marked with the symbol "RID/ADR" according to 6.1.3.1 (a) (ii);
- light gauge metal packagings, marked with the symbol "RID/ADR" according to 6.1.3.1 (a) (ii) intended for substances with a viscosity at 23 °C exceeding 200 mm<sup>2</sup>/s.

**6.1.5.4.1** Number of test samples: three test samples per design type and manufacturer.

**6.1.5.4.2** Special preparation of test samples for the test:

either vented closures shall be replaced by similar non-vented closures or the vent shall be sealed.

**6.1.5.4.3** Test method and pressure to be applied:

the packagings including their closures shall be restrained under water for 5 minutes while an internal air pressure is applied, the method of restraint shall not affect the results of the test.

The air pressure (gauge) to be applied shall be:

Packing Group I	Packing Group II	Packing Group III
Not less than 30 kPa (0.3 bar)	Not less than 20 kPa (0.2 bar)	Not less than 20 kPa (0.2 bar)

Other methods at least equally effective may be used.

**6.1.5.4.4** Criterion for passing the test:

there shall be no leakage.

**6.1.5.5 Internal pressure (hydraulic) test**

**6.1.5.5.1** Packagings to be tested

The internal pressure (hydraulic) test shall be carried out on all design types of metal, plastics and composite packagings intended to contain liquids. This test is not required for:

- inner packagings of combination packagings;
- inner receptacles of composite packagings (glass, porcelain or stoneware), marked with the symbol "RID/ADR" according to 6.1.3.1 (a) (ii);
- light gauge metal packagings, marked with the symbol "RID/ADR" according to 6.1.3.1 (a) (ii) intended for substances with a viscosity at 23 °C exceeding 200 mm<sup>2</sup>/s.

**6.1.5.5.2** Number of test samples: three test samples per design type and manufacturer.

**6.1.5.5.3** Special preparation of packagings for testing:

either vented closures shall be replaced by similar non-vented closures or the vent shall be sealed.

**6.1.5.5.4** Test method and pressure to be applied: metal packagings and composite packagings (glass, porcelain or stoneware), including their closures, shall be subjected to the test pressure for 5 minutes. Plastics packagings and composite packagings (plastics material) including their closures shall be subjected to the test pressure for 30 minutes. This pressure is the one to be included in the marking required by 6.1.3.1 (d). The manner in which the packagings are supported shall not invalidate the test. The test pressure shall be applied continuously and evenly; it shall be kept constant throughout the test period. The hydraulic pressure (gauge) applied, as determined by any one of the following methods, shall be:

- (a) not less than the total gauge pressure measured in the packaging (i.e. the vapour pressure of the filling liquid and the partial pressure of the air or other inert gases, minus 100 kPa) at 55 °C, multiplied by a safety factor of 1.5; this total gauge pressure shall be determined on the basis of a maximum degree of filling in accordance with 4.1.1.4 and a filling temperature of 15 °C; or
- (b) not less than 1.75 times the vapour pressure at 50 °C of the liquid to be carried, minus 100 kPa but with a minimum test pressure of 100 kPa; or
- (c) not less than 1.5 times the vapour pressure at 55 °C of the liquid to be carried, minus 100 kPa but with a minimum test pressure of 100 kPa.

**6.1.5.5.5** In addition, packagings intended to contain liquids of packing group I shall be tested to a minimum test pressure of 250 kPa (gauge) for a test period of 5 or 30 minutes depending upon the material of construction of the packaging.

**6.1.5.5.6** Criterion for passing the test:

no packaging may leak.

#### **6.1.5.6 Stacking test**

All design types of packagings other than bags and other than non-stackable composite packagings (glass, porcelain, or stoneware), marked with the symbol "RID/ADR" according to 6.1.3.1 (a) (ii) shall be subjected to a stacking test.

**6.1.5.6.1** Number of test samples: three test samples per design type and manufacturer.

**6.1.5.6.2** Test method:

the test sample shall be subjected to a force applied to the top surface of the test sample equivalent to the total weight of identical packages which might be stacked on it during carriage; where the contents of the test sample are liquids with relative density different from that of the liquid to be carried, the force shall be calculated in relation to the latter. The minimum height of the stack including the test sample shall be 3 metres. The duration of the test shall be 24 hours except that plastics drums, jerricans, and composite packagings 6HH1 and 6HH2 intended for liquids shall be subjected to the stacking test for a period of 28 days at a temperature of not less than 40 °C.

For the test in accordance with 6.1.5.2.5, the original filling substance shall be used. For the test in accordance with 6.1.5.2.6, a stacking test shall be carried out with a standard liquid.

**6.1.5.6.3** Criteria for passing the test:

no test sample shall leak. In composite packagings or combination packagings, there shall be no leakage of the filling substance from the inner receptacle or inner packaging. No test sample shall show any deterioration which could adversely affect transport safety or any distortion liable to reduce its strength or cause instability in stacks of packages. Plastics packagings shall be cooled to ambient temperature before the assessment.

**6.1.5.7 Supplementary permeability test for plastics drums and jerricans in accordance with 6.1.4.8 and for composite packagings (plastics material) in accordance with 6.1.4.19 intended for the carriage of liquids having a flash-point  $\leq 60$  °C, other than 6HA1 packagings**

Polyethylene packagings need be subjected to this test only if they are to be approved for the carriage of benzene, toluene, xylene or mixtures and preparations containing those substances.

**6.1.5.7.1** Number of test samples: three packagings per design type and manufacturer.

**6.1.5.7.2** Special preparation of the test sample for the test:

the test samples are to be pre-stored with the original filling substance in accordance with 6.1.5.2.5, or, for polyethylene packagings, with the standard liquid mixture of hydrocarbons (white spirit) in accordance with 6.1.5.2.6.

**6.1.5.7.3** Test method:

the test samples filled with the substance for which the packaging is to be approved shall be weighed before and after storage for 28 days at 23 °C and 50% relative atmospheric humidity. For polyethylene packagings, the test may be carried out with the standard liquid mixture of hydrocarbons (white spirit) in place of benzene, toluene or xylene.

**6.1.5.7.4** Criterion for passing the test:

permeability shall not exceed  $0.008 \frac{\text{g}}{\text{l} \cdot \text{h}}$ .

**6.1.5.8 Test Report**

**6.1.5.8.1** A test report containing at least the following particulars shall be drawn up and shall be available to the users of the packaging:

1. Name and address of the test facility;
2. Name and address of applicant (where appropriate);
3. A unique test report identification;
4. Date of the test report;
5. Manufacturer of the packaging;
6. Description of the packaging design type (e.g. dimensions, materials, closures, thickness, etc.), including method of manufacture (e.g. blow moulding) and which may include drawing(s) and/or photograph(s);
7. Maximum capacity;
8. Characteristics of test contents, e.g. viscosity and relative density for liquids and particle size for solids;
9. Test descriptions and results;
10. The test report shall be signed with the name and status of the signatory.

**6.1.5.8.2** The test report shall contain statements that the packaging prepared as for carriage was tested in accordance with the appropriate requirements of this section and that the use of other packaging methods or components may render it invalid. A copy of the test report shall be available to the competent authority.

**6.1.6 Standard liquids for verifying the chemical compatibility testing of polyethylene packagings, including IBCs, in accordance with 6.1.5.2.6 and 6.5.6.3.5, respectively**

**6.1.6.1** The following standard liquids shall be used for this plastics material.

(a) **Wetting Solution** for substances causing severe cracking in polyethylene under stress, in particular for all solutions and preparations containing wetting agents.

An aqueous solution of 1% of alkyl benzene sulphonate, or an aqueous solution of 5% nonylphenol ethoxylate which has been preliminary stored for at least 14 days at a temperature of 40 °C before being used for the first time for the tests, shall be used.

The surface tension of this solution shall be 31 to 35 mN/m at 23 °C.

The stacking test shall be carried out on the basis of a relative density of not less than 1.20.

A compatibility test with acetic acid is not required if adequate chemical compatibility is proved with a wetting solution.

For filling substances causing cracking in polyethylene under stress which is resistant to the wetting solution, adequate chemical compatibility may be proved after preliminary storing for three weeks at 40 °C in accordance with 6.1.5.2.6, but with the original filling matter.

- (b) **Acetic acid** for substances and preparations causing cracking in polyethylene under stress, in particular for monocarboxylic acids and monovalent alcohols.

Acetic acid in 98 to 100% concentration shall be used.

Relative density = 1.05.

The stacking test shall be carried out on the basis of a relative density not less than 1.1.

In the case of filling substances causing polyethylene to swell more than acetic acid and to such an extent that the polyethylene mass is increased by up to 4%, adequate chemical compatibility may be proved after preliminary storing for three weeks at 40 °C, in accordance with 6.1.5.2.6 but with the original filling matter.

- (c) **Normal butyl acetate/normal butyl acetate-saturated wetting solution** for substances and preparations causing polyethylene to swell to such an extent that the polyethylene mass is increased by about 4% and at the same time causing cracking under stress, in particular for phyto-sanitary products, liquid paints and esters.

Normal butyl acetate in 98 to 100% concentration shall be used for preliminary storage in accordance with 6.1.5.2.6.

For the stacking test in accordance with 6.1.5.6, a test liquid consisting of a 1 to 10% aqueous wetting solution mixed with 2% normal butyl acetate conforming to (a) above shall be used.

The stacking test shall be carried out on the basis of a relative density not less than 1.0.

In the case of filling substances causing polyethylene to swell more than normal butyl acetate and to such an extent that the polyethylene mass is increased by up to 7.5%, adequate chemical compatibility may be proved after preliminary storing for three weeks at 40 °C, in accordance with 6.1.5.2.6 but with the original filling matter.

- (d) **Mixture of hydrocarbons (white spirit)** for substances and preparations causing polyethylene to swell, in particular for hydrocarbons, esters and ketones.

A mixture of hydrocarbons having a boiling range 160 °C to 220 °C, relative density 0.78-0.80, flash-point > 50 °C and an aromatic content 16% to 21% shall be used.

The stacking test shall be carried out on the basis of a relative density not less than 1.0.

In the case of filling substances causing polyethylene to swell to such an extent that the polyethylene mass is increased by more than 7.5%, adequate chemical compatibility may be proved after preliminary storing for three weeks at 40 °C, in accordance with 6.1.5.2.6 but with the original filling matter.

- (e) **Nitric acid** for all substances and preparations having an oxidizing effect on polyethylene and causing molecular degradation identical to or less than 55% nitric acid.

Nitric acid in a concentration of not less than 55% shall be used.

The stacking test shall be carried out on the basis of a relative density of not less than 1.4.

In the case of filling substances more strongly oxidizing than 55% nitric acid or causing degradation of the molecular mass proceed in accordance with 6.1.5.2.5.

The period of use shall be determined in such cases by observing the degree of damage (e.g. two years for nitric acid in not less than 55% concentration).

- (f) **Water** for substances which do not attack polyethylene in any of the cases referred to under (a) to (e), in particular for inorganic acids and lyes, aqueous saline solutions, polyvalent alcohols and organic substances in aqueous solution.

The stacking test shall be carried out on the basis of a relative density of not less than 1.2.

A design type test with water is not required if adequate chemical compatibility is proved with wetting solution or nitric acid.

## Chapter 6.2

### Requirements for the construction and testing of pressure receptacles, aerosol dispensers, small receptacles containing gas (gas cartridges) and fuel cell cartridges containing liquefied flammable gas

#### 6.2.1 General requirements

**NOTE:** Aerosol dispensers, small receptacles containing gas (gas cartridges) and fuel cell cartridges containing liquefied flammable gas are not subject to the requirements of 6.2.1 to 6.2.5.

#### 6.2.1.1 Design and construction

6.2.1.1.1 Pressure receptacles and their closures shall be designed, manufactured, tested and equipped in such a way as to withstand all conditions, including fatigue, to which they will be subjected during normal conditions of carriage and use.

6.2.1.1.2 (Reserved)

6.2.1.1.3 In no case shall the minimum wall thickness be less than that specified in the design and construction technical standards.

6.2.1.1.4 For welded pressure receptacles, only metals of weldable quality shall be used.

6.2.1.1.5 The test pressure of cylinders, tubes, pressure drums and bundles of cylinders shall be in accordance with packing instruction P200 of 4.1.4.1. The test pressure for closed cryogenic receptacles shall be in accordance with packing instruction P203 of 4.1.4.1.

6.2.1.1.6 Pressure receptacles assembled in bundles shall be structurally supported and held together as a unit. Pressure receptacles shall be secured in a manner that prevents movement in relation to the structural assembly and movement that would result in the concentration of harmful local stresses. Manifold assemblies (e.g. manifold, valves, and pressure gauges) shall be designed and constructed such that they are protected from impact damage and forces normally encountered in carriage. Manifolds shall have at least the same test pressure as the cylinders. For toxic liquefied gases, each pressure receptacle shall have an isolation valve to ensure that each pressure receptacle can be filled separately and that no interchange of pressure receptacle contents can occur during carriage.

**NOTE:** Toxic liquefied gases have the classification codes 2T, 2TF, 2TC, 2TO, 2TFC or 2TOC.

6.2.1.1.7 Contact between dissimilar metals which could result in damage by galvanic action shall be avoided.

#### 6.2.1.1.8 Additional requirements for the construction of closed cryogenic receptacles for refrigerated liquefied gases

6.2.1.1.8.1 The mechanical properties of the metal used shall be established for each pressure receptacle, including the impact strength and the bending coefficient.

**NOTE:** With regard to the impact strength, sub-section 6.8.5.3 gives details of test requirements which may be used.

6.2.1.1.8.2 The pressure receptacles shall be thermally insulated. The thermal insulation shall be protected against impact by means of a jacket. If the space between the pressure receptacle and the jacket is evacuated of air (vacuum-insulation), the jacket shall be designed to withstand without permanent deformation an external pressure of at least 100 kPa (1 bar) calculated in accordance with a recognised technical code or a calculated critical collapsing pressure of not less than 200 kPa (2 bar) gauge pressure. If the jacket is so closed as to be gas-tight (e.g. in the case of vacuum-insulation), a device shall be provided to prevent any dangerous pressure from developing in the insulating layer in the event of inadequate gas-tightness of the pressure receptacle or its fittings. The device shall prevent moisture from penetrating into the insulation.

6.2.1.1.8.3 Closed cryogenic receptacles intended for the carriage of refrigerated liquefied gases having a boiling point below  $-182^{\circ}\text{C}$  at atmospheric pressure shall not include materials which may react with oxygen or oxygen enriched atmospheres in a dangerous manner, when located in parts of the thermal insulation where there is a risk of contact with oxygen or with oxygen enriched liquid.

6.2.1.1.8.4 Closed cryogenic receptacles shall be designed and constructed with suitable lifting and securing arrangements.

#### 6.2.1.1.9 Additional requirements for the construction of pressure receptacles for acetylene

Pressure receptacles for UN 1001 acetylene, dissolved, and UN 3374 acetylene, solvent free, shall be filled with a porous material, uniformly distributed, of a type that conforms to the requirements and testing specified by the competent authority and which:

(a) Is compatible with the pressure receptacle and does not form harmful or dangerous compounds either with the acetylene or with the solvent in the case of UN 1001; and

(b) Is capable of preventing the spread of decomposition of the acetylene in the porous material.

In the case of UN 1001, the solvent shall be compatible with the pressure receptacle.

#### **6.2.1.2 Materials**

**6.2.1.2.1** Construction materials of pressure receptacles and their closures which are in direct contact with dangerous goods shall not be affected or weakened by the dangerous goods intended to be carried and shall not cause a dangerous effect e.g. catalysing a reaction or reacting with the dangerous goods.

**6.2.1.2.2** Pressure receptacles and their closures shall be made of the materials specified in the design and construction technical standards and the applicable packing instruction for the substances intended for carriage in the pressure receptacle. The materials shall be resistant to brittle fracture and to stress corrosion cracking as indicated in the design and construction technical standards.

#### **6.2.1.3 Service equipment**

**6.2.1.3.1** Valves, piping and other fittings subjected to pressure, excluding pressure relief devices, shall be designed and constructed so that the burst pressure is at least 1.5 times the test pressure of the pressure receptacle.

**6.2.1.3.2** Service equipment shall be configured or designed to prevent damage that could result in the release of the pressure receptacle contents during normal conditions of handling and carriage. Manifold piping leading to shut-off valves shall be sufficiently flexible to protect the valves and the piping from shearing or releasing the pressure receptacle contents. The filling and discharge valves and any protective caps shall be capable of being secured against unintended opening. Valves shall be protected as specified in 4.1.6.8.

**6.2.1.3.3** Pressure receptacles which are not capable of being handled manually or rolled, shall be fitted with devices (skids, rings, straps) ensuring that they can be safely handled by mechanical means and so arranged as not to impair the strength of, nor cause undue stresses in, the pressure receptacle.

**6.2.1.3.4** Individual pressure receptacles shall be equipped with pressure relief devices as specified in packing provision P200 (2) of 4.1.4.1 or in 6.2.1.3.6.4 and 6.2.1.3.6.5. Pressure-relief devices shall be designed to prevent the entry of foreign matter, the leakage of gas and the development of any dangerous excess pressure. When fitted, pressure relief devices on manifolded horizontal pressure receptacles filled with flammable gas shall be arranged to discharge freely to the open air in such a manner as to prevent any impingement of escaping gas upon the pressure receptacle itself under normal conditions of carriage.

**6.2.1.3.5** Pressure receptacles whose filling is measured by volume shall be provided with a level indicator.

#### **6.2.1.3.6 Additional requirements for closed cryogenic receptacles**

**6.2.1.3.6.1** Each filling and discharge opening in a closed cryogenic receptacle used for the carriage of flammable refrigerated liquefied gases shall be fitted with at least two mutually independent shut-off devices in series, the first being a stop-valve, the second being a cap or equivalent device.

**6.2.1.3.6.2** For sections of piping which can be closed at both ends and where liquid product can be trapped, a method of automatic pressure-relief shall be provided to prevent excess pressure build-up within the piping.

**6.2.1.3.6.3** Each connection on a closed cryogenic receptacle shall be clearly marked to indicate its function (e.g. vapour or liquid phase).

#### **6.2.1.3.6.4 Pressure-relief devices**

**6.2.1.3.6.4.1** Every closed cryogenic receptacle shall be provided with at least one pressure-relief device. The pressure-relief device shall be of the type that will resist dynamic forces including surge.

**6.2.1.3.6.4.2** Closed cryogenic receptacles may, in addition, have a frangible disc in parallel with the spring loaded device(s) in order to meet the requirements of 6.2.1.3.6.5.

**6.2.1.3.6.4.3** Connections to pressure-relief devices shall be of sufficient size to enable the required discharge to pass unrestricted to the pressure-relief device.

**6.2.1.3.6.4.4** All pressure-relief device inlets shall under maximum filling conditions be situated in the vapour space of the closed cryogenic receptacle and the devices shall be so arranged as to ensure that the escaping vapour is discharged unrestrictedly.

#### **6.2.1.3.6.5 Capacity and setting of pressure-relief devices**

**NOTE:** In relation to pressure-relief devices of closed cryogenic receptacles, maximum allowable working pressure (MAWP) means the maximum effective gauge pressure permissible at the top of a loaded

closed cryogenic receptacle in its operating position including the highest effective pressure during filling and discharge.

**6.2.1.3.6.5.1** The pressure-relief device shall open automatically at a pressure not less than the MAWP and be fully open at a pressure equal to 110% of the MAWP. It shall, after discharge, close at a pressure not lower than 10% below the pressure at which discharge starts and shall remain closed at all lower pressures.

**6.2.1.3.6.5.2** Frangible discs shall be set to rupture at a nominal pressure which is the lower of either the test pressure or 150% of the MAWP.

**6.2.1.3.6.5.3** In the case of the loss of vacuum in a vacuum-insulated closed cryogenic receptacle the combined capacity of all pressure-relief devices installed shall be sufficient so that the pressure (including accumulation) inside the closed cryogenic receptacle does not exceed 120% of the MAWP.

**6.2.1.3.6.5.4** The required capacity of the pressure-relief devices shall be calculated in accordance with an established technical code recognized by the competent authority<sup>1</sup>.

#### **6.2.1.4 Approval of pressure receptacles**

**6.2.1.4.1** The conformity of pressure receptacles shall be assessed at time of manufacture as required by the competent authority. Pressure receptacles shall be inspected, tested and approved by an inspection body. The technical documentation shall include full specifications on design and construction, and full documentation on the manufacturing and testing.

**6.2.1.4.2** Quality assurance systems shall conform to the requirements of the competent authority.

#### **6.2.1.5 Initial inspection and test**

**6.2.1.5.1** New pressure receptacles, other than closed cryogenic receptacles, shall be subjected to testing and inspection during and after manufacture in accordance with the applicable design standards including the following:

On an adequate sample of pressure receptacles:

- (a) Testing of the mechanical characteristics of the material of construction;
- (b) Verification of the minimum wall thickness;
- (c) Verification of the homogeneity of the material for each manufacturing batch;
- (d) Inspection of the external and internal conditions of the pressure receptacles;
- (e) Inspection of the neck threads;
- (f) Verification of the conformance with the design standard;

For all pressure receptacles:

- (g) A hydraulic pressure test. Pressure receptacles shall withstand the test pressure without expansion greater than that allowed in the design specification;

**NOTE:** With the agreement of the competent authority, the hydraulic pressure test may be replaced by a test using a gas, where such an operation does not entail any danger.

- (h) Inspection and assessment of manufacturing defects and either repairing them or rendering the pressure receptacles unserviceable. In the case of welded pressure receptacles, particular attention shall be paid to the quality of the welds;
- (i) An inspection of the markings on the pressure receptacles;
- (j) In addition, pressure receptacles intended for the carriage of UN No. 1001 acetylene, dissolved, and UN No. 3374 acetylene, solvent free, shall be inspected to ensure proper installation and condition of the porous material and, if applicable, the quantity of solvent.

**6.2.1.5.2** On an adequate sample of closed cryogenic receptacles, the inspections and tests specified in 6.2.1.5.1 (a), (b), (d) and (f) shall be performed. In addition, welds shall be inspected by radiographic, ultrasonic or another suitable non-destructive test method on a sample of closed cryogenic receptacles according to the applicable design and construction standard. This weld inspection does not apply to the jacket.

Additionally, all closed cryogenic receptacles shall undergo the initial inspections and tests specified in 6.2.1.5.1 (g), (h) and (i), as well as a leakproofness test and a test of the satisfactory operation of the service equipment after assembly.

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<sup>1</sup> See for example CGA Publications S-1.2-2003 "Pressure Relief Device Standards – Part 2 – Cargo and Portable Tanks for Compressed Gases" and S-1.1-2003 "Pressure Relief Device Standards – Part 1 – Cylinders for Compressed Gases".



**6.2.1.6 Periodic inspection and test**

**6.2.1.6.1** Refillable pressure receptacles, other than cryogenic receptacles, shall be subjected to periodic inspections and tests by a body authorised by the competent authority, in accordance with the following:

- (a) Check of the external conditions of the pressure receptacle and verification of the equipment and the external markings;
- (b) Check of the internal conditions of the pressure receptacle (e.g. internal inspection, verification of minimum wall thickness);
- (c) Checking of the threads if there is evidence of corrosion or if the fittings are removed;
- (d) A hydraulic pressure test and, if necessary, verification of the characteristics of the material by suitable tests;
- (e) Check of service equipment, other accessories and pressure-relief devices, if to be reintroduced into service.

**NOTE 1:** With the agreement of the competent authority, the hydraulic pressure test may be replaced by a test using a gas, where such an operation does not entail any danger.

**2:** With the agreement of the competent authority, the hydraulic pressure test of cylinders or tubes may be replaced by an equivalent method based on acoustic emission testing, ultrasonic examination or a combination of acoustic emission testing and ultrasonic examination.

**3:** For the periodic inspection and test frequencies, see packing instruction P200 in 4.1.4.1.

**6.2.1.6.2** Pressure receptacles intended for the carriage of UN No. 1001 acetylene, dissolved and UN No. 3374 acetylene, solvent free, shall be examined only as specified in 6.2.1.6.1 (a), (c) and (e). In addition the condition of the porous material (e.g. cracks, top clearance, loosening, settlement) shall be examined.

**6.2.1.7 Requirements for manufacturers**

**6.2.1.7.1** The manufacturer shall be technically able and shall possess all resources required for the satisfactory manufacture of pressure receptacles; this relates in particular to qualified personnel:

- (a) To supervise the entire manufacturing process;
- (b) To carry out joining of materials; and
- (c) To carry out the relevant tests.

**6.2.1.7.2** The proficiency test of a manufacturer shall in all instances be carried out by an inspection body approved by the competent authority of the country of approval.

**6.2.1.8 Requirements for inspection bodies**

**6.2.1.8.1** Inspection bodies shall be independent from manufacturing enterprises and competent to perform the tests, inspections and approvals required.

**6.2.2 Requirements for UN pressure receptacles**

In addition to the general requirements of section 6.2.1, UN pressure receptacles shall comply with the requirements of this section, including the standards, as applicable.

**6.2.2.1 Design, construction and initial inspection and test**

**6.2.2.1.1** The following standards apply for the design, construction, and initial inspection and test of UN cylinders, except that inspection requirements related to the conformity assessment system and approval shall be in accordance with 6.2.2.5:

ISO 9809-1:1999	Gas cylinders – Refillable seamless steel gas cylinders – Design, construction and testing – Part 1: Quenched and tempered steel cylinders with tensile strength less than 1 100 MPa <b>NOTE:</b> The note concerning the F factor in section 7.3 of this standard shall not be applied for UN cylinders.
ISO 9809-2:2000	Gas cylinders – Refillable seamless steel gas cylinders – Design, construction and testing – Part 2: Quenched and tempered steel cylinders with tensile strength greater than or equal to 1 100 MPa
ISO 9809-3:2000	Gas cylinders – Refillable seamless steel gas cylinders – Design, construction and testing – Part 3: Normalized steel cylinders



ISO 7866:1999	Gas cylinders – Refillable seamless aluminium alloy gas cylinders – Design, construction and testing <b>NOTE:</b> The note concerning the F factor in section 7.2 of this standard shall not be applied for UN cylinders. Aluminium alloy 6351A - T6 or equivalent shall not be authorized.
ISO 11118:1999	Gas cylinders – Non-refillable metallic gas cylinders – Specification and test methods
ISO 11119-1:2002	Gas cylinders of composite construction – Specification and test methods – Part 1: Hoop wrapped composite gas cylinders
ISO 11119-2:2002	Gas cylinders of composite construction – Specification and test methods – Part 2: Fully wrapped fibre reinforced composite gas cylinders with load-sharing metal liners
ISO 11119-3:2002	Gas cylinders of composite construction – Specification and test methods – Part 3: Fully wrapped fibre reinforced composite gas cylinders with non-load-sharing metallic or non-metallic liners

**NOTE 1:** In the above referenced standards composite cylinders shall be designed for unlimited service life.

**2:** After the first 15 years of service, composite cylinders manufactured according to these standards, may be approved for extended service by the competent authority which was responsible for the original approval of the cylinders and which will base its decision on the test information supplied by the manufacturer or owner or user.

**6.2.2.1.2** The following **standard** apply for the design, construction, and initial inspection and test of UN tubes, except that inspection requirements related to the conformity assessment system and approval shall be in accordance with 6.2.2.5:

ISO 11120:1999	Gas cylinders – Refillable seamless steel tubes for compressed gas transport, of water capacity between 150 l and 3 000 l – Design, construction and testing <b>NOTE:</b> The note concerning the F factor in section 7.1 of this standard shall not be applied for UN tubes.
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**6.2.2.1.3** The following standards apply for the design, construction and initial inspection and test of UN acetylene cylinders, except that inspection requirements related to the conformity assessment system and approval shall be in accordance with 6.2.2.5:

For the cylinder shell:

ISO 9809-1:1999	Gas cylinders – Refillable seamless steel gas cylinders – Design, construction and testing – Part 1: Quenched and tempered steel cylinders with tensile strength less than 1 100 MPa <b>NOTE:</b> The note concerning the F factor in section 7.3 of this standard shall not be applied for UN cylinders.
ISO 9809-3:2000	Gas cylinders – Refillable seamless steel gas cylinders – Design, construction and testing – Part 3: Normalized steel <b>cylinders</b>

**For** the porous material in the cylinder:

ISO 3807-1:2000	Cylinders for acetylene – Basic requirements – Part 1: Cylinders without fusible plugs
ISO 3807-2:2000	Cylinders for acetylene – Basic requirements – Part 2: Cylinders with fusible plugs

**6.2.2.1.4** The following **standard** apply **for** the design, construction, and initial inspection and test of UN cryogenic receptacles, except that inspection requirements related to the conformity assessment system and approval shall be in accordance with 6.2.2.5:

ISO 21029-1:2004	Cryogenic vessels – Transportable vacuum insulated vessels of not more than 1 000 l volume – Part 1: Design, fabrication, inspection and tests
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**6.2.2.2 Materials**

In addition to the material requirements specified in the pressure receptacle design and construction standards, and any restrictions specified in the applicable packing instruction for the gas(es) to be carried (e.g. packing instruction P200 of 4.1.4.1), the following standards apply to material compatibility:

ISO 11114-1:1997	Transportable gas cylinders – Compatibility of cylinder and valve materials with gas contents – Part 1: Metallic materials
ISO 11114-2:2000	Transportable gas cylinders – Compatibility of cylinder and valve materials with gas contents – Part 2: Non-metallic materials

**NOTE:** The limitations imposed in ISO 11114-1 on high strength steel alloys at ultimate tensile strength levels up to 1 100 MPa do not apply to UN No. 2203 silane.

**6.2.2.3 Service equipment**

The following standards apply to closures and their protection:

ISO 11117:1998	Gas cylinders – Valve protection caps and valve guards for industrial and medical gas cylinders – Design, construction and tests
ISO 10297:2006	Transportable gas cylinders – Cylinder valves – Specification and type testing <b>NOTE:</b> The EN version of this ISO standard fulfils the requirements and may also be used.

**6.2.2.4 Periodic inspection and test**

The following standards apply to the periodic inspection and testing of UN cylinders:

ISO 6406:2005	Periodic inspection and testing of seamless steel gas cylinders
ISO 10461:2005 + A1:2006	Seamless aluminium–alloy gas cylinders – Periodic inspection and testing
ISO 10462:2005	Gas cylinders – Transportable cylinders for dissolved acetylene – Periodic inspection and maintenance
ISO 11623:2002	Transportable gas cylinders – Periodic inspection and testing of composite gas cylinders

**6.2.2.5 Conformity assessment system and approval for manufacture of pressure receptacles****6.2.2.5.1 Definitions**

For the purposes of this sub-section:

*Conformity assessment system* means a system for competent authority approval of a manufacturer, by pressure receptacle design type approval, approval of manufacturer's quality system and approval of inspection bodies;

*Design type* means a pressure receptacle design as specified by a particular pressure receptacle standard;

*Verify* means confirm by examination or provision of objective evidence that specified requirements have been fulfilled.

**6.2.2.5.2 General requirements****Competent authority**

- 6.2.2.5.2.1** The competent authority that approves the pressure receptacle shall approve the conformity assessment system for the purpose of ensuring that pressure receptacles conform to the requirements of RID. In instances where the competent authority that approves a pressure receptacle is not the competent authority in the country of manufacture, the marks of the approval country and the country of manufacture shall be indicated in the pressure receptacle marking (see 6.2.2.7 and 6.2.2.8).

The competent authority of the country of approval shall supply, upon request, evidence demonstrating compliance to this conformity assessment system to its counterpart in a country of use.

**6.2.2.5.2.2** The competent authority may delegate its functions in this conformity assessment system in whole or in part.

**6.2.2.5.2.3** The competent authority shall ensure that a current list of approved inspection bodies and their identity marks and approved manufacturers and their identity marks is available.

**Inspection body**

**6.2.2.5.2.4** The inspection body shall be approved by the competent authority for the inspection of pressure receptacles and shall:

- (a) Have a staff with an organisational structure, capable, trained, competent, and skilled, to satisfactorily perform its technical functions;
- (b) Have access to suitable and adequate facilities and equipment;
- (c) Operate in an impartial manner and be free from any influence which could prevent it from doing so;
- (d) Ensure commercial confidentiality of the commercial and proprietary activities of the manufacturer and other bodies;
- (e) Maintain clear demarcation between actual inspection body functions and unrelated functions;
- (f) Operate a documented quality system;
- (g) Ensure that the tests and inspections specified in the relevant pressure receptacle standard and RID are performed; and
- (h) Maintain an effective and appropriate report and record system in accordance with 6.2.2.5.6.

**6.2.2.5.2.5** The inspection body shall perform design type approval, pressure receptacle production testing and inspection, and certification to verify conformity with the relevant pressure receptacle standard (see 6.2.2.5.4 and 6.2.2.5.5).

**Manufacturer**

**6.2.2.5.2.6** The manufacturer shall:

- (a) Operate a documented quality system in accordance with 6.2.2.5.3;
- (b) Apply for design type approvals in accordance with 6.2.2.5.4;
- (c) Select an inspection body from the list of approved inspection bodies maintained by the competent authority in the country of approval; and
- (d) Maintain records in accordance with 6.2.2.5.6.

**Testing laboratory**

**6.2.2.5.2.7** The testing laboratory shall have:

- (a) Staff with an organisational structure, sufficient in number, competence, and skill; and
- (b) Suitable and adequate facilities and equipment to perform the tests required by the manufacturing standard to the satisfaction of the inspection body.

**6.2.2.5.3 Manufacturer's quality system**

**6.2.2.5.3.1** The quality system shall contain all the elements, requirements, and provisions adopted by the manufacturer. It shall be documented in a systematic and orderly manner in the form of written policies, procedures and instructions.

The contents shall in particular include adequate descriptions of:

- (a) The organisational structure and responsibilities of personnel with regard to design and product quality;
- (b) The design control and design verification techniques, processes, and procedures that will be used when designing the pressure receptacles;
- (c) The relevant pressure receptacle manufacturing, quality control, quality assurance and process operation instructions that will be used;
- (d) Quality records, such as inspection reports, test data and calibration data;
- (e) Management reviews to ensure the effective operation of the quality system arising from the audits in accordance with 6.2.2.5.3.2;
- (f) The process describing how customer requirements are met;
- (g) The process for control of documents and their revision;
- (h) The means for control of non-conforming pressure receptacles, purchased components, in-process and final materials; and
- (i) Training programmes and qualification procedures for relevant personnel.

**6.2.2.5.3.2 Audit of the quality system**

The quality system shall be initially assessed to determine whether it meets the requirements in 6.2.2.5.3.1 to the satisfaction of the competent authority.

The manufacturer shall be notified of the results of the audit. The notification shall contain the conclusions of the audit and any corrective actions required.

Periodic audits shall be carried out, to the satisfaction of the competent authority, to ensure that the manufacturer maintains and applies the quality system. Reports of the periodic audits shall be provided to the manufacturer.

**6.2.2.5.3.3 Maintenance of the quality system**

The manufacturer shall maintain the quality system as approved in order that it remains adequate and efficient.

The manufacturer shall notify the competent authority that approved the quality system, of any intended changes. The proposed changes shall be evaluated in order to determine whether the amended quality system will still satisfy the requirements in 6.2.2.5.3.1.

**6.2.2.5.4 Approval process****Initial design type approval**

**6.2.2.5.4.1** The initial design type approval shall consist of approval of the manufacturer's quality system and approval of the pressure receptacle design to be produced. An application for an initial design type approval shall meet the requirements of 6.2.2.5.4.2 to 6.2.2.5.4.6 and 6.2.2.5.4.9.

**6.2.2.5.4.2** A manufacturer desiring to produce pressure receptacles in accordance with a pressure receptacle standard and RID shall apply for, obtain, and retain a design type approval certificate issued by the competent authority in the country of approval for at least one pressure receptacle design type in accordance with the procedure given in 6.2.2.5.4.9. This certificate shall, on request, be submitted to the competent authority of the country of use.

**6.2.2.5.4.3** An application shall be made for each manufacturing facility and shall include:

- (a) The name and registered address of the manufacturer and in addition, if the application is submitted by an authorised representative, its name and address;
- (b) The address of the manufacturing facility (if different from the above);
- (c) The name and title of the person(s) responsible for the quality system;
- (d) The designation of the pressure receptacle and the relevant pressure receptacle standard;
- (e) Details of any refusal of approval of a similar application by any other competent authority;
- (f) The identity of the inspection body for design type approval;
- (g) Documentation on the manufacturing facility as specified under 6.2.2.5.3.1; and
- (h) The technical documentation required for design type approval, which shall enable verification of the conformity of the pressure receptacles with the requirements of the relevant pressure receptacle design standard. The technical documentation shall cover the design and method of manufacture and shall contain, as far as is relevant for assessment, at least the following:
  - (i) pressure receptacle design standard, design and manufacturing drawings, showing components and subassemblies, if any;
  - (ii) descriptions and explanations necessary for the understanding of the drawings and intended use of the pressure receptacles;
  - (iii) a list of the standards necessary to fully define the manufacturing process;
  - (iv) design calculations and material specifications; and
  - (v) design type approval test reports, describing the results of examinations and tests carried out in accordance with 6.2.2.5.4.9.

**6.2.2.5.4.4** An initial audit in accordance with 6.2.2.5.3.2 shall be performed to the satisfaction of the competent authority.

**6.2.2.5.4.5** If the manufacturer is denied approval, the competent authority shall provide written detailed reasons for such denial.

**6.2.2.5.4.6** Following approval, changes to the information submitted under 6.2.2.5.4.3 relating to the initial approval shall be provided to the competent authority.

**Subsequent design type approvals**

**6.2.2.5.4.7** An application for a subsequent design type approval shall meet the requirements of 6.2.2.5.4.8 and 6.2.2.5.4.9, provided a manufacturer is in the possession of an initial design type approval. In such a case, the manufacturer's quality system according to 6.2.2.5.3 shall have been approved during the initial design type approval and shall be applicable for the new design.

**6.2.2.5.4.8** The application shall include:

- (a) The name and address of the manufacturer and in addition, if the application is submitted by an authorised representative, its name and address;
- (b) Details of any refusal of approval of a similar application by any other competent authority;
- (c) Evidence that initial design type approval has been granted; and
- (d) The technical documentation, as described in 6.2.2.5.4.3 (h).

**Procedure for design type approval**

**6.2.2.5.4.9** The inspection body shall:

- (a) Examine the technical documentation to verify that:
  - (i) the design is in accordance with the relevant provisions of the standard, and
  - (ii) the prototype lot has been manufactured in conformity with the technical documentation and is representative of the design;
- (b) Verify that the production inspections have been carried out as required in accordance with 6.2.2.5.5;
- (c) Select pressure receptacles from a prototype production lot and supervise the tests of these pressure receptacles as required for design type approval;
- (d) Perform or have performed the examinations and tests specified in the pressure receptacle standard to determine that:
  - (i) the standard has been applied and fulfilled, and
  - (ii) the procedures adopted by the manufacturer meet the requirements of the standard; and
- (e) Ensure that the various type approval examinations and tests are correctly and competently carried out.

After prototype testing has been carried out with satisfactory results and all applicable requirements of 6.2.2.5.4 have been satisfied, a design type approval certificate shall be issued, which shall include the name and address of the manufacturer, results and conclusions of the examination, and the necessary data for identification of the design type.

If the manufacturer is denied a design type approval, the competent authority shall provide written detailed reasons for such denial.

**6.2.2.5.4.10** Modifications to approved design types

The manufacturer shall either:

- (a) Inform the issuing competent authority of modifications to the approved design type, where such modifications do not constitute a new design, as specified in the pressure receptacle standard; or
- (b) Request a subsequent design type approval where such modifications constitute a new design according to the relevant pressure receptacle standard. This additional approval shall be given in the form of an amendment to the original design type approval certificate.

**6.2.2.5.4.11** Upon request, the competent authority shall communicate to any other competent authority, information concerning design type approval, modifications of approvals and withdrawn approvals.

**6.2.2.5.5 Production inspection and certification****General requirements**

An inspection body, or its delegate, shall carry out the inspection and certification of each pressure receptacle. The inspection body selected by the manufacturer for inspection and testing during production may be different from the inspection body used for the design type approval testing.

Where it can be demonstrated to the satisfaction of the inspection body that the manufacturer has trained competent inspectors, independent of the manufacturing operations, inspection may be performed by those inspectors. In such a case, the manufacturer shall maintain training records of the inspectors.

The inspection body shall verify that the inspections by the manufacturer, and tests performed on those pressure receptacles, fully conform to the standard and the requirements of RID. Should non-conformance in conjunction with this inspection and testing be determined, the permission to have inspection performed by the manufacturer's inspectors may be withdrawn.

The manufacturer shall, after approval by the inspection body, make a declaration of conformity with the certified design type. The application of the pressure receptacle certification marking shall be considered a declaration that the pressure receptacle complies with the applicable pressure receptacle standards and the requirements of this conformity assessment system and RID. The inspection body shall affix or delegate the manufacturer to affix the pressure receptacle certification marking and the registered mark of the inspection body to each approved pressure receptacle.

A certificate of compliance, signed by the inspection body and the manufacturer, shall be issued before the pressure receptacles are filled.

#### **6.2.2.5.6 Records**

Design type approval and certificate of compliance records shall be retained by the manufacturer and the inspection body for not less than 20 years.

### **6.2.2.6 Approval system for periodic inspection and test of pressure receptacles**

#### **6.2.2.6.1 Definition**

For the purposes of this section:

*Approval system* means a system for competent authority approval of a body performing periodic inspection and test of pressure receptacles (hereinafter referred to as "periodic inspection and test body"), including approval of that body's quality system.

#### **6.2.2.6.2 General requirements**

##### **Competent authority**

- 6.2.2.6.2.1** The competent authority shall establish an approval system for the purpose of ensuring that the periodic inspection and test of pressure receptacles conform to the requirements of RID. In instances where the competent authority that approves a body performing periodic inspection and test of a pressure receptacle is not the competent authority of the country approving the manufacture of the pressure receptacle, the marks of the approval country of periodic inspection and test shall be indicated in the pressure receptacle marking (see 6.2.2.7).

The competent authority of the country of approval for the periodic inspection and test shall supply, upon request, evidence demonstrating compliance to this approval system including the records of the periodic inspection and test to its counterpart in a country of use.

The competent authority of the country of approval may terminate the approval certificate referred to in 6.2.2.6.4.1, upon evidence demonstrating non-compliance with the approval system.

- 6.2.2.6.2.2** The competent authority may delegate its functions in this approval system, in whole or in part.

- 6.2.2.6.2.3** The competent authority shall ensure that a current list of approved periodic inspection and test bodies and their identity marks is available.

##### **Periodic inspection and test body**

- 6.2.2.6.2.4** The periodic inspection and test body shall be approved by the competent authority and shall:
- (a) Have a staff with an organisational structure, capable, trained, competent, and skilled, to satisfactorily perform its technical functions;
  - (b) Have access to suitable and adequate facilities and equipment;
  - (c) Operate in an impartial manner and be free from any influence which could prevent it from doing so;
  - (d) Ensure commercial confidentiality;
  - (e) Maintain clear demarcation between actual periodic inspection and test body functions and unrelated functions;
  - (f) Operate a documented quality system accordance with 6.2.2.6.3;
  - (g) Apply for approval in accordance with 6.2.2.6.4;
  - (h) Ensure that the periodic inspections and tests are performed in accordance with 6.2.2.6.5; and
  - (i) Maintain an effective and appropriate report and record system in accordance with 6.2.2.6.6.

#### **6.2.2.6.3 Quality system and audit of the periodic inspection and test body**

##### **6.2.2.6.3.1 Quality system**

The quality system shall contain all the elements, requirements, and provisions adopted by the periodic inspection and test body. It shall be documented in a systematic and orderly manner in the form of written policies, procedures, and instructions.

The quality system shall include:

- (a) A description of the organisational structure and responsibilities;
- (b) The relevant inspection and test, quality control, quality assurance, and process operation instructions that will be used;
- (c) Quality records, such as inspection reports, test data, calibration data and certificates;
- (d) Management reviews to ensure the effective operation of the quality system arising from the audits performed in accordance with 6.2.2.6.3.2;
- (e) A process for control of documents and their revision;
- (f) A means for control of non-conforming pressure receptacles; and
- (g) Training programmes and qualification procedures for relevant personnel.

#### **6.2.2.6.3.2 Audit**

The periodic inspection and test body and its quality system shall be audited in order to determine whether it meets the requirements of RID to the satisfaction of the competent authority.

An audit shall be conducted as part of the initial approval process (see 6.2.2.6.4.3). An audit may be required as part of the process to modify an approval (see 6.2.2.6.4.6).

Periodic audits shall be conducted, to the satisfaction of the competent authority, to ensure that the periodic inspection and test body continues to meet the requirements of RID.

The periodic inspection and test body shall be notified of the results of any audit. The notification shall contain the conclusions of the audit and any corrective actions required.

#### **6.2.2.6.3.3 Maintenance of the quality system**

The periodic inspection and test body shall maintain the quality system as approved in order that it remains adequate and efficient.

The periodic inspection and test body shall notify the competent authority that approved the quality system, of any intended changes, in accordance with the process for modification of an approval in 6.2.2.6.4.6.

#### **6.2.2.6.4 Approval process for periodic inspection and test bodies**

##### **Initial approval**

- 6.2.2.6.4.1** A body desiring to perform periodic inspection and test of pressure receptacles in accordance with a pressure receptacle standard and RID shall apply for, obtain, and retain an approval certificate issued by the competent authority.

This written approval shall, on request, be submitted to the competent authority of a country of use.

- 6.2.2.6.4.2** An application shall be made for each periodic inspection and test body and shall include:

- (a) The name and address of the periodic inspection and test body and, if the application is submitted by an authorised representative, its name and address;
- (b) The address of each facility performing periodic inspection and test;
- (c) The name and title of the person(s) responsible for the quality system;
- (d) The designation of the pressure receptacles, the periodic inspection and test methods, and the relevant pressure receptacle standards met by the quality system;
- (e) Documentation on each facility, the equipment, and the quality system as specified under 6.2.2.6.3.1;
- (f) The qualifications and training records of the periodic inspection and test personnel; and
- (g) Details of any refusal of approval of a similar application by any other competent authority.

- 6.2.2.6.4.3** The competent authority shall:

- (a) Examine the documentation to verify that the procedures are in accordance with the requirements of the relevant pressure receptacle standards and RID; and
- (b) Conduct an audit in accordance with 6.2.2.6.3.2 to verify that the inspections and tests are carried out as required by the relevant pressure receptacle standards and RID, to the satisfaction of the competent authority.

- 6.2.2.6.4.4** After the audit has been carried out with satisfactory results and all applicable requirements of 6.2.2.6.4 have been satisfied, an approval certificate shall be issued. It shall include the name of the periodic inspection and test body, the registered mark, the address of each facility, and the necessary data for identification of its approved activities (e.g. designation of pressure receptacles, periodic inspection and test method and pressure receptacle standards).



- 6.2.2.6.4.5** If the periodic inspection and test body is denied approval, the competent authority shall provide written detailed reasons for such denial.

**Modifications to periodic inspection and test body approvals**

- 6.2.2.6.4.6** Following approval, the periodic inspection and test body shall notify the issuing competent authority of any modifications to the information submitted under 6.2.2.6.4.2 relating to the initial approval.

The modifications shall be evaluated in order to determine whether the requirements of the relevant pressure receptacle standards and RID will be satisfied. An audit in accordance with 6.2.2.6.3.2 may be required. The competent authority shall accept or reject these modifications in writing, and an amended approval certificate shall be issued as necessary.

- 6.2.2.6.4.7** Upon request, the competent authority shall communicate to any other competent authority, information concerning initial approvals, modifications of approvals, and withdrawn approvals.

**6.2.2.6.5 Periodic inspection and test and certification**

The application of the periodic inspection and test marking to a pressure receptacle shall be considered a declaration that the pressure receptacle complies with the applicable pressure receptacle standards and the requirements of RID. The periodic inspection and test body shall affix the periodic inspection and test marking, including its registered mark, to each approved pressure receptacle (see 6.2.2.7.6).

A record certifying that a pressure receptacle has passed the periodic inspection and test shall be issued by the periodic inspection and test body, before the pressure receptacle is filled.

**6.2.2.6.6 Records**


The periodic inspection and test body shall retain records of pressure receptacle periodic inspection and tests (both passed and failed) including the location of the test facility, for not less than 15 years.

The owner of the pressure receptacle shall retain an identical record until the next periodic inspection and test unless the pressure receptacle is permanently removed from service.

**6.2.2.7 Marking of refillable UN pressure receptacles**

Refillable UN pressure receptacles shall be marked clearly and legibly with certification, operational and manufacturing marks. These marks shall be permanently affixed (e.g. stamped, engraved, or etched) on the pressure receptacle. The marks shall be on the shoulder, top end or neck of the pressure receptacle or on a permanently affixed component of the pressure receptacle (e.g. welded collar or corrosion resistant plate welded on the outer jacket of a closed cryogenic receptacle). Except for the UN packaging symbol, the minimum size of the marks shall be 5 mm for pressure receptacles with a diameter greater than or equal to 140 mm and 2.5 mm for pressure receptacles with a diameter less than 140 mm. The minimum size of the UN packaging symbol shall be 10 mm for pressure receptacles with a diameter greater than or equal to 140 mm and 5 mm for pressure receptacles with a diameter less than 140 mm.

- 6.2.2.7.1** The following certification marks shall be applied:

- (a) The United Nations packaging symbol .

This symbol shall not be used for any purpose other than certifying that a packaging complies with the relevant requirements in Chapter 6.1, 6.2, 6.3, 6.5 or 6.6. This symbol shall not be used for pressure receptacles which only conform to the requirements of 6.2.3 to 6.2.5 (see 6.2.3.9).

- (b) The technical standard (e.g. ISO 9809-1) used for design, manufacture and testing;  
(c) The character(s) identifying the country of approval as indicated by the distinguishing signs for motor vehicles in international traffic<sup>2</sup>;

**NOTE:** The country of approval shall be understood to be the country that approved the body which inspected the individual receptacle at time of manufacture.

- (d) The identity mark or stamp of the inspection body that is registered with the competent authority of the country authorizing the marking;  
(e) The date of the initial inspection, the year (four digits) followed by the month (two digits) separated by a slash (i.e. "/");

- 6.2.2.7.2** The following operational marks shall be applied:

- (f) The test pressure in bar, preceded by the letters "PH" and followed by the letters "BAR";

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<sup>2</sup> Distinguishing signs for motor vehicles in international traffic prescribed in the Vienna Convention on Road Traffic (1968).



- (g) The mass of the empty pressure receptacle including all permanently attached integral parts (e.g. neck ring, foot ring, etc.) in kilograms, followed by the letters "KG". This mass shall not include the mass of valve, valve cap or valve guard, any coating, or porous material for acetylene. The mass shall be expressed to three significant figures rounded up to the last digit. For cylinders of less than 1 kg, the mass shall be expressed to two significant figures rounded up to the last digit. In the case of pressure receptacles for UN No. 1001 acetylene, dissolved and UN No. 3374 acetylene, solvent free, at least one decimal shall be shown after the decimal point and two digits for pressure receptacles of less than 1 kg;
- (h) The minimum guaranteed wall thickness of the pressure receptacle in millimetres followed by the letters "MM". This mark is not required for pressure receptacles with a water capacity less than or equal to 1 litre or for composite cylinders or for closed cryogenic receptacles;
- (i) In the case of pressure receptacles for compressed gases, UN No. 1001 acetylene, dissolved, and UN No. 3374 acetylene, solvent free, the working pressure in bar, preceded by the letters "PW". In the case of closed cryogenic receptacles, the maximum allowable working pressure preceded by the letters "MAWP";
- (j) In the case of pressure receptacles for liquefied gases and refrigerated liquefied gases, the water capacity in litres expressed to three significant figures rounded down to the last digit, followed by the letter "L". If the value of the minimum or nominal water capacity is an integer, the figures after the decimal point may be neglected;
- (k) In the case of pressure receptacles for UN No. 1001 acetylene, dissolved, the total of the mass of the empty receptacle, the fittings and accessories not removed during filling, any coating, the porous material, the solvent and the saturation gas expressed to three significant figures rounded down to the last digit followed by the letters "KG". At least one decimal shall be shown after the decimal point. For pressure receptacles of less than 1 kg, the mass shall be expressed to two significant figures rounded down to the last digit;
- (l) In the case of pressure receptacles for UN No. 3374 acetylene, solvent free, the total of the mass of the empty receptacle, the fittings and accessories not removed during filling, any coating, and the porous material expressed to three significant figures rounded down to the last digit followed by the letters "KG". At least one decimal shall be shown after the decimal point. For pressure receptacles of less than 1 kg, the mass shall be expressed to two significant figures rounded down to the last digit;

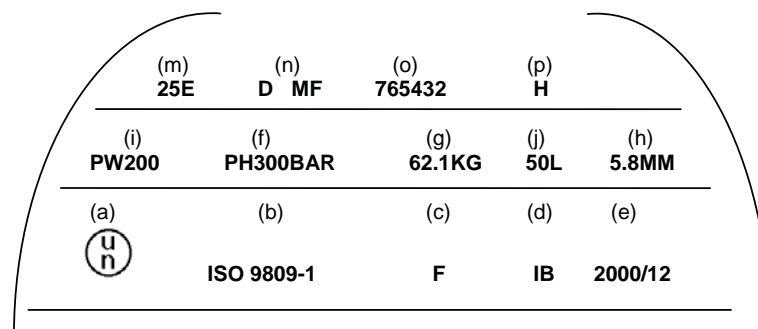
**6.2.2.7.3** The following manufacturing marks shall be applied:

- (m) Identification of the cylinder thread (e.g. 25E). This mark is not required for closed cryogenic receptacles;
- (n) The manufacturer's mark registered by the competent authority. When the country of manufacture is not the same as the country of approval, then the manufacturer's mark shall be preceded by the character(s) identifying the country of manufacture as indicated by the distinguishing signs for motor vehicles in international traffic. The country mark and the manufacturer's mark shall be separated by a space or slash;
- (o) The serial number assigned by the manufacturer;
- (p) In the case of steel pressure receptacles and composite pressure receptacles with steel liner intended for the carriage of gases with a risk of hydrogen embrittlement, the letter "H" showing compatibility of the steel (see ISO 11114-1:1997).

**6.2.2.7.4** The above marks shall be placed in three groups:

- Manufacturing marks shall be the top grouping and shall appear consecutively in the sequence given in 6.2.2.7.3.
- The operational marks in 6.2.2.7.2 shall be the middle grouping and the test pressure (f) shall be immediately preceded by the working pressure (i) when the latter is required.
- Certification marks shall be the bottom grouping and shall appear in the sequence given in 6.2.2.7.1.

The following is an example of the markings applied to a cylinder.



**6.2.2.7.5** Other marks are allowed in areas other than the side wall, provided they are made in low stress areas and are not of a size and depth that will create harmful stress concentrations. In the case of closed cryogenic receptacles, such marks may be on a separate plate attached to the outer jacket. Such marks shall not conflict with required marks.

**6.2.2.7.6** In addition to the preceding marks, each refillable pressure receptacle that meets the periodic inspection and test requirements of 6.2.2.4 shall be marked indicating:

- (a) The character(s) identifying the country authorizing the body performing the periodic inspection and test. This marking is not required if this body is approved by the competent authority of the country approving manufacture;
- (b) The registered mark of the body authorised by the competent authority for performing periodic inspection and test;
- (c) The date of the periodic inspection and test, the year (two digits) followed by the month (two digits) separated by a slash (i.e. "/" ). Four digits may be used to indicate the year.

The above marks shall appear consecutively in the sequence given.

**6.2.2.7.7** For acetylene cylinders, with the agreement of the competent authority, the date of the most recent periodic inspection and the stamp of the body performing the periodic inspection and test may be engraved on a ring held on the cylinder by the valve. The ring shall be configured so that it can only be removed by disconnecting the valve from the cylinder.

#### **6.2.2.8 Marking of non-refillable UN pressure receptacles**

Non-refillable UN pressure receptacles shall be marked clearly and legibly with certification and gas or pressure receptacle specific marks. These marks shall be permanently affixed (e.g. stencilled, stamped, engraved, or etched) on the pressure receptacle. Except when stencilled, the marks shall be on the shoulder, top end or neck of the pressure receptacle or on a permanently affixed component of the pressure receptacle (e.g. welded collar). Except for the UN packaging symbol and the "DO NOT REFILL" mark, the minimum size of the marks shall be 5 mm for pressure receptacles with a diameter greater than or equal to 140 mm and 2.5 mm for pressure receptacles with a diameter less than 140 mm. The minimum size of the UN packaging symbol shall be 10 mm for pressure receptacles with a diameter greater than or equal to 140 mm and 5 mm for pressure receptacles with a diameter less than 140 mm. The minimum size of the "DO NOT REFILL" mark shall be 5 mm.

**6.2.2.8.1** The marks listed in 6.2.2.7.1 to 6.2.2.7.3 shall be applied with the exception of (g), (h) and (m). The serial number (o) may be replaced by the batch number. In addition, the words "DO NOT REFILL" in letters of at least 5 mm in height are required.

**6.2.2.8.2** The requirements of 6.2.2.7.4 shall apply.

**NOTE:** Non-refillable pressure receptacles may, on account of their size, substitute this marking by a label.

**6.2.2.8.3** Other marks are allowed provided they are made in low stress areas other than the side wall and are not of a size and depth that will create harmful stress concentrations. Such marks shall not conflict with required marks.

#### **6.2.2.9 Equivalent procedures for conformity assessment and periodic inspection and test**

For UN pressure receptacles the requirements of 6.2.2.5 and 6.2.2.6 are considered to have been complied with when the following procedures are applied:

Procedure	Relevant body
Type approval (1.8.7.2)	Xa
Supervision of manufacture (1.8.7.3)	Xa or IS
Initial inspection and tests (1.8.7.4)	Xa or IS
Periodic inspection (1.8.7.5)	Xa or Xb or IS

Xa means the competent authority, its delegate or inspection body conforming to 1.8.6.4 and accredited according to EN ISO/IEC 17020: 2004 type A.

Xb means inspection body conforming to 1.8.6.4 and accredited according to EN ISO/IEC 17020: 2004 type B.

IS means an in-house inspection service of the applicant under the surveillance of an inspection body conforming to 1.8.6.4 and accredited according to EN ISO/IEC 17020:2004 type A. The in-house inspection service shall be independent from design process, manufacturing operations, repair and maintenance.

**6.2.3 General requirements for non-UN pressure receptacles****6.2.3.1 Design and construction**

**6.2.3.1.1** Pressure receptacles and their closures not designed, constructed, inspected, tested and approved according to the requirements of 6.2.2 shall be designed, constructed, inspected, tested and approved in accordance with the general requirements of 6.2.1 as supplemented or modified by the requirements of this section and those of 6.2.4 or 6.2.5.

**6.2.3.1.2** Whenever possible the wall thickness shall be determined by calculation, accompanied, if needed, by experimental stress analysis. Otherwise the wall thickness may be determined by experimental means.

Appropriate design calculations for the pressure envelope and supporting components shall be used to ensure the safety of the pressure receptacles concerned.

The minimum wall thickness to withstand pressure shall be calculated in particular with regard to:

- the calculation pressures, which shall not be less than the test pressure;
- the calculation temperatures allowing for appropriate safety margins;
- the maximum stresses and peak stress concentrations where necessary;
- factors inherent to the properties of the material.

**6.2.3.1.3** For welded pressure receptacles, only metals of weldable quality whose adequate impact strength at an ambient temperature of –20 °C can be guaranteed shall be used.

**6.2.3.1.4** For closed cryogenic receptacles, the impact strength to be established as required by 6.2.1.1.8.1 shall be tested as laid down in 6.8.5.3.

**6.2.3.2** (Reserved)

**6.2.3.3 Service equipment**

**6.2.3.3.1** Service equipment shall comply with 6.2.1.3.

**6.2.3.3.2 Openings**

Pressure drums may be provided with openings for filling and discharge and with other openings intended for level gauges, pressure gauges or relief devices. The number of openings shall be kept to a minimum consistent with safe operations. Pressure drums may also be provided with an inspection opening, which shall be closed by an effective closure.

**6.2.3.3.3 Fittings**

- (a) If cylinders are fitted with a device to prevent rolling, this device shall not be integral with the valve cap;
- (b) Pressure drums which are capable of being rolled shall be equipped with rolling hoops or be otherwise protected against damage due to rolling (e.g. by corrosion resistant metal sprayed on to the pressure receptacle surface);
- (c) Bundles of cylinders shall be fitted with appropriate devices ensuring that they can be handled and carried safely;
- (d) If level gauges, pressure gauges or relief devices are installed, they shall be protected in the same way as is required for valves in 4.1.6.8.

**6.2.3.4 Initial inspection and test**

**6.2.3.4.1** New pressure receptacles shall be subjected to testing and inspection during and after manufacture in accordance with the requirements of 6.2.1.5 except that 6.2.1.5.1 (g) shall be replaced by the following:

- (g) A hydraulic pressure test. Pressure receptacles shall withstand the test pressure without undergoing permanent deformation or exhibiting cracks.

**6.2.3.4.2 Specific provisions applying to aluminium alloy pressure receptacles**

- (a) In addition to the initial inspection required by 6.2.1.5.1, it is necessary to test for possible intercrystalline corrosion of the inside wall of the pressure receptacles where use is made of an aluminium alloy containing copper, or where use is made of an aluminium alloy containing magnesium and manganese and the magnesium content is greater than 3.5% or the manganese content lower than 0.5%;
- (b) In the case of an aluminium/copper alloy the test shall be carried out by the manufacturer at the time of approval of a new alloy by the competent authority; it shall thereafter be repeated in the course of production, for each pour of the alloy;
- (c) In the case of an aluminium/magnesium alloy the test shall be carried out by the manufacturer at the time of approval of a new alloy and of the manufacturing process by the competent authority. The test

shall be repeated whenever a change is made in the composition of the alloy or in the manufacturing process.

#### **6.2.3.5 Periodic inspection and test**

##### **6.2.3.5.1 Periodic inspection and test shall be in accordance with 6.2.1.6.1.**

**NOTE:** With the agreement of the competent authority of the country that issued the type approval, the hydraulic pressure test of each welded steel cylinder intended for the carriage of gases of UN No. 1965, hydrocarbon gas mixture liquefied, n.o.s., with a capacity below 6.5 l may be replaced by another test ensuring an equivalent level of safety.

##### **6.2.3.5.2 Closed cryogenic receptacles shall be subjected to periodic inspections and tests by a body authorised by the competent authority in accordance with the periodicity defined in packing instruction P203 of 4.1.4.1 to verify external conditions, condition and operation of pressure relief devices and be subjected to a leakproofness test at 90% of the maximum working pressure. The leakproofness test shall be carried out with the gas contained in the pressure receptacle or with an inert gas. Checking shall be performed by means of a pressure gauge or by vacuum measurement. The thermal insulation need not be removed.**

#### **6.2.3.6 Approval of pressure receptacles**

##### **6.2.3.6.1 The procedures for conformity assessment and periodic inspection of section 1.8.7 shall be performed by the relevant body according to the following Table.**

<b>Procedure</b>	<b>Relevant body</b>
Type approval (1.8.7.2)	Xa
Supervision of manufacture (1.8.7.3)	Xa or IS
Initial inspection and tests (1.8.7.4)	Xa or IS
Periodic inspection (1.8.7.5)	Xa or Xb or IS

The conformity assessment of valves and other accessories having a direct safety function may be carried out separately from the receptacles and the conformity assessment procedure shall be at least as stringent as that undergone by the pressure receptacle to which they are fitted.

Xa means the competent authority, its delegate or inspection body conforming to 1.8.6.4 and accredited according to EN ISO/IEC 17020:2004 type A.

Xb means inspection body conforming to 1.8.6.4 and accredited according to EN ISO/IEC 17020:2004 type B.

IS means an in-house inspection service of the applicant under the surveillance of an inspection body conforming to 1.8.6.4 and accredited according to EN ISO/IEC 17020:2004 type A. The in-house inspection service shall be independent from design process, manufacturing operations, repair and maintenance.

##### **6.2.3.6.2 If the country of approval is not a COTIF Member State or a Contracting Party to ADR, the competent authority mentioned in 6.2.1.7.2 shall be the competent authority of a COTIF Member State or a Contracting Party to ADR.**

#### **6.2.3.7 Requirements for manufacturers**

##### **6.2.3.7.1 The relevant requirements of 1.8.7 shall be met.**

#### **6.2.3.8 Requirements for inspection bodies**

The requirements of 1.8.6 shall be met.

#### **6.2.3.9 Marking of refillable pressure receptacles**

##### **6.2.3.9.1 Markings shall be in accordance with sub-section 6.2.2.7 with the following variations.**

##### **6.2.3.9.2 The United Nations packaging symbol specified in 6.2.2.7.1 (a) shall not be applied.**

##### **6.2.3.9.3 The requirements of 6.2.2.7.2 (j) shall be replaced by the following:**

- (j) The water capacity of the pressure receptacle in litres followed by the letter "L". In the case of pressure receptacles for liquefied gases the water capacity in litres shall be expressed to three significant figures rounded down to the last digit. If the value of the minimum or nominal water capacity is an integer, the figures after the decimal point may be neglected.

**6.2.3.9.4** The marks specified in 6.2.2.7.2 (g) and (h) and 6.2.2.7.3 (m) are not required for pressure receptacles for UN No. 1965 hydrocarbon gas mixture, liquefied, n.o.s.

**6.2.3.9.5** When marking the date required by 6.2.2.7.6 (c), the month need not be indicated for gases for which the interval between periodic inspections is 10 years or more (see packing instructions P200 and P203 of 4.1.4.1).

**6.2.3.9.6** The marks in accordance with 6.2.2.7.6 may be engraved on a ring of an appropriate material affixed to the cylinder when the valve is installed and which is removable only by disconnecting the valve from the cylinder.

#### **6.2.3.10 Marking of non-refillable pressure receptacles**

**6.2.3.10.1** Markings shall be in accordance with 6.2.2.8, except that the United Nations packaging symbol specified in 6.2.2.7.1 (a) shall not be applied.

#### **6.2.4 Requirements for non-UN pressure receptacles designed, constructed and tested according to standards**

**NOTE:** Persons or bodies identified in standards as having responsibilities in accordance with RID shall meet the requirements of RID.

Depending on the date of construction of the pressure receptacle, the standards listed in the Table below shall be applied as indicated in column (4) to meet the requirements of Chapter 6.2 referred to in column (3) or may be applied as indicated in column (5). The requirements of Chapter 6.2 referred to in column (3) shall prevail in all cases.

If more than one standard is listed as mandatory for the application of the same requirements, only one of them shall be applied, but in full unless otherwise specified in the Table below.

Reference	Title of document	Applicable sub-sections and paragraphs	Mandatory application for pressure receptacles constructed	Application authorized for pressure receptacles constructed
(1)	(2)	(3)	(4)	(5)
<b>for materials</b>				
EN 1797-1:1998	Cryogenic vessels – Gas/material compatibility	6.2.1.2		Between 1 July 2001 and 30 June 2003
EN 1797:2001	Cryogenic vessels – Gas/material compatibility	6.2.1.2	As from 1 January 2009	Before 1 January 2009
EN ISO 11114-1: 1997	Transportable gas cylinders – Compatibility of cylinder and valve materials with gas contents – Part 1: Metallic materials	6.2.1.2	As from 1 January 2009	Before 1 January 2009
EN ISO 11114-2: 2000	Transportable gas cylinders – Compatibility of cylinder and valve materials with gas contents – Part 2: Non-metallic materials	6.2.1.2	As from 1 January 2009	Before 1 January 2009
EN ISO 11114-4: 2005 (except method C in 5.3)	Transportable gas cylinders – Compatibility of cylinder and valve materials with gas contents – Part 4: Test methods for selecting metallic materials resistant to hydrogen embrittlement	6.2.1.2	As from 1 January 2009	Before 1 January 2009
EN 1252-1:1998	Cryogenic vessels – Materials – Part 1: Toughness requirements for temperature below -80 °C	6.2.1.2		Between 1 July 2001 and 30 June 2003
<b>for marking</b>				
EN 1442:1998 + AC:1999	Transportable refillable welded steel cylinders for liquefied petroleum gas (LPG) – Design and construction	6.2.2.7		Before 1 July 2003

Reference	Title of document	Applicable sub-sections and paragraphs	Mandatory application for pressure receptacles constructed	Application authorized for pressure receptacles constructed
(1)	(2)	(3)	(4)	(5)
EN 1251-1:2000	Cryogenic vessels – Transportable, vacuum insulated, of not more than 1 000 litres volume – Part 1: Fundamental requirements	6.2.2.7		Before 1 July 2003
EN 1089-1:1996	Transportable gas cylinders – Gas cylinder identification (excluding LPG) – Part 1: Stampmarking	6.2.2.7		Before 1 July 2003
<b>for design and construction</b>				
Annex I, Parts 1 to 3 to 84/525/EEC	Council <b>directive on</b> the approximation of the laws of the Member States relating to seamless steel gas cylinders, published in the Official Journal of the European Communities No. L 300 from 19.11.1984.	6.2.3.1 and 6.2.3.4	As from 1 January 2009	Before 1 January 2009
Annex I, Parts 1 to 3 to 84/526/EEC	Council <b>directive on</b> the approximation of the laws of the Member States relating to seamless, unalloyed aluminium and aluminium alloy gas cylinders, published in the Official Journal of the European Communities No. L 300 from 19.11.1984.	6.2.3.1 and 6.2.3.4	As from 1 January 2009	Before 1 January 2009
Annex I, Parts 1 to 3 to 84/527/EEC	Council <b>directive on</b> the approximation of the laws of the Member States relating to welded unalloyed steel gas cylinders, published in the Official Journal of the European Communities No. L 300 from 19.11.1984.	6.2.3.1 and 6.2.3.4	As from 1 January 2009	Before 1 January 2009
EN 1442:1998 + AC:1999	Transportable refillable welded steel cylinders for liquefied petroleum gas (LPG) – Design and construction	6.2.3.1 and 6.2.3.4		Between 1 July 2001 and 30 June 2007
EN 1442:1998 + A2:2005	Transportable refillable welded steel cylinders for liquefied petroleum gas (LPG) – Design and construction	6.2.3.1 and 6.2.3.4	Between 1 January 2009 and 31 December 2010 <sup>(a)</sup>	Before 1 January 2009
EN 1442:2006 + A1:2008	Transportable refillable welded steel cylinders for liquefied petroleum gas (LPG) – Design and construction	6.2.3.1 and 6.2.3.4	As from 1 January 2011	Before 1 January 2011
EN 1800:1998 + AC:1999	Transportable gas cylinders – Acetylene cylinders – Basic requirements and definitions	6.2.1.1.9	Between 1 January 2009 and 31 December 2010 <sup>(a)</sup>	Before 1 January 2009
EN 1800:2006	Transportable gas cylinders – Acetylene cylinders – Basic requirements, definitions and type testing	6.2.1.1.9	As from 1 January 2011	Before 1 January 2011

Reference	Title of document	Applicable sub-sections and paragraphs	Mandatory application for pressure receptacles constructed	Application authorized for pressure receptacles constructed
(1)	(2)	(3)	(4)	(5)
EN 1964-1:1999	Transportable gas cylinders – Specification for the design and construction of refillable transportable seamless steel gas cylinders of water capacities from 0.5 litre up to and including 150 litres – Part 1: Cylinders made of seamless steel with an Rm value of less than 1 100 MPa	6.2.3.1 and 6.2.3.4	As from 1 January 2009	Before 1 January 2009
EN 1975:1999 (except Annex 6)	Transportable gas cylinders – Specifications for the design and construction of refillable transportable seamless aluminium and aluminium alloy gas cylinders of capacity from 0.5 litres up to 150 litres	6.2.3.1 and 6.2.3.4		Before 1 July 2005
EN 1975:1999 + A1:2003	Transportable gas cylinders – Specifications for the design and construction of refillable transportable seamless aluminium and aluminium alloy gas cylinders of capacity from 0.5 litres up to 150 litres	6.2.3.1 and 6.2.3.4	As from 1 January 2009	Before 1 January 2009
EN ISO 11120:1999	Gas cylinders – Refillable seamless steel tubes for compressed gas transport of water capacity between 150 litres and 3 000 litres – Design, construction and testing	6.2.3.1 and 6.2.3.4	As from 1 January 2009	Before 1 January 2009
EN 1964-3:2000	Transportable gas cylinders – Specification for the design and construction of refillable transportable seamless steel gas cylinders of water capacities from 0.5 litre up to and including 150 litres – Part 3: Cylinders made of seamless stainless steel with an Rm value of less than 1 100 MPa	6.2.3.1 and 6.2.3.4	As from 1 January 2009	Before 1 January 2009
EN 12862:2000	Transportable gas cylinders – Specifications for the design and construction of refillable transportable welded aluminium alloy gas cylinders	6.2.3.1 and 6.2.3.4	As from 1 January 2009	Before 1 January 2009
EN 1251-2:2000	Cryogenic vessels – Transportable, vacuum insulated, of not more than 1 000 litres volume – Part 2: Design, fabrication, inspection and testing	6.2.3.1 and 6.2.3.4	As from 1 January 2009	Before 1 January 2009
EN 12257:2002	Transportable gas cylinders – Seamless, hoop wrapped composite cylinders	6.2.3.1 and 6.2.3.4	As from 1 January 2009	Before 1 January 2009
EN 12807:2001 (except Annex A)	Transportable refillable brazed steel cylinders for liquefied petroleum gas (LPG) – Design and construction	6.2.3.1 and 6.2.3.4	As from 1 January 2009	Before 1 January 2009



Reference	Title of document	Applicable sub-sections and paragraphs	Mandatory application for pressure receptacles constructed	Application authorized for pressure receptacles constructed
(1)	(2)	(3)	(4)	(5)
EN 1964-2:2001	Transportable gas cylinders – Specification for the design and construction of refillable transportable seamless steel gas cylinders of water capacities from 0.5 litre up to and including 150 litres – Part 2: Cylinders made of seamless steel with an Rm value of 1 100 MPa and above	6.2.3.1 and 6.2.3.4	As from 1 January 2009	Before 1 January 2009
EN 13293:2002	Transportable gas cylinders – Specification for the design and construction of refillable transportable seamless normalised carbon manganese steel gas cylinders of water capacity up to 0.5 litre for compressed, liquefied and dissolved gases and up to 1 litre for carbon dioxide	6.2.3.1 and 6.2.3.4	As from 1 January 2009	Before 1 January 2009
EN 13322-1:2003	Transportable gas cylinders – Refillable welded steel gas cylinders – Design and construction – Part 1: Welded steel	6.2.3.1 and 6.2.3.4		Before 1 July 2007
EN 13322-1:2003 + A1:2006	Transportable gas cylinders – Refillable welded steel gas cylinders – Design and construction – Part 1: Welded steel	6.2.3.1 and 6.2.3.4	As from 1 January 2009	Before 1 January 2009
EN 13322-2:2003	Transportable gas cylinders – Refillable welded stainless steel gas cylinders – Design and construction – Part 2: Welded stainless steel	6.2.3.1 and 6.2.3.4		Before 1 July 2007
EN 13322-2:2003 + A1:2006	Transportable gas cylinders – Refillable welded stainless steel gas cylinders – Design and construction – Part 2: Welded stainless steel	6.2.3.1 and 6.2.3.4	As from 1 January 2009	Before 1 January 2009
EN 12245:2002	Transportable gas cylinders – Fully wrapped composite cylinders	6.2.3.1 and 6.2.3.4	As from 1 January 2009	Before 1 January 2009
EN 12205:2001	Transportable gas cylinders – Non refillable metallic gas cylinders	6.2.3.1 and 6.2.3.4	As from 1 January 2009	Before 1 January 2009
EN 13110:2002	Transportable refillable welded aluminium cylinders for liquefied petroleum gas (LPG) – Design and construction	6.2.3.1, 6.2.3.4 and 6.2.3.9	As from 1 January 2009	Before 1 January 2009
EN 14427:2004	Transportable refillable fully wrapped composite cylinders for liquefied petroleum gases – Design and construction <b>NOTE:</b> This standard applies only to cylinders equipped with pressure relief valves.	6.2.3.1, 6.2.3.4 and 6.2.3.9		Before 1 July 2007



Reference	Title of document	Applicable sub-sections and paragraphs	Mandatory application for pressure receptacles constructed	Application authorized for pressure receptacles constructed
(1)	(2)	(3)	(4)	(5)
EN 14427:2004 + A1:2005	Transportable refillable fully wrapped composite cylinders for liquefied petroleum gases – Design and construction <b>NOTE 1:</b> This standard applies only to cylinders equipped with pressure relief valves. <b>2:</b> In 5.2.9.2.1 and 5.2.9.3.1, both cylinders shall be subject to the burst test when they show damage equal to or worse than the rejection criteria.	6.2.3.1, 6.2.3.4 and 6.2.3.9	As from 1 January 2009	Before 1 January 2009
EN 14208:2004	Transportable gas cylinders – Specification for welded pressure drums up to 1000 litres capacity for the transport of gases – Design and construction	6.2.3.1, 6.2.3.4 and 6.2.3.9	As from 1 January 2009	Before 1 January 2009
EN 14140:2003	Transportable refillable welded steel cylinders for Liquefied Petroleum Gas (LPG) – Alternative design and construction	6.2.3.1, 6.2.3.4 and 6.2.3.9	Between 1 January 2009 and 31 December 2010 <sup>(a)</sup>	Before 1 January 2009
EN 14140:2003 + A1:2006	LPG equipment and accessories – Transportable refillable welded steel cylinders for LPG – Alternative design and construction	6.2.3.1, 6.2.3.4 and 6.2.3.9	As from 1 January 2011	Before 1 January 2011
EN 13769:2003	Transportable gas cylinders – Cylinder bundles – Design, manufacture, identification and testing	6.2.3.1, 6.2.3.4 and 6.2.3.9		Before 1 July 2007
EN 13769:2003 + A1:2005	Transportable gas cylinders – Cylinder bundles – Design, manufacture, identification and testing	6.2.3.1, 6.2.3.4 and 6.2.3.9	As from 1 January 2009	Before 1 January 2009
EN 14638-1:2006	Transportable gas cylinders – Refillable welded receptacles of a capacity not exceeding 150 litres – Part 1: Welded austenitic stainless steel cylinders made to a design justified by experimental methods	6.2.3.1 and 6.2.3.4	As from 1 January 2011	Before 1 January 2011
EN 14893:2006 + AC:2007	LPG equipment and accessories – Transportable LPG welded steel pressure drums with a capacity between 150 litres and 1 000 litres	6.2.3.1 and 6.2.3.4	As from 1 January 2011	Before 1 January 2011
<b>for closures</b>				
EN 849:1996 (except Annex A)	Transportable gas cylinders – Cylinder valves: Specification and type testing	6.2.3.1		Before 1 July 2003
EN 849:1996/ A2:2001	Transportable gas cylinders – Cylinder valves: Specification and type testing	6.2.3.1		Before 1 July 2007

Reference	Title of document	Applicable sub-sections and paragraphs	Mandatory application for pressure receptacles constructed	Application authorized for pressure receptacles constructed
(1)	(2)	(3)	(4)	(5)
EN ISO 10297:2006	Transportable gas cylinders – Cylinder valves: Specification and type testing	6.2.3.1	As from 1 January 2009	Before 1 January 2009
EN 13152:2001	Specifications and testing of LPG – cylinder valves – Self closing	6.2.3.3		Between 1 July 2005 and 31 December 2010
EN 13152:2001 + A1:2003	Specifications and testing of LPG – cylinder valves – Self closing	6.2.3.3	As from 1 January 2011	Before 1 January 2011
EN 13153:2001	Specifications and testing of LPG – cylinder valves – Manually operated	6.2.3.3		Between 1 July 2005 and 31 December 2010
EN 13153:2001 + A1:2003	Specifications and testing of LPG – cylinder valves – Manually operated	6.2.3.3	As from 1 January 2011	Before 1 January 2011
<b>for periodic inspection and test</b>				
EN 1251-3:2000	Cryogenic vessels – Transportable, vacuum insulated, of not more than 1 000 litres volume – Part 3: Operational requirements	6.2.3.5	As from 1 January 2009	Before 1 January 2009
EN 1968:2002 (except Annex B)	Transportable gas cylinders – Periodic inspection and testing of seamless steel gas cylinders	6.2.3.5		Before 1 July 2007
EN 1968:2002 + A1:2005 (except Annex B)	Transportable gas cylinders – Periodic inspection and testing of seamless steel gas cylinders	6.2.3.5	As from 1 January 2009	Before 1 January 2009
EN 1802:2002 (except Annex B)	Transportable gas cylinders – Periodic inspection and testing of seamless aluminium alloy gas cylinders	6.2.3.5	As from 1 January 2009	Before 1 January 2009
EN 12863:2002	Transportable gas cylinders – Periodic inspection and maintenance of dissolved acetylene cylinders <b>NOTE:</b> In this standard "initial inspection" is to be understood as the "first periodic inspection" after final approval of a new acetylene cylinder.	6.2.3.5		Before 1 July 2007
EN 12863:2002 + A1:2005	Transportable gas cylinders – Periodic inspection and maintenance of dissolved acetylene cylinders <b>NOTE:</b> In this standard "initial inspection" is to be understood as the "first periodic inspection" after final approval of a new acetylene cylinder.	6.2.3.5	As from 1 January 2009	Before 1 January 2009
EN 1803:2002 (except Annex B)	Transportable gas cylinders – Periodic inspection and testing of welded steel gas cylinders	6.2.3.5	As from 1 January 2009	Before 1 January 2009
EN ISO 11623:2002 (except clause 4)	Transportable gas cylinders – Periodic inspection and testing of composite gas cylinders	6.2.3.5	As from 1 January 2009	Before 1 January 2009

Reference	Title of document	Applicable sub-sections and paragraphs	Mandatory application for pressure receptacles constructed	Application authorized for pressure receptacles constructed
(1)	(2)	(3)	(4)	(5)
EN 14189:2003	Transportable gas cylinders – Inspection and maintenance of cylinder valves at time of periodic inspection of gas cylinders	6.2.3.5	As from 1 January 2009	Before 1 January 2009
EN 14876:2007	Transportable gas cylinders – Periodic inspection and testing of welded steel pressure drums	6.2.3.5	As from 1 January 2011	Before 1 January 2011
EN 14912:2005	LPG equipment and accessories – Inspection and maintenance of LPG cylinder valves at time of periodic inspection of cylinders	6.2.3.5	As from 1 January 2011	Before 1 January 2011

(a) Unless the application of another standard is authorized in column (5) for the same purposes for pressure receptacles constructed at the same date.

#### 6.2.5 Requirements for **non-UN** pressure receptacles not designed, constructed and tested according to standards

To reflect scientific and technical progress or where no standard is listed in 6.2.2 or 6.2.4, or to deal with specific aspects not addressed in a standard listed in 6.2.2 or 6.2.4, the competent authority may recognize the use of a technical code providing the same level of safety.

The competent authority shall transmit to the secretariat of OTIF a list of the technical codes that it recognises. The list should include the following details: name and date of the code, purpose of the code and details of where it may be obtained. The secretariat shall make this information publicly available on its web-site.

The requirements of 6.2.1, 6.2.3 and the following requirements however shall be met.

**NOTE:** For this section, the references to technical standards in 6.2.1 shall be considered as references to technical codes.

#### 6.2.5.1 Materials

The following provisions contain examples of materials that may be used to comply with the requirements for materials in 6.2.1.2:

- (a) Carbon steel for compressed, liquefied, refrigerated liquefied gases and dissolved gases as well as for substances not in Class 2 listed in Table 3 of packing instruction P200 of 4.1.4.1;
- (b) Alloy steel (special steels), nickel, nickel alloy (such as monel) for compressed, liquefied, refrigerated liquefied gases and dissolved gases as well as for substances not in Class 2 listed in Table 3 of packing instruction P200 of 4.1.4.1;
- (c) Copper for:
  - (i) gases of classification codes 1A, 1O, 1F and 1TF, whose filling pressure referred to a temperature of 15 °C does not exceed 2 MPa (20 bar);
  - (ii) gases of classification code 2A and also UN No. 1033 dimethyl ether; UN No. 1037 ethyl chloride; UN No. 1063 methyl chloride; UN No. 1079 sulphur dioxide; UN No. 1085 vinyl bromide; UN No. 1086 vinyl chloride; and UN No. 3300 ethylene oxide and carbon dioxide mixture with more than 87% ethylene oxide;
  - (iii) gases of classification codes 3A, 3O and 3F;
- (d) Aluminium alloy: see special requirement "a" of packing instruction P200 (10) of 4.1.4.1;
- (e) Composite material for compressed, liquefied, refrigerated liquefied gases and dissolved gases;
- (f) Synthetic materials for refrigerated liquefied gases; and
- (g) Glass for the refrigerated liquefied gases of classification code 3A other than UN No. 2187 carbon dioxide, refrigerated, liquid or mixtures thereof, and gases of classification code 3O.

#### 6.2.5.2 Service equipment

(Reserved)

**6.2.5.3 Metal cylinders, tubes, pressure drums and bundles of cylinders**

At the test pressure, the stress in the metal at the most severely stressed point of the pressure receptacle shall not exceed 77% of the guaranteed minimum yield stress ( $R_e$ ).

"Yield stress" means the stress at which a permanent elongation of 2 per thousand (i.e. 0.2%) or, for austenitic steels, 1% of the gauge length on the test-piece, has been produced.

**NOTE:** In the case of sheet-metal the axis of the tensile test-piece shall be at right angles to the direction of rolling. The permanent elongation at fracture, shall be measured on a test-piece of circular cross-section in which the gauge length "l" is equal to five times the diameter "d" ( $l = 5d$ ); if test pieces of rectangular cross-section are used, the gauge length "l" shall be calculated by the formula:

$$l = 5.65 \sqrt{F_0}$$

where  $F_0$  indicates the initial cross-sectional area of the test-piece.

Pressure receptacles and their closures shall be made of suitable materials which shall be resistant to brittle fracture and to stress corrosion cracking between  $-20\text{ }^{\circ}\text{C}$  and  $+50\text{ }^{\circ}\text{C}$ .

Welds shall be skilfully made and shall afford the fullest safety.

**6.2.5.4 Additional provisions relating to aluminium-alloy pressure receptacles for compressed gases, liquefied gases, dissolved gases and non pressurized gases subject to special requirements (gas samples) as well as articles containing gas under pressure other than aerosol dispensers and small receptacles containing gas (gas cartridges)****6.2.5.4.1** The materials of aluminium-alloy pressure receptacles which are to be accepted shall satisfy the following requirements:

	A	B	C	D
Tensile strength, $R_m$ , in MPa ( $= \text{N/mm}^2$ )	49 to 186	196 to 372	196 to 372	343 to 490
Yield stress, $R_e$ , in MPa ( $= \text{N/mm}^2$ ) (permanent set $\lambda = 0.2\%$ )	10 to 167	59 to 314	137 to 334	206 to 412
Permanent elongation at fracture ( $l = 5d$ ) in per cent	12 to 40	12 to 30	12 to 30	11 to 16
Bend test (diameter of former $d = n \times e$ , where $e$ is the thickness of the test piece)	$n = 5$ ( $R_m \leq 98$ ) $n = 6$ ( $R_m > 98$ )	$n = 6$ ( $R_m \leq 325$ ) $n = 7$ ( $R_m > 325$ )	$n = 6$ ( $R_m \leq 325$ ) $n = 7$ ( $R_m > 325$ )	$n = 7$ ( $R_m \leq 392$ ) $n = 8$ ( $R_m > 392$ )
Aluminium Association Series Number <sup>(a)</sup>	1000	5000	6000	2000

<sup>(a)</sup> See "Aluminium Standards and Data", Fifth edition, January 1976, published by the Aluminium Association, 750 Third Avenue, New York.

The actual properties will depend on the composition of the alloy concerned and on the final treatment of the pressure receptacle, but whatever alloy is used the thickness of the pressure receptacle shall be calculated by one of the following formulae:

$$e = \frac{P_{\text{MPa}} \times D}{\frac{2 \times R_e}{1.30} + P_{\text{MPa}}} \quad \text{or} \quad e = \frac{P_{\text{bar}} \times D}{\frac{20 \times R_e}{1.30} + P_{\text{bar}}}$$

where

$e$  = minimum thickness of pressure receptacle wall, in mm;

$P_{\text{MPa}}$  = test pressure, in MPa

$P_{\text{bar}}$  = test pressure, in bar

$D$  = nominal external diameter of the pressure receptacle, in mm

and

$R_e$  = guaranteed minimum proof stress with 0.2% proof stress, in MPa ( $= \text{N/mm}^2$ )

In addition, the value of the minimum guaranteed proof stress ( $R_e$ ) introduced into the formula is in no case to be greater than 0.85 times the guaranteed minimum tensile strength ( $R_m$ ), whatever the type of alloy used.

**NOTE 1:** The above characteristics are based on previous experience with the following materials used for pressure receptacles:

Column A: Aluminium, unalloyed, 99.5% pure;

Column B: Alloys of aluminium and magnesium;

Column C: Alloys of aluminium, silicon and magnesium, such as ISO/R209-Al-Si-Mg (Aluminium Association 6351);

Column D: Alloys of aluminium, copper and magnesium.

- 2: The permanent elongation at fracture is measured by means of test-pieces of circular cross-section in which the gauge length "l" is equal to five times the diameter "d" ( $l = 5d$ ); if test-pieces of rectangular section are used the gauge length shall be calculated by the formula:

$$l = 5.65 \sqrt{F_0}$$

where  $F_0$  is the initial cross-section area of the test-piece.

- 3: (a) The bend test (see diagram) shall be carried out on specimens obtained by cutting into two equal parts of width  $3e$ , but in no case less than 25 mm, an annular section of a cylinder. The specimens shall not be machined elsewhere than on the edges;
- (b) The bend test shall be carried out between a mandrel of diameter ( $d$ ) and two circular supports separated by a distance of  $(d + 3e)$ . During the test the inner faces shall be separated by a distance not greater than the diameter of the mandrel;
- (c) The specimen shall not exhibit cracks when it has been bent inwards around the mandrel until the inner faces are separated by a distance not greater than the diameter of the mandrel;
- (d) The ratio ( $n$ ) between the diameter of the mandrel and the thickness of the specimen shall conform to the values given in the Table.

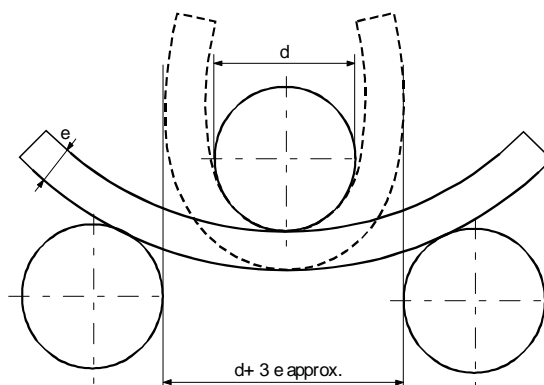


Diagram of bend test

**6.2.5.4.2** A lower minimum elongation value is acceptable on condition that an additional test approved by the competent authority of the country in which the pressure receptacles are made proves that safety of carriage is ensured to the same extent as in the case of pressure receptacles constructed to comply with the characteristics given in the Table in 6.2.5.4.1 (see also EN 1975: 1999 + A1:2003).

**6.2.5.4.3** The wall thickness of the pressure receptacles at the thinnest point shall be the following:

- where the diameter of the pressure receptacle is less than 50 mm: not less than 1.5 mm;
- where the diameter of the pressure receptacle is from 50 to 150 mm: not less than 2 mm; and
- where the diameter of the pressure receptacle is more than 150 mm: not less than 3 mm.

**6.2.5.4.4** The ends of the pressure receptacles shall have a semicircular, elliptical or "basket-handle" section; they shall afford the same degree of safety as the body of the pressure receptacle.

#### **6.2.5.5 Pressure receptacles in composite materials**

For cylinders, tubes, pressure drums and bundles of cylinders which make use of composite materials, the construction shall be such that a minimum burst ratio (burst pressure divided by test pressure) is:

- 1.67 for hoop wrapped pressure receptacles;
- 2.00 for fully wrapped pressure receptacles.

#### **6.2.5.6 Closed cryogenic receptacles**

The following requirements apply to the construction of closed cryogenic receptacles for refrigerated liquefied gases:

**6.2.5.6.1** If non-metallic materials are used, they shall resist brittle fracture at the lowest working temperature of the pressure receptacle and its fittings.

**6.2.5.6.2** The pressure relief devices shall be so constructed as to work perfectly even at their lowest working temperature. Their reliability of functioning at that temperature shall be established and checked by testing each device or a sample of devices of the same type of construction.

**6.2.5.6.3** The vents and pressure relief devices of pressure receptacles shall be so designed as to prevent the liquid from splashing out.

**6.2.6 General requirements for aerosol dispensers, small receptacles containing gas (gas cartridges) and fuel cell cartridges containing liquefied flammable gas**

**6.2.6.1 Design and construction**

**6.2.6.1.1** Aerosol dispensers (UN No.1950 aerosols) containing only a gas or a mixture of gases, and small receptacles containing gas (gas cartridges) (UN No. 2037), shall be made of metal. This requirement shall not apply to aerosols and small receptacles containing gas (gas cartridges) with a maximum capacity of 100 ml for UN No. 1011 butane. Other aerosol dispensers (UN No.1950 aerosols) shall be made of metal, synthetic material or glass. Receptacles made of metal and having an outside diameter of not less than 40 mm shall have a concave bottom.

**6.2.6.1.2** The capacity of receptacles made of metal shall not exceed 1 000 ml; that of receptacles made of synthetic material or of glass shall not exceed 500 ml.

**6.2.6.1.3** Each model of receptacles (aerosol dispensers or cartridges) shall, before being put into service, satisfy a hydraulic pressure test carried out in conformity with 6.2.6.2.

**6.2.6.1.4** The release valves and dispersal devices of aerosol dispensers (UN No.1950 aerosols) and the valves of UN No. 2037 small receptacles containing gas (gas cartridges) shall ensure that the receptacles are so closed as to be leakproof and shall be protected against accidental opening. Valves and dispersal devices which close only by the action of the internal pressure are not to be accepted.

**6.2.6.1.5** The internal pressure at 50 °C shall exceed neither two-thirds of the test pressure nor 1.32 MPa (13.2 bar). Aerosol dispensers and small receptacles containing gas (gas cartridges) shall be so filled that at 50 °C the liquid phase does not exceed 95% of their capacity.

**6.2.6.2 Hydraulic pressure test**

**6.2.6.2.1** The internal pressure to be applied (test pressure) shall be 1.5 times the internal pressure at 50 °C, with a minimum pressure of 1 MPa (10 bar).

**6.2.6.2.2** The hydraulic pressure tests shall be carried out on at least five empty receptacles of each model:

- (a) until the prescribed test pressure is reached, by which time no leakage or visible permanent deformation shall have occurred; and
- (b) until leakage or bursting occurs; the dished end, if any, shall yield first and the receptacle shall not leak or burst until a pressure 1.2 times the test pressure has been reached or passed.

**6.2.6.3 Tightness (leakproofness) test**

**6.2.6.3.1 Small receptacles containing gas (gas cartridges) and fuel cell cartridges containing liquefied flammable gas**

**6.2.6.3.1.1** Each receptacle or fuel cell cartridge shall satisfy a tightness (leakproofness) test in a hot-water bath.

**6.2.6.3.1.2** The temperature of the bath and the duration of the test shall be such that the internal pressure of each receptacle or fuel cell cartridge reaches at least 90% of the internal pressure that would be reached at 55 °C. However, if the contents are sensitive to heat or if the receptacles or the fuel cell cartridges are made of a plastics material which softens at this temperature, the temperature of the bath shall be from 20 °C to 30 °C. In addition, one receptacle or fuel cell cartridge out of every 2 000 shall be tested at 55 °C.

**6.2.6.3.1.3** No leakage or permanent deformation of a receptacle or fuel cell cartridge shall occur, except that a plastics receptacle or fuel cell cartridge may be deformed through softening, provided that it does not leak.

**6.2.6.3.2 Aerosol dispensers**

Each filled aerosol dispenser shall be subjected to a test performed in a hot water bath or an approved water bath alternative.

**6.2.6.3.2.1** Hot water bath test

**6.2.6.3.2.1.1** The temperature of the water bath and the duration of the test shall be such that the internal pressure reaches that which would be reached at 55 °C (50 °C if the liquid phase does not exceed 95% of the capacity of the aerosol dispenser at 50 °C). If the contents are sensitive to heat or if the aerosol dispensers are made of plastics material which softens at this test temperature, the temperature of the bath shall be set at between 20 °C and 30 °C but, in addition, one aerosol dispenser in 2000 shall be tested at the higher temperature.

**6.2.6.3.2.1.2** No leakage or permanent deformation of an aerosol dispenser may occur, except that a plastics aerosol dispenser may be deformed through softening, provided that it does not leak.

**6.2.6.3.2.2** Alternative methods

With the approval of the competent authority alternative methods which provide an equivalent level of safety may be used, provided that the requirements of 6.2.6.3.2.2.1, 6.2.6.3.2.2.2 and 6.2.6.3.2.2.3 are met.

**6.2.6.3.2.2.1** Quality system

Aerosol dispenser fillers and component manufacturers shall have a quality system. The quality system shall implement procedures to ensure that all aerosol dispensers that leak or that are deformed are rejected and not offered for carriage.

The quality system shall include:

- (a) a description of the organizational structure and responsibilities;
- (b) the relevant inspection and test, quality control, quality assurance, and process operation instructions that will be used;
- (c) quality records, such as inspection reports, test data, calibration data and certificates;
- (d) management reviews to ensure the effective operation of the quality system;
- (e) a process for control of documents and their revision;
- (f) a means for control of non-conforming aerosol dispensers;
- (g) training programmes and qualification procedures for relevant personnel; and
- (h) procedures to ensure that there is no damage to the final product.

An initial audit and periodic audits shall be conducted to the satisfaction of the competent authority. These audits shall ensure the approved system is and remains adequate and efficient. Any proposed changes to the approved system shall be notified to the competent authority in advance.

**6.2.6.3.2.2.2** Pressure and leak testing of aerosol dispensers before filling

Every empty aerosol dispenser shall be subjected to a pressure equal to or in excess of the maximum expected in the filled aerosol dispensers at 55 °C (50 °C if the liquid phase does not exceed 95% of the capacity of the receptacle at 50 °C). This shall be at least two-thirds of the design pressure of the aerosol dispenser. If any aerosol dispenser shows evidence of leakage at a rate equal to or greater than  $3.3 \times 10^{-2}$  mbar·l·s<sup>-1</sup> at the test pressure, distortion or other defect, it shall be rejected.

**6.2.6.3.2.2.3** Testing of the aerosol dispensers after filling

Prior to filling the filler shall ensure that the crimping equipment is set appropriately and the specified propellant is used.

Each filled aerosol dispenser shall be weighed and leak tested. The leak detection equipment shall be sufficiently sensitive to detect at least a leak rate of  $2.0 \times 10^{-3}$  mbar·l·s<sup>-1</sup> at 20 °C.

Any filled aerosol dispenser which shows evidence of leakage, deformation or excessive weight shall be rejected.

**6.2.6.3.3** With the approval of the competent authority, aerosols and receptacles, small, containing pharmaceutical products and non flammable gases which are required to be sterile, but may be adversely affected by water bath testing, are not subject to 6.2.6.3.1 and 6.2.6.3.2 if:

- (a) They are manufactured under the authority of a national health administration and, if required by the competent authority, follow the principles of Good Manufacturing Practice (GMP) established by the World Health Organization (WHO)<sup>3</sup>; and

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<sup>3</sup> WHO Publication: "Quality assurance of pharmaceuticals. A compendium of guidelines and related materials. Volume 2: Good manufacturing practices and inspection".

- (b) An equivalent level of safety is achieved by the manufacturer's use of alternative methods for leak detection and pressure resistance, such as helium detection and water bathing a statistical sample of at least 1 in 2000 from each production batch.

**6.2.6.4****Reference to standards**

The requirements of this section are deemed to be met if the following standards are complied with:

- for aerosol dispensers (UN No. 1950 aerosols): Annex to Council Directive 75/324/EEC<sup>4</sup> as amended by Commission Directive 94/1/EC<sup>5</sup>;
- for UN No. 2037, small receptacles containing gas (gas cartridges) containing UN No. 1965, hydrocarbon gas mixture n.o.s, liquefied: EN 417:2003 Non-refillable metallic gas cartridges for liquefied petroleum gases, with or without a valve, for use with portable appliances – Construction, inspection, testing and marking.

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<sup>4</sup> Council Directive 75/324/EEC of 20 May 1975 on the approximation of the laws of the Member States relating to aerosol dispensers, published in the Official Journal of the European Communities No. L 147 of 9 June 1975.

<sup>5</sup> Commission Directive 94/1/EC of January 1994, adapting some technicalities of Council Directive 75/324/EEC on the approximation of the laws of the relating Member States to aerosol dispensers published in the Official Journal of the European Communities No. L 23 of 28 January 1994.



## Chapter 6.3

### Requirements for the construction and testing of packagings for class 6.2 infectious substances of category A

**NOTE:** The requirements of this Chapter don't apply to packagings used for the carriage of Class 6.2 substances according to packing instruction P621 of 4.1.4.1.

#### 6.3.1 General

**6.3.1.1** The requirements of this Chapter apply to packagings intended for the carriage of infectious substances of Category A.

#### 6.3.2 Requirements for packagings

**6.3.2.1** The requirements for packagings in this section are based on packagings, as specified in 6.1.4, currently used. In order to take into account progress in science and technology, there is no objection to the use of packagings having specifications different from those in this Chapter, provided that they are equally effective, acceptable to the competent authority and able successfully to withstand the tests described in 6.3.5. Methods of testing other than those described in RID are acceptable, provided they are equivalent, and are recognized by the competent authority.

**6.3.2.2** Packagings shall be manufactured and tested under a quality assurance programme which satisfies the competent authority in order to ensure that each packaging meets the requirements of this Chapter.

**NOTE:** ISO 16106:2006 "Packaging – Transport packages for dangerous goods – Dangerous goods packagings, intermediate bulk containers (IBCs) and large packagings – Guidelines for the application of ISO 9001" provides acceptable guidance on procedures which may be followed.

**6.3.2.3** Manufacturers and subsequent distributors of packagings shall provide information regarding procedures to be followed and a description of the types and dimensions of closures (including required gaskets) and any other components needed to ensure that packages as presented for carriage are capable of passing the applicable performance tests of this Chapter.

#### 6.3.3 Code for designating types of packagings

**6.3.3.1** The codes for designating types of packagings are set out in 6.1.2.7.

**6.3.3.2** The letters "U" or "W" may follow the packaging code. The letter "U" signifies a special packaging conforming to the requirements of 6.3.5.1.6. The letter "W" signifies that the packaging, although, of the same type indicated by the code is manufactured to a specification different from that in 6.1.4 and is considered equivalent under the requirements of 6.3.2.1.

#### 6.3.4 Marking


**NOTE 1:** The marking indicates that the packaging which bears it corresponds to a successfully tested design type and that it complies with the requirements of this Chapter which are related to the manufacture, but not to the use, of the packaging.

**2:** The marking is intended to be of assistance to packaging manufacturers, reconditioners, packaging users, carriers and regulatory authorities.

**3:** The marking does not always provide full details of the test levels, etc., and these may need to be taken further into account, e.g. by reference to a test certificate, to test reports or to a register of successfully tested packagings.

**6.3.4.1** Each packaging intended for use according to RID shall bear markings which are durable, legible and placed in a location and of such a size relative to the packaging as to be readily visible. For packages with a gross mass of more than 30 kg, the markings or a duplicate thereof shall appear on the top or on a side of the packaging. Letters, numerals and symbols shall be at least 12 mm high, except for packagings of 30 litres or 30 kg capacity or less, when they shall be at least 6 mm in height and for packagings of 5 litres or 5 kg or less when they shall be of an appropriate size.

**6.3.4.2** A packaging that meets the requirements of this section and of 6.3.5 shall be marked with:


- (a) the United Nations packaging symbol . This symbol shall not be used for any purpose other than certifying that a packaging complies with the relevant requirements in Chapter 6.1, 6.2, 6.3, 6.5 or 6.6;
- (b) the code designating the type of packaging according to the requirements of 6.1.2;
- (c) the text "CLASS 6.2";
- (d) the last two digits of the year of manufacture of the packaging;

- (e) the state authorizing the allocation of the mark, indicated by the distinguishing sign for motor vehicles in international traffic<sup>1</sup>;
- (f) the name of the manufacturer or other identification of the packaging specified by the competent authority;
- (g) for packagings meeting the requirements of 6.3.5.1.6, the letter "U", inserted immediately following the marking required in (b) above.

**6.3.4.3** Marking shall be applied in the sequence shown in 6.3.4.2 (a) to (g); each element of the marking required in these sub-paragraphs shall be clearly separated, e.g. by a slash or space, so as to be easily identifiable. For examples, see 6.3.4.4.

Any additional markings authorized by a competent authority shall still enable the parts of the mark to be correctly identified with reference to 6.3.4.1.

**6.3.4.4** Example of marking:

	4G/CLASS 6.2/06/ S/SP-9989-ERIKSSON	as in 6.3.4.2 (a), (b), (c) and (d) as in 6.3.4.2 (e) and (f)
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### **6.3.5 Test requirements for packagings**

#### **6.3.5.1 Performance and frequency of tests**

**6.3.5.1.1** The design type of each packaging shall be tested as provided in this section in accordance with procedures established by the competent authority allowing the allocation of the mark and shall be approved by this competent authority.

**6.3.5.1.2** Each packaging design type shall successfully pass the tests prescribed in this Chapter before being used. A packaging design type is defined by the design, size, material and thickness, manner of construction and packing, but may include various surface treatments. It also includes packagings which differ from the design type only in their lesser design height.

**6.3.5.1.3** Tests shall be repeated on production samples at intervals established by the competent authority.

**6.3.5.1.4** Tests shall also be repeated after each modification which alters the design, material or manner of construction of a packaging.

**6.3.5.1.5** The competent authority may permit the selective testing of packagings that differ only in minor respects from a tested type, e.g. smaller sizes or lower net mass of primary receptacles; and packagings such as drums and boxes which are produced with small reductions in external dimension(s).

**6.3.5.1.6** Primary receptacles of any type may be assembled within an secondary packaging and carried without testing in the rigid outer packaging under the following conditions:

- (a) The rigid outer packaging shall have been successfully tested in accordance with 6.3.5.2.2 with fragile (e.g. glass) primary receptacles;
- (b) The total combined gross mass of primary receptacles shall not exceed one half the gross mass of primary receptacles used for the drop test in (a) above;
- (c) The thickness of cushioning between primary receptacles and between primary receptacles and the outside of the secondary packaging shall not be reduced below the corresponding thicknesses in the originally tested packaging; and if a single primary receptacle was used in the original test, the thickness of cushioning between primary receptacles shall not be less than the thickness of cushioning between the outside of the secondary packaging and the primary receptacle in the original test. When either fewer or smaller primary receptacles are used (as compared to the primary receptacles used in the drop test), sufficient additional cushioning material shall be used to take up the void spaces;
- (d) The rigid outer packaging shall have successfully passed the stacking test in 6.1.5.6 while empty. The total mass of identical packages shall be based on the combined mass of packagings used in the drop test in (a) above;
- (e) For primary receptacles containing liquids, an adequate quantity of absorbent material to absorb the entire liquid content of the primary receptacles shall be present;
- (f) If the rigid outer packaging is intended to contain primary receptacles for liquids and is not leakproof, or is intended to contain primary receptacles for solids and is not siftproof, a means of containing any liquid or solid contents in the event of leakage shall be provided in the form of a leakproof liner, plastics bag or other equally effective means of containment;

<sup>1</sup> Distinguishing sign for motor vehicles in international traffic prescribed in Vienna Convention on Road Traffic (1968).

(g) In addition to the markings prescribed in 6.3.4.2 (a) to (f), packagings shall be marked in accordance with 6.3.4.2 (g).

**6.3.5.1.7** The competent authority may at any time require proof, by tests in accordance with this section, that serially-produced packagings meet the requirements of the design type tests.

**6.3.5.1.8** Provided the validity of the test results is not affected and with the approval of the competent authority, several tests may be made on one sample.

#### **6.3.5.2 Preparation of packagings for testing**

**6.3.5.2.1** Samples of each packaging shall be prepared as for carriage, except that a liquid or solid infectious substance shall be replaced by water or, where conditioning at  $-18^{\circ}\text{C}$  is specified, by water/antifreeze. Each primary receptacle shall be filled to **not less than 98 % of its capacity**.

**NOTE:** The term water includes water/antifreeze solution with a minimum specific gravity of 0.95 for testing at  $-18^{\circ}\text{C}$ .

#### **6.3.5.2.2 Tests and number of samples required**

Tests required for packaging types

Type of packaging <sup>(a)</sup>			Tests required					
Rigid outer packaging	Primary receptacle		Water spray 6.3.5.3.6.1	Cold conditioning 6.3.5.3.6.2	Drop 6.3.5.3	Additional drop 6.3.5.3.6.3	Puncture 6.3.5.4	Stack 6.1.5.6
	Plastics	Other	No. of samples	No. of samples	No. of samples	No. of samples	No. of samples	No. of samples
Fibreboard box	X		5	5	10	Required on one sample when the packaging is intended to contain dry ice.	2	Required on three samples when testing a "U"-marked packaging as defined in 6.3.5.1.6 for specific provisions.
		X	5	0	5		2	
Fibreboard drum	X		3	3	6		2	
		X	3	0	3		2	
Plastics box	X		0	5	5		2	
		X	0	5	5		2	
Plastics drum/ jerrycan	X		0	3	3		2	
		X	0	3	3		2	
Boxes of other material	X		0	5	5		2	
		X	0	0	5		2	
Drums/jerrycans of other material	X		0	3	3		2	
		X	0	0	3		2	

<sup>(a)</sup> "Type of packaging" categorizes packagings for test purposes according to the kind of packaging and its material characteristics.

**NOTE 1:** In instances where a primary receptacle is made of two or more materials, the material most liable to damage determines the appropriate test.

**2:** The material of the secondary packagings are not taken into consideration when selecting the test or conditioning for the test.

#### **Explanation for use of the Table:**

If the packaging to be tested consists of a fibreboard outer box with a plastics primary receptacle, five samples must undergo the water spray test (see 6.3.5.3.6.1) prior to dropping and another five must be conditioned to  $-18^{\circ}\text{C}$  (see 6.3.5.3.6.2) prior to dropping. If the packaging is to contain dry ice then one further single sample shall be dropped five times after conditioning in accordance with 6.3.5.3.6.3.

Packagings prepared as for carriage shall be subjected to the tests in 6.3.5.3 and 6.3.5.4. For outer packagings, the headings in the Table relate to fibreboard or similar materials whose performance may be rapidly affected by moisture; plastics which may embrittle at low temperature; and other materials such as metal whose performance is not affected by moisture or temperature.

**6.3.5.3 Drop test**

**6.3.5.3.1** Samples shall be subjected to free-fall drops from a height of 9 m onto a non-resilient, horizontal, flat, massive and rigid surface in conformity with 6.1.5.3.4.

**6.3.5.3.2** Where the samples are in the shape of a box, five shall be dropped one in each of the following orientations:

- (a) flat on the base;
- (b) flat on the top;
- (c) flat on the longest side;
- (d) flat on the shortest side;
- (e) on a corner.

**6.3.5.3.3** Where the samples are in the shape of a drum, three shall be dropped one in each of the following orientations:

- (a) diagonally on the top chime, with the centre of gravity directly above the point of impact;
- (b) diagonally on the base chime;
- (c) flat on the side.

**6.3.5.3.4** While the sample shall be released in the required orientation, it is accepted that for aerodynamic reasons the impact may not take place in that orientation.

**6.3.5.3.5** Following the appropriate drop sequence, there shall be no leakage from the primary receptacle(s) which shall remain protected by cushioning/absorbent material in the secondary packaging.

**6.3.5.3.6** Special preparation of test sample for the drop test

**6.3.5.3.6.1 Fibreboard – Water spray test**

Fibreboard outer packagings: The sample shall be subjected to a water spray that simulates exposure to rainfall of approximately 5 cm per hour for at least one hour. It shall then be subjected to the test described in 6.3.5.3.1.

**6.3.5.3.6.2 Plastics material – Cold conditioning**

Plastics primary receptacles or outer packagings: The temperature of the test sample and its contents shall be reduced to –18 °C or lower for a period of at least 24 hours and within 15 minutes of removal from that atmosphere the test sample shall be subjected to the test described in 6.3.5.3.1. Where the sample contains dry ice, the conditioning period shall be reduced to 4 hours.

**6.3.5.3.6.3 Packagings intended to contain dry ice – Additional drop test**

Where the packaging is intended to contain dry ice, a test additional to that specified in 6.3.5.3.1 and, when appropriate, in 6.3.5.3.6.1 or 6.3.5.3.6.2 shall be carried out. One sample shall be stored so that all the dry ice dissipates and then that sample shall be dropped in one of the orientations described in 6.3.5.3.2 which shall be that most likely to result in failure of the packaging.

**6.3.5.4 Puncture test****6.3.5.4.1 Packagings with a gross mass of 7 kg or less**

Samples shall be placed on a level hard surface. A cylindrical steel rod with a mass of at least 7 kg, a diameter of 38 mm and whose impact end edges have a radius not exceeding 6 mm, shall be dropped in a vertical free fall from a height of 1 m, measured from the impact end to the impact surface of the sample. One sample shall be placed on its base. A second sample shall be placed in an orientation perpendicular to that used for the first. In each instance the steel rod shall be aimed to impact the primary receptacle. Following each impact, penetration of the secondary packaging is acceptable, provided that there is no leakage from the primary receptacle(s).

**6.3.5.4.2 Packagings with a gross mass exceeding 7 kg**

Samples shall be dropped on to the end of a cylindrical steel rod. The rod shall be set vertically in a level hard surface. It shall have a diameter of 38 mm and the edges of the upper end a radius not exceeding 6 mm. The rod shall protrude from the surface a distance at least equal to that between the centre of the primary receptacle(s) and the outer surface of the outer packaging with a minimum of 200 mm. One sample shall be dropped with its top face lowermost in a vertical free fall from a height of 1 m, measured from the top of the steel rod. A second sample shall be dropped from the same height in an orientation perpendicular to that used for the first. In each instance, the packaging shall be so orientated that the steel rod would be capable of penetrating the primary receptacle(s). Following each impact, penetration of the secondary packaging is acceptable, provided that there is no leakage from the primary receptacle(s).

**6.3.5.5 Test report**

**6.3.5.5.1** A **written** test report containing at least the following particulars shall be drawn up and shall be available to the users of the packaging:

1. Name and address of the test facility;
2. Name and address of applicant (where appropriate);
3. A unique test report identification;
4. Date of the test **and of the** report;
5. Manufacturer of the packaging;
6. Description of the packaging design type (e.g. dimensions, materials, closures, thickness, etc.), including method of manufacture (e.g. blow moulding) and which may include drawing(s) and/or photograph(s);
7. Maximum capacity;
8. **Test contents**;
9. Test descriptions and results;
10. The test report shall be signed with the name and status of the signatory.

**6.3.5.5.2** The test report shall contain statements that the packaging prepared as for carriage was tested in accordance with the appropriate requirements of this Chapter and that the use of other packaging methods or components may render it invalid. A copy of the test report shall be available to the competent authority.

## Chapter 6.4

### Requirements for the construction, testing and approval of packages and material of class 7

**6.4.1** (Reserved)

#### **6.4.2 General requirements**

**6.4.2.1** The package shall be so designed in relation to its mass, volume and shape that it can be easily and safely carried. In addition, the package shall be so designed that it can be properly secured in or on the wagon during carriage.

**6.4.2.2** The design shall be such that any lifting attachments on the package will not fail when used in the intended manner and that, if failure of the attachments should occur, the ability of the package to meet other requirements of RID would not be impaired. The design shall take account of appropriate safety factors to cover snatch lifting.

**6.4.2.3** Attachments and any other features on the outer surface of the package which could be used to lift it shall be designed either to support its mass in accordance with the requirements of 6.4.2.2 or shall be removable or otherwise rendered incapable of being used during carriage.

**6.4.2.4** As far as practicable, the packaging shall be so designed and finished that the external surfaces are free from protruding features and can be easily decontaminated.

**6.4.2.5** As far as practicable, the outer layer of the package shall be so designed as to prevent the collection and the retention of water.

**6.4.2.6** Any features added to the package at the time of carriage which are not part of the package shall not reduce its safety.

**6.4.2.7** The package shall be capable of withstanding the effects of any acceleration, vibration or vibration resonance which may arise under routine conditions of carriage without any deterioration in the effectiveness of the closing devices on the various receptacles or in the integrity of the package as a whole. In particular, nuts, bolts and other securing devices shall be so designed as to prevent them from becoming loose or being released unintentionally, even after repeated use.

**6.4.2.8** The materials of the packaging and any components or structures shall be physically and chemically compatible with each other and with the radioactive contents. Account shall be taken of their behaviour under irradiation.

**6.4.2.9** All valves through which the radioactive contents could otherwise escape shall be protected against unauthorized operation.

**6.4.2.10** The design of the package shall take into account ambient temperatures and pressures that are likely to be encountered in routine conditions of carriage.

**6.4.2.11** For radioactive material having other dangerous properties the package design shall take into account those properties; see 2.1.3.5.3 and 4.1.9.1.5.

**6.4.2.12** Manufacturers and subsequent distributors of packagings shall provide information regarding procedures to be followed and a description of the types and dimensions of closures (including required gaskets) and any other components needed to ensure that packages as presented for carriage are capable of passing the applicable performance tests of this Chapter.

**6.4.3** (Reserved)

#### **6.4.4 Requirements for excepted packages**

An excepted package shall be designed to meet the requirements specified in 6.4.2.

#### **6.4.5 Requirements for Industrial packages**

**6.4.5.1** Type IP-1, Type IP-2 and Type IP-3 package shall meet the requirements specified in 6.4.2 and 6.4.7.2.

**6.4.5.2** A Type IP-2 package shall, if it were subjected to the tests specified in 6.4.15.4 and 6.4.15.5, prevent:  
(a) loss or dispersal of the radioactive contents; and  
(b) more than a 20% increase in the maximum radiation level at any external surface of the package.

**6.4.5.3** A Type IP-3 package shall meet all the requirements specified in 6.4.7.2 to 6.4.7.15.

**6.4.5.4 Alternative requirements for Type IP-2 and Type IP-3 packages****6.4.5.4.1** Packages may be used as Type IP-2 package provided that:

- (a) They satisfy the requirements of 6.4.5.1;
- (b) They are designed to satisfy the requirements prescribed for packing group I or II in Chapter 6.1; and
- (c) When subjected to the tests required for packing groups I or II in Chapter 6.1, they would prevent:
  - (i) loss or dispersal of the radioactive contents; and
  - (ii) more than a 20% increase in the maximum radiation level at any external surface of the package.

**6.4.5.4.2** Portable tanks may also be used as Type IP-2 or Type IP-3 package, provided that:

- (a) They satisfy the requirements of 6.4.5.1;
- (b) They are designed to satisfy the requirements prescribed in Chapter 6.7 and are capable of withstanding a test pressure of 265 kPa; and
- (c) They are designed so that any additional shielding which is provided shall be capable of withstanding the static and dynamic stresses resulting from handling and routine conditions of carriage and of preventing an increase of more than 20% in the maximum radiation level at any external surface of the portable tanks.

**6.4.5.4.3** Tanks, other than portable tanks, may also be used as Type IP-2 or Type IP-3 package for carrying LSA-I and LSA-II liquids and gases as prescribed in Table 4.1.9.2.4, provided that:

- (a) They satisfy the requirements of 6.4.5.1;
- (b) They are designed to satisfy the requirements prescribed in Chapter 6.8; and
- (c) They are designed so that any additional shielding which is provided shall be capable of withstanding the static and dynamic stresses resulting from handling and routine conditions of carriage and of preventing an increase of more than 20% in the maximum radiation level at any external surface of the tanks.

**6.4.5.4.4** Containers of a permanent enclosed character may also be used as Type IP-2 or Type IP-3 package, provided that:

- (a) The radioactive contents are restricted to solid materials;
- (b) They satisfy the requirements of 6.4.5.1; and
- (c) They are designed to conform to ISO 1496-1:1990: "Series 1 Containers – Specifications and Testing – Part 1: General Cargo Containers" excluding dimensions and ratings. They shall be designed such that if subjected to the tests prescribed in that document and the accelerations occurring during routine conditions of carriage they would prevent:
  - (i) loss or dispersal of the radioactive contents; and
  - (ii) more than a 20% increase in the maximum radiation level at any external surface of the containers.

**6.4.5.4.5** Metal intermediate bulk containers may also be used as Type IP-2 or Type IP-3 package, provided that:

- (a) They satisfy the requirements of 6.4.5.1; and
- (b) They are designed to satisfy the requirements prescribed in Chapter 6.5 for packing group I or II, and if they were subjected to the tests prescribed in that Chapter, but with the drop test conducted in the most damaging orientation, they would prevent:
  - (i) loss or dispersal of the radioactive contents; and
  - (ii) more than a 20% increase in the maximum radiation level at any external surface of the intermediate bulk container.

**6.4.6 Requirements for packages containing uranium hexafluoride****6.4.6.1** Packages designed to contain uranium hexafluoride shall meet the requirements prescribed elsewhere in RID which pertain to the radioactive and fissile properties of the material. Except as allowed in 6.4.6.4, uranium hexafluoride in quantities of 0.1 kg or more shall also be packaged and carried in accordance with the provisions of ISO 7195:1993 "Packaging of uranium hexafluoride (UF<sub>6</sub>) for transport", and the requirements of 6.4.6.2 and 6.4.6.3.**6.4.6.2** Each package designed to contain 0.1 kg or more of uranium hexafluoride shall be designed so that it would meet the following requirements:

- (a) Withstand without leakage and without unacceptable stress, as specified in ISO 7195:1993, the structural test as specified in 6.4.21.5;
- (b) Withstand without loss or dispersal of the uranium hexafluoride the free drop test specified in 6.4.15.4; and
- (c) Withstand without rupture of the containment system the thermal test specified in 6.4.17.3.

- 6.4.6.3** Packages designed to contain 0.1 kg or more of uranium hexafluoride shall not be provided with pressure relief devices.
- 6.4.6.4** Subject to the approval of the competent authority, packages designed to contain 0.1 kg or more of uranium hexafluoride may be carried if:
- (a) The packages are designed to international or national standards other than ISO 7195:1993 provided an equivalent level of safety is maintained;
  - (b) The packages are designed to withstand without leakage and without unacceptable stress a test pressure of less than 2.76 MPa as specified in 6.4.21.5; or
  - (c) For packages designed to contain 9 000 kg or more of uranium hexafluoride, the packages do not meet the requirement of 6.4.6.2 (c).

In all other respects the requirements specified in 6.4.6.1 to 6.4.6.3 shall be satisfied.

**6.4.7 Requirements for Type A packages**

- 6.4.7.1** Type A packages shall be designed to meet the general requirements of 6.4.2 and of 6.4.7.2 to 6.4.7.17.
- 6.4.7.2** The smallest overall external dimension of the package shall not be less than 10 cm.
- 6.4.7.3** The outside of the package shall incorporate a feature such as a seal, which is not readily breakable and which, while intact, will be evidence that it has not been opened.
- 6.4.7.4** Any tie-down attachments on the package shall be so designed that, under normal and accident conditions of carriage, the forces in those attachments shall not impair the ability of the package to meet the requirements of RID.
- 6.4.7.5** The design of the package shall take into account temperatures ranging from  $-40^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$  for the components of the packaging. Attention shall be given to freezing temperatures for liquids and to the potential degradation of packaging materials within the given temperature range.
- 6.4.7.6** The design and manufacturing techniques shall be in accordance with national or international standards, or other requirements, acceptable to the competent authority.
- 6.4.7.7** The design shall include a containment system securely closed by a positive fastening device which cannot be opened unintentionally or by a pressure which may arise within the package.
- 6.4.7.8** Special form radioactive material may be considered as a component of the containment system.
- 6.4.7.9** If the containment system forms a separate unit of the package, it shall be capable of being securely closed by a positive fastening device which is independent of any other part of the packaging.
- 6.4.7.10** The design of any component of the containment system shall take into account, where applicable, the radiolytic decomposition of liquids and other vulnerable materials and the generation of gas by chemical reaction and radiolysis.
- 6.4.7.11** The containment system shall retain its radioactive contents under a reduction of ambient pressure to 60 kPa.
- 6.4.7.12** All valves, other than pressure relief valves, shall be provided with an enclosure to retain any leakage from the valve.
- 6.4.7.13** A radiation shield which encloses a component of the package specified as a part of the containment system shall be so designed as to prevent the unintentional release of that component from the shield. Where the radiation shield and such component within it form a separate unit, the radiation shield shall be capable of being securely closed by a positive fastening device which is independent of any other packaging structure.
- 6.4.7.14** A package shall be so designed that if it were subjected to the tests specified in 6.4.15, it would prevent:
- (a) loss or dispersal of the radioactive contents; and
  - (b) more than a 20% increase in the maximum radiation level at any external surface of the package.
- 6.4.7.15** The design of a package intended for liquid radioactive material shall make provision for ullage to accommodate variations in the temperature of the contents, dynamic effects and filling dynamics.

**Type A packages to contain liquids**

- 6.4.7.16** A Type A package designed to contain liquid radioactive material shall, in addition:
- (a) Be adequate to meet the conditions specified in 6.4.7.14 (a) above if the package is subjected to the tests specified in 6.4.16; and



## (b) Either

- (i) be provided with sufficient absorbent material to absorb twice the volume of the liquid contents. Such absorbent material shall be suitably positioned so as to contact the liquid in the event of leakage; or
- (ii) be provided with a containment system composed of primary inner and secondary outer containment components designed to ensure retention of the liquid contents, within the secondary outer containment components, even if the primary inner components leak.

**Type A packages to contain gas**

**6.4.7.17** A package designed for gases shall prevent loss or dispersal of the radioactive contents if the package were subjected to the tests specified in 6.4.16. A Type A package designed for tritium gas or for noble gases shall be excepted from this requirement.

**6.4.8 Requirements for Type B(U) packages**

**6.4.8.1** Type B(U) packages shall be designed to meet the requirements specified in 6.4.2, and of 6.4.7.2 to 6.4.7.15, except as specified in 6.4.7.14 (a), and, in addition, the requirements specified in 6.4.8.2 to 6.4.8.15.

**6.4.8.2** A package shall be so designed that, under the ambient conditions specified in 6.4.8.5 and 6.4.8.6 heat generated within the package by the radioactive contents shall not, under normal conditions of carriage, as demonstrated by the tests in 6.4.15, adversely affect the package in such a way that it would fail to meet the applicable requirements for containment and shielding if left unattended for a period of one week. Particular attention shall be paid to the effects of heat, which may:

- (a) Alter the arrangement, the geometrical form or the physical state of the radioactive contents or, if the radioactive material is enclosed in a can or receptacle (for example, clad fuel elements), cause the can, receptacle or radioactive material to deform or melt; or
- (b) Lessen the efficiency of the packaging through differential thermal expansion or cracking or melting of the radiation shielding material; or
- (c) In combination with moisture, accelerate corrosion.

**6.4.8.3** A package shall be so designed that, under the ambient condition specified in 6.4.8.5 and in the absence of insulation, the temperature of the accessible surfaces of a package shall not exceed 50 °C, unless the package is carried under exclusive use.

**6.4.8.4** The maximum temperature of any surface readily accessible during carriage of a package under exclusive use shall not exceed 85 °C in the absence of insulation under the ambient conditions specified in 6.4.8.5. Account may be taken of barriers or screens intended to give protection to persons without the need for the barriers or screens being subject to any test.

**6.4.8.5** The ambient temperature shall be assumed to be 38 °C.

**6.4.8.6** The solar insolation conditions shall be assumed to be as specified in Table 6.4.8.6.

**Table 6.4.8.6: Insolation data**

Case	Form and location of surface	Insulation for 12 hours per day (W/m <sup>2</sup> )
1	Flat surfaces carried horizontally-downward facing	0
2	Flat surfaces carried horizontally-upward facing	800
3	Surfaces carried vertically	200 <sup>(a)</sup>
4	Other downward facing (not horizontal) surfaces	200 <sup>(a)</sup>
5	All other surfaces	400 <sup>(a)</sup>

<sup>(a)</sup> Alternatively, a sine function may be used, with an absorption coefficient adopted and the effects of possible reflection from neighbouring objects neglected.

**6.4.8.7** A package which includes thermal protection for the purpose of satisfying the requirements of the thermal test specified in 6.4.17.3 shall be so designed that such protection will remain effective if the package is subjected to the tests specified in 6.4.15 and 6.4.17.2 (a) and (b) or 6.4.17.2 (b) and (c), as appropriate. Any such protection on the exterior of the package shall not be rendered ineffective by ripping, cutting, skidding, abrasion or rough handling.

- 6.4.8.8** A package shall be so designed that, if it were subjected to:
- (a) The tests specified in 6.4.15, it would restrict the loss of radioactive contents to not more than  $10^{-6}$   $A_2$  per hour; and
  - (b) The tests specified in 6.4.17.1, 6.4.17.2 (b), 6.4.17.3, and 6.4.17.4 and the tests in
    - (i) 6.4.17.2 (c), when the package has a mass not greater than 500 kg, an overall density not greater than  $1\,000\text{ kg/m}^3$  based on the external dimensions, and radioactive contents greater than  $1\,000\text{ }A_2$  not as special form radioactive material, or
    - (ii) 6.4.17.2 (a), for all other packages,it would meet the following requirements:
    - retain sufficient shielding to ensure that the radiation level at 1 m from the surface of the package would not exceed 10 mSv/h with the maximum radioactive contents which the package is designed to contain; and
    - restrict the accumulated loss of radioactive contents in a period of one week to not more than  $10\text{ }A_2$  for krypton-85 and not more than  $A_2$  for all other radionuclides.

Where mixtures of different radionuclides are present, the provisions of 2.2.7.2.2.4 to 2.2.7.2.2.6 shall apply except that for krypton-85 an effective  $A_2(i)$  value equal to  $10\text{ }A_2$  may be used. For case (a) above, the assessment shall take into account the external contamination limits of 4.1.9.1.2.

- 6.4.8.9** A package for radioactive contents with activity greater than  $10^5\text{ }A_2$  shall be so designed that if it were subjected to the enhanced water immersion test specified in 6.4.18, there would be no rupture of the containment system.
- 6.4.8.10** Compliance with the permitted activity release limits shall depend neither upon filters nor upon a mechanical cooling system.
- 6.4.8.11** A package shall not include a pressure relief system from the containment system which would allow the release of radioactive material to the environment under the conditions of the tests specified in 6.4.15 and 6.4.17.
- 6.4.8.12** A package shall be so designed that if it were at the maximum normal operating pressure and it were subjected to the tests specified in 6.4.15 and 6.4.17, the level of strains in the containment system would not attain values which would adversely affect the package in such a way that it would fail to meet the applicable requirements.
- 6.4.8.13** A package shall not have a maximum normal operating pressure in excess of a gauge pressure of 700 kPa.
- 6.4.8.14** A package containing low dispersible radioactive material shall be so designed that any features added to the low dispersible radioactive material that are not part of it, or any internal components of the packaging shall not adversely affect the performance of the low dispersible radioactive material.
- 6.4.8.15** A package shall be designed for an ambient temperature range from  $-40\text{ }^\circ\text{C}$  to  $+38\text{ }^\circ\text{C}$ .

**6.4.9 Requirements for Type B(M) packages**

- 6.4.9.1** Type B(M) packages shall meet the requirements for Type B(U) packages specified in 6.4.8.1, except that for packages to be carried solely within a specified country or solely between specified countries, conditions other than those given in 6.4.7.5, 6.4.8.5, 6.4.8.6, and 6.4.8.9 to 6.4.8.15 above may be assumed with the approval of the competent authorities of these countries. Notwithstanding, the requirements for Type B(U) packages specified in 6.4.8.9 to 6.4.8.15 shall be met as far as practicable.
- 6.4.9.2** Intermittent venting of Type B(M) packages may be permitted during carriage, provided that the operational controls for venting are acceptable to the relevant competent authorities.

**6.4.10 Requirements for Type C packages**

- 6.4.10.1** Type C packages shall be designed to meet the requirements specified in 6.4.2 and of 6.4.7.2 to 6.4.7.15, except as specified in 6.4.7.14 (a), and of the requirements specified in 6.4.8.2 to 6.4.8.6, 6.4.8.10 to 6.4.8.15, and, in addition, of 6.4.10.2 to 6.4.10.4.
- 6.4.10.2** A package shall be capable of meeting the assessment criteria prescribed for tests in 6.4.8.8 (b) and 6.4.8.12 after burial in an environment defined by a thermal conductivity of  $0.33\text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$  and a temperature of  $38\text{ }^\circ\text{C}$  in the steady state. Initial conditions for the assessment shall assume that any thermal insulation of the package remains intact, the package is at the maximum normal operating pressure and the ambient temperature is  $38\text{ }^\circ\text{C}$ .

- 6.4.10.3** A package shall be so designed that, if it were at the maximum normal operating pressure and subjected to:
- (a) The tests specified in 6.4.15, it would restrict the loss of radioactive contents to not more than  $10^{-6}$   $A_2$  per hour; and
  - (b) The test sequences in 6.4.20.1, it would meet the following requirements:
    - (i) retain sufficient shielding to ensure that the radiation level at 1 m from the surface of the package would not exceed 10 mSv/h with the maximum radioactive contents which the package is designed to contain; and
    - (ii) restrict the accumulated loss of radioactive contents in a period of 1 week to not more than 10  $A_2$  for krypton-85 and not more than  $A_2$  for all other radionuclides.

Where mixtures of different radionuclides are present, the provisions of 2.2.7.2.4 to 2.2.7.2.6 shall apply except that for krypton-85 an effective  $A_2(i)$  value equal to 10  $A_2$  may be used. For case (a) above, the assessment shall take into account the external contamination limits of 4.1.9.1.2.

- 6.4.10.4** A package shall be so designed that there will be no rupture of the containment system following performance of the enhanced water immersion test specified in 6.4.18.

**6.4.11 Requirements for packages containing fissile material**

- 6.4.11.1** Fissile material shall be carried so as to:

- (a) Maintain sub-criticality during normal and accident conditions of carriage; in particular, the following contingencies shall be considered:
  - (i) water leaking into or out of packages;
  - (ii) the loss of efficiency of built-in neutron absorbers or moderators;
  - (iii) rearrangement of the contents either within the package or as a result of loss from the package;
  - (iv) reduction of spaces within or between packages;
  - (v) packages becoming immersed in water or buried in snow; and
  - (vi) temperature changes; and
- (b) Meet the requirements:
  - (i) of 6.4.7.2 for packages containing fissile material;
  - (ii) prescribed elsewhere in RID which pertain to the radioactive properties of the material; and
  - (iii) specified in 6.4.11.3 to 6.4.11.12, unless excepted by 6.4.11.2.

- 6.4.11.2** Fissile material meeting one of the provisions (a) to (d) of 2.2.7.2.3.5 is excepted from the requirement to be carried in packages that comply with 6.4.11.3 to 6.4.11.12 as well as the other requirements of RID that apply to fissile material. Only one type of exception is allowed per consignment.

- 6.4.11.3** Where the chemical or physical form, isotopic composition, mass or concentration, moderation ratio or density, or geometric configuration is not known, the assessments of 6.4.11.7 to 6.4.11.12 shall be performed assuming that each parameter that is not known has the value which gives the maximum neutron multiplication consistent with the known conditions and parameters in these assessments.

- 6.4.11.4** For irradiated nuclear fuel the assessments of 6.4.11.7 to 6.4.11.12 shall be based on an isotopic composition demonstrated to provide:

- (a) The maximum neutron multiplication during the irradiation history; or
- (b) A conservative estimate of the neutron multiplication for the package assessments. After irradiation but prior to shipment, a measurement shall be performed to confirm the conservatism of the isotopic composition.

- 6.4.11.5** The package, after being subjected to the tests specified in 6.4.15, must prevent the entry of a 10 cm cube.

- 6.4.11.6** The package shall be designed for an ambient temperature range of  $-40\text{ }^{\circ}\text{C}$  to  $+38\text{ }^{\circ}\text{C}$  unless the competent authority specifies otherwise in the certificate of approval for the package design.

- 6.4.11.7** For a package in isolation, it shall be assumed that water can leak into or out of all void spaces of the package, including those within the containment system. However, if the design incorporates special features to prevent such leakage of water into or out of certain void spaces, even as a result of error, absence of leakage may be assumed in respect of those void spaces. Special features shall include the following:

- (a) Multiple high standard water barriers, each of which would remain watertight if the package were subject to the tests prescribed in 6.4.11.12 (b), a high degree of quality control in the manufacture, maintenance and repair of packagings and tests to demonstrate the closure of each package before each shipment; or

(b) For packages containing uranium hexafluoride only, with maximum enrichment of 5 mass percent uranium-235:

- (i) packages where, following the tests prescribed in 6.4.11.12 (b), there is no physical contact between the valve and any other component of the packaging other than at its original point of attachment and where, in addition, following the test prescribed in 6.4.17.3 the valves remain leak-tight; and
- (ii) a high degree of quality control in the manufacture, maintenance and repair of packagings coupled with tests to demonstrate closure of each package before each shipment.

**6.4.11.8** It shall be assumed that the confinement system shall be closely reflected by at least 20 cm of water or such greater reflection as may additionally be provided by the surrounding material of the packaging. However, when it can be demonstrated that the confinement system remains within the packaging following the tests prescribed in 6.4.11.12 (b), close reflection of the package by at least 20 cm of water may be assumed in 6.4.11.9 (c).

**6.4.11.9** The package shall be subcritical under the conditions of 6.4.11.7 and 6.4.11.8 with the package conditions that result in the maximum neutron multiplication consistent with:

- (a) Routine conditions of carriage (incident free);
- (b) The tests specified in 6.4.11.11 (b);
- (c) The tests specified in 6.4.11.12 (b).

**6.4.11.10** (Reserved)

**6.4.11.11** For normal conditions of carriage a number "N" shall be derived, such that five times "N" packages shall be subcritical for the arrangement and package conditions that provide the maximum neutron multiplication consistent with the following:

- (a) There shall not be anything between the packages, and the package arrangement shall be reflected on all sides by at least 20 cm of water; and
- (b) The state of the packages shall be their assessed or demonstrated condition if they had been subjected to the tests specified in 6.4.15.

**6.4.11.12** For accident conditions of carriage a number "N" shall be derived, such that two times "N" packages shall be subcritical for the arrangement and package conditions that provide the maximum neutron multiplication consistent with the following:

- (a) Hydrogenous moderation between packages, and the package arrangement reflected on all sides by at least 20 cm of water; and
- (b) The tests specified in 6.4.15 followed by whichever of the following is the more limiting:
  - (i) the tests specified in 6.4.17.2 (b) and, either 6.4.17.2 (c) for packages having a mass not greater than 500 kg and an overall density not greater than 1 000 kg/m<sup>3</sup> based on the external dimensions, or 6.4.17.2 (a) for all other packages; followed by the test specified in 6.4.17.3 and completed by the tests specified in 6.4.19.1 to 6.4.19.3; or
  - (ii) the test specified in 6.4.17.4; and
- (c) Where any part of the fissile material escapes from the containment system following the tests specified in 6.4.11.12 (b), it shall be assumed that fissile material escapes from each package in the array and all of the fissile material shall be arranged in the configuration and moderation that results in the maximum neutron multiplication with close reflection by at least 20 cm of water.

**6.4.11.13** The criticality safety index (CSI) for packages containing fissile material shall be obtained by dividing the number 50 by the smaller of the two values of "N" derived in 6.4.11.11 and 6.4.11.12 (i.e.  $CSI = 50/N$ ). The value of the criticality safety index may be zero, provided that an unlimited number of packages is subcritical (i.e. N is effectively equal to infinity in both cases).

#### **6.4.12 Test procedures and demonstration of compliance**

**6.4.12.1** Demonstration of compliance with the performance standards required in 2.2.7.2.3.1.3, 2.2.7.2.3.1.4, 2.2.7.2.3.3.1, 2.2.7.2.3.3.2, 2.2.7.2.3.4.1, 2.2.7.2.3.4.2, and 6.4.2 to 6.4.11 must be accomplished by any of the methods listed below or by a combination thereof:

- (a) Performance of tests with specimens representing LSA-III material, or special form radioactive material, or low dispersible radioactive material or with prototypes or samples of the packaging, where the contents of the specimen or the packaging for the tests shall simulate as closely as practicable the expected range of radioactive contents and the specimen or packaging to be tested shall be prepared as presented for carriage;
- (b) Reference to previous satisfactory demonstrations of a sufficiently similar nature;

- (c) Performance of tests with models of appropriate scale incorporating those features which are significant with respect to the item under investigation when engineering experience has shown results of such tests to be suitable for design purposes. When a scale model is used, the need for adjusting certain test parameters, such as penetrator diameter or compressive load, shall be taken into account;
- (d) Calculation, or reasoned argument, when the calculation procedures and parameters are generally agreed to be reliable or conservative.

**6.4.12.2** After the specimen, prototype or sample has been subjected to the tests, appropriate methods of assessment shall be used to assure that the requirements for the test procedures have been fulfilled in compliance with the performance and acceptance standards prescribed in 2.2.7.2.3.1.3, 2.2.7.2.3.1.4, 2.2.7.2.3.3.1, 2.2.7.2.3.3.2, 2.2.7.2.3.4.1, 2.2.7.2.3.4.2, and 6.4.2 to 6.4.11.

**6.4.12.3** All specimens shall be inspected before testing in order to identify and record faults or damage including the following:

- (a) Divergence from the design;
- (b) Defects in manufacture;
- (c) Corrosion or other deterioration; and
- (d) Distortion of features.

The containment system of the package shall be clearly specified. The external features of the specimen shall be clearly identified so that reference may be made simply and clearly to any part of such specimen.

**6.4.13 Testing the integrity of the containment system and shielding and evaluating criticality safety**

After each of the applicable tests specified in 6.4.15 to 6.4.21:

- (a) Faults and damage shall be identified and recorded;
- (b) It shall be determined whether the integrity of the containment system and shielding has been retained to the extent required in 6.4.2 to 6.4.11 for the package under test; and
- (c) For packages containing fissile material, it shall be determined whether the assumptions and conditions used in the assessments required by 6.4.11.1 to 6.4.11.12 for one or more packages are valid.

**6.4.14 Target for drop tests**

The target for the drop tests specified in 2.2.7.2.3.3.5 (a), 6.4.15.4, 6.4.16 (a), 6.4.17.2 and 6.4.20.2 shall be a flat, horizontal surface of such a character that any increase in its resistance to displacement or deformation upon impact by the specimen would not significantly increase the damage to the specimen.

**6.4.15 Tests for demonstrating ability to withstand normal conditions of carriage**

**6.4.15.1** The tests are: the water spray test, the free drop test, the stacking test and the penetration test. Specimens of the package shall be subjected to the free drop test, the stacking test and the penetration test, preceded in each case by the water spray test. One specimen may be used for all the tests, provided that the requirements of 6.4.15.2 are fulfilled.

**6.4.15.2** The time interval between the conclusion of the water spray test and the succeeding test shall be such that the water has soaked in to the maximum extent, without appreciable drying of the exterior of the specimen. In the absence of any evidence to the contrary, this interval shall be taken to be two hours if the water spray is applied from four directions simultaneously. No time interval shall elapse, however, if the water spray is applied from each of the four directions consecutively.

**6.4.15.3** Water spray test: The specimen shall be subjected to a water spray test that simulates exposure to rainfall of approximately 5 cm per hour for at least one hour.

**6.4.15.4** Free drop test: The specimen shall drop onto the target so as to suffer maximum damage in respect of the safety features to be tested.

- (a) The height of drop measured from the lowest point of the specimen to the upper surface of the target shall be not less than the distance specified in Table 6.4.15.4 for the applicable mass. The target shall be as defined in 6.4.14;
- (b) For rectangular fibreboard or wood packages not exceeding a mass of 50 kg, a separate specimen shall be subjected to a free drop onto each corner from a height of 0.3 m;
- (c) For cylindrical fibreboard packages not exceeding a mass of 100 kg, a separate specimen shall be subjected to a free drop onto each of the quarters of each rim from a height of 0.3 m.

**Table 6.4.15.4: Free drop distance for testing packages to normal conditions of carriage**

Package mass (kg)			Free drop distance (m)
	Package mass	< 5000	1,2
5000 ≤	Package mass	< 10000	0,9
10000 ≤	Package mass	< 15000	0,6
15000 ≤	Package mass		0,3

**6.4.15.5** Stacking test: Unless the shape of the packaging effectively prevents stacking, the specimen shall be subjected, for a period of 24 h, to a compressive load equal to the greater of the following:

- (a) The equivalent of 5 times the mass of the actual package; and
- (b) The equivalent of 13 kPa multiplied by the vertically projected area of the package.

The load shall be applied uniformly to two opposite sides of the specimen, one of which shall be the base on which the package would typically rest.

**6.4.15.6** Penetration test: The specimen shall be placed on a rigid, flat, horizontal surface which will not move significantly while the test is being carried out.

- (a) A bar of 3.2 cm in diameter with a hemispherical end and a mass of 6 kg shall be dropped and directed to fall, with its longitudinal axis vertical, onto the centre of the weakest part of the specimen, so that, if it penetrates sufficiently far, it will hit the containment system. The bar shall not be significantly deformed by the test performance;
- (b) The height of drop of the bar measured from its lower end to the intended point of impact on the upper surface of the specimen shall be 1 m.

**6.4.16 Additional tests for Type A packages designed for liquids and gases**

A specimen or separate specimens shall be subjected to each of the following tests unless it can be demonstrated that one test is more severe for the specimen in question than the other, in which case one specimen shall be subjected to the more severe test.

- (a) Free drop test: The specimen shall drop onto the target so as to suffer the maximum damage in respect of containment. The height of the drop measured from the lowest part of the specimen to the upper surface of the target shall be 9 m. The target shall be as defined in 6.4.14;
- (b) Penetration test: The specimen shall be subjected to the test specified in 6.4.15.6 except that the height of drop shall be increased to 1.7 m from the 1 m specified in 6.4.15.6 (b).

**6.4.17 Tests for demonstrating ability to withstand accident conditions in carriage**

**6.4.17.1** The specimen shall be subjected to the cumulative effects of the tests specified in 6.4.17.2 and 6.4.17.3, in that order. Following these tests, either this specimen or a separate specimen shall be subjected to the effect(s) of the water immersion test(s) as specified in 6.4.17.4 and, if applicable, 6.4.18.

**6.4.17.2** Mechanical test: The mechanical test consists of three different drop tests. Each specimen shall be subjected to the applicable drops as specified in 6.4.8.8 or 6.4.11.12. The order in which the specimen is subjected to the drops shall be such that, on completion of the mechanical test, the specimen shall have suffered such damage as will lead to the maximum damage in the thermal test which follows.

- (a) For drop I, the specimen shall drop onto the target so as to suffer the maximum damage, and the height of the drop measured from the lowest point of the specimen to the upper surface of the target shall be 9 m. The target shall be as defined in 6.4.14;
- (b) For drop II, the specimen shall drop so as to suffer the maximum damage onto a bar rigidly mounted perpendicularly on the target. The height of the drop measured from the intended point of impact of the specimen to the upper surface of the bar shall be 1 m. The bar shall be of solid mild steel of circular section, (15.0 cm ± 0.5 cm) in diameter and 20 cm long unless a longer bar would cause greater damage, in which case a bar of sufficient length to cause maximum damage shall be used. The upper end of the bar shall be flat and horizontal with its edge rounded off to a radius of not more than 6 mm. The target on which the bar is mounted shall be as described in 6.4.14;
- (c) For drop III, the specimen shall be subjected to a dynamic crush test by positioning the specimen on the target so as to suffer maximum damage by the drop of a 500 kg mass from 9 m onto the specimen. The mass shall consist of a solid mild steel plate 1 m by 1 m and shall fall in a horizontal attitude. The height of the drop shall be measured from the underside of the plate to the highest point of the specimen. The target on which the specimen rests shall be as defined in 6.4.14.



- 6.4.17.3** Thermal test: The specimen shall be in thermal equilibrium under conditions of an ambient temperature of 38 °C, subject to the solar insolation conditions specified in Table 6.4.8.6 and subject to the design maximum rate of internal heat generation within the package from the radioactive contents. Alternatively, any of these parameters are allowed to have different values prior to and during the test, providing due account is taken of them in the subsequent assessment of package response.

The thermal test shall then consist of:

- (a) Exposure of a specimen for a period of 30 minutes to a thermal environment which provides a heat flux at least equivalent to that of a hydrocarbon fuel/air fire in sufficiently quiescent ambient conditions to give a minimum average flame emissivity coefficient of 0.9 and an average temperature of at least 800 °C, fully engulfing the specimen, with a surface absorptivity coefficient of 0.8 or that value which the package may be demonstrated to possess if exposed to the fire specified, followed by,
- (b) Exposure of the specimen to an ambient temperature of 38 °C, subject to the solar insolation conditions specified in Table 6.4.8.6 and subject to the design maximum rate of internal heat generation within the package by the radioactive contents for a sufficient period to ensure that temperatures in the specimen are everywhere decreasing and/or are approaching initial steady state conditions. Alternatively, any of these parameters are allowed to have different values following cessation of heating, providing due account is taken of them in the subsequent assessment of package response.

During and following the test the specimen shall not be artificially cooled and any combustion of materials of the specimen shall be permitted to proceed naturally.

- 6.4.17.4** Water immersion test: The specimen shall be immersed under a head of water of at least 15 m for a period of not less than eight hours in the attitude which will lead to maximum damage. For demonstration purposes, an external gauge pressure of at least 150 kPa shall be considered to meet these conditions.

**6.4.18 Enhanced water immersion test for Type B(U) and Type B(M) packages containing more than 10<sup>5</sup> A<sub>2</sub> and Type C packages**

Enhanced water immersion test: The specimen shall be immersed under a head of water of at least 200 m for a period of not less than one hour. For demonstration purposes, an external gauge pressure of at least 2 MPa shall be considered to meet these conditions.

**6.4.19 Water leakage test for packages containing fissile material**

- 6.4.19.1** Packages for which water in-leakage or out-leakage to the extent which results in greatest reactivity has been assumed for purposes of assessment under 6.4.11.7 to 6.4.11.12 shall be excepted from the test.

- 6.4.19.2** Before the specimen is subjected to the water leakage test specified below, it shall be subjected to the tests in 6.4.17.2 (b), and either 6.4.17.2 (a) or (c) as required by 6.4.11.12, and the test specified in 6.4.17.3.

- 6.4.19.3** The specimen shall be immersed under a head of water of at least 0.9 m for a period of not less than 8 hours and in the attitude for which maximum leakage is expected.

**6.4.20 Tests for Type C packages**

- 6.4.20.1** Specimens shall be subjected to the effects of each of the following test sequences in the orders specified:

- (a) The tests specified in 6.4.17.2 (a), 6.4.17.2 (c), 6.4.20.2 and 6.4.20.3; and
- (b) The test specified in 6.4.20.4.

Separate specimens are allowed to be used for each of the sequences (a) and (b).

- 6.4.20.2** Puncture/tearing test: The specimen shall be subjected to the damaging effects of a solid probe made of mild steel. The orientation of the probe to the surface of the specimen shall be as to cause maximum damage at the conclusion of the test sequence specified in 6.4.20.1 (a).

- (a) The specimen, representing a package having a mass less than 250 kg, shall be placed on a target and subjected to a probe having a mass of 250 kg falling from a height of 3 m above the intended impact point. For this test the probe shall be a 20 cm diameter cylindrical bar with the striking end forming a frustum of a right circular cone with the following dimensions: 30 cm height and 2.5 cm in diameter at the top with its edge rounded off to a radius of not more than 6 mm. The target on which the specimen is placed shall be as specified in 6.4.14;

- (b) For packages having a mass of 250 kg or more, the base of the probe shall be placed on a target and the specimen dropped onto the probe. The height of the drop, measured from the point of impact with the specimen to the upper surface of the probe shall be 3 m. For this test the probe shall have the same properties and dimensions as specified in (a) above, except that the length and mass of the probe shall be such as to incur maximum damage to the specimen. The target on which the base of the probe is placed shall be as specified in 6.4.14.

- 6.4.20.3** Enhanced thermal test: The conditions for this test shall be as specified in 6.4.17.3, except that the exposure to the thermal environment shall be for a period of 60 minutes.

**6.4.20.4** Impact test: The specimen shall be subject to an impact on a target at a velocity of not less than 90 m/s, at such an orientation as to suffer maximum damage. The target shall be as defined in 6.4.14, except that the target surface may be at any orientation as long as the surface is normal to the specimen path.

**6.4.21 Inspections for packagings designed to contain 0.1 kg or more of uranium hexafluoride**

**6.4.21.1** Every manufactured packaging and its service and structural equipment shall, either jointly or separately, undergo an inspection initially before being put into service and periodically thereafter. These inspections shall be performed and certified by agreement with the competent authority.

**6.4.21.2** The initial inspection shall consist of a check of the design characteristics, a structural test, a leakproofness test, a water capacity test and a check of satisfactory operation of the service equipment.

**6.4.21.3** The periodic inspections shall consist of a visual examination, a structural test, a leakproofness test and a check of satisfactory operation of the service equipment. The maximum intervals for periodic inspections shall be five years. Packagings which have not been inspected within this five-year period shall be examined before carriage in accordance with a programme approved by the competent authority. They shall not be refilled before completion of the full programme for periodic inspections.

**6.4.21.4** The check of design characteristics shall demonstrate compliance with the design type specifications and the manufacturing programme.

**6.4.21.5** For the initial structural test, packagings designed to contain 0.1 kg or more of uranium hexafluoride shall be tested hydraulically at an internal pressure of at least 1.38 MPa but, when the test pressure is less than 2.76 MPa, the design shall require multilateral approval. For retesting packagings, any other equivalent non-destructive testing may be applied subject to multilateral approval.

**6.4.21.6** The leakproofness test shall be performed in accordance with a procedure which is capable of indicating leakages in the containment system with a sensitivity of 0.1 Pa·l/s ( $10^{-6}$  bar·l/s).

**6.4.21.7** The water capacity of the packagings shall be established with an accuracy of  $\pm 0.25\%$  at a reference temperature of 15 °C. The volume shall be stated on the plate described in 6.4.21.8.

**6.4.21.8** A plate made of non-corroding metal shall be durably attached to every packaging in a readily accessible place. The method of attaching the plate must not impair the strength of the packaging. The following particulars, at least, shall be marked on the plate by stamping or by any other equivalent method:

- Approval number;
- Manufacturer's serial number;
- Maximum working pressure (gauge pressure);
- Test pressure (gauge pressure);
- Contents: uranium hexafluoride;
- Capacity in litres;
- Maximum permissible filling mass of uranium hexafluoride;
- Tare mass;
- Date (month, year) of the initial test and the most recent periodic test;
- Stamp of the expert who performed the tests.

**6.4.22 Approvals of package designs and materials**

**6.4.22.1** The approval of designs for packages containing 0.1 kg or more of uranium hexafluoride requires that:

- (a) Each design that meets the requirements of 6.4.6.4 shall require multilateral approval;
- (b) Each design that meets the requirements of 6.4.6.1 to 6.4.6.3 shall require unilateral approval by the competent authority of the country of origin of the design, unless multilateral approval is otherwise required by RID.

**6.4.22.2** Each Type B(U) and Type C package design shall require unilateral approval, except that:

- (a) A package design for fissile material, which is also subject to 6.4.22.4, 6.4.23.7, and 5.1.5.2.1 shall require multilateral approval; and
- (b) A Type B(U) package design for low dispersible radioactive material shall require multilateral approval.

**6.4.22.3** Each Type B(M) package design, including those for fissile material which are also subject to the requirements of 6.4.22.4, 6.4.23.7, and 5.1.5.2.1 and those for low dispersible radioactive material, shall require multilateral approval.

**6.4.22.4** Each package design for fissile material which is not excepted according to 6.4.11.2 from the requirements that apply specifically to packages containing fissile material shall require multilateral approval.



- 6.4.22.5** The design for special form radioactive material shall require unilateral approval. The design for low dispersible radioactive material shall require multilateral approval (see also 6.4.23.8).
- 6.4.22.6** Any design that requires unilateral approval originating in a COTIF member state shall be approved by the competent authority of this country; if the country where the package has been designed is not a COTIF member state, carriage is possible on condition that:
- (a) a certificate has been supplied by this country, proving that the package satisfies the technical requirements of RID, and that this certificate is countersigned by the competent authority of the first COTIF member state reached by the consignment;
  - (b) if no certificate and no existing package design approval by a COTIF member state has been supplied, the package design is approved by the competent authority of the first COTIF member state reached by the consignment.
- 6.4.22.7** For designs approved under the transitional measures see 1.6.6.
- 6.4.23 Applications and approvals for radioactive material carriage**
- 6.4.23.1** (Reserved)
- 6.4.23.2** An application for shipment approval shall include:
- (a) The period of time, related to the shipment, for which the approval is sought;
  - (b) The actual radioactive contents, the expected modes of carriage, the type of wagon, and the probable or proposed route; and
  - (c) The details of how the precautions and administrative or operational controls, referred to in the package design approval certificates issued under 5.1.5.2.1, are to be put into effect.
- 6.4.23.3** An application for approval of shipments under special arrangement shall include all the information necessary to satisfy the competent authority that the overall level of safety in carriage is at least equivalent to that which would be provided if all the applicable requirements of RID had been met.
- The application shall also include:
- (a) A statement of the respects in which, and of the reasons why, the shipment cannot be made in full accordance with the applicable requirements of RID; and
  - (b) A statement of any special precautions or special administrative or operational controls which are to be employed during carriage to compensate for the failure to meet the applicable requirements of RID.
- 6.4.23.4** An application for approval of Type B(U) or Type C package design shall include:
- (a) A detailed description of the proposed radioactive contents with reference to their physical and chemical states and the nature of the radiation emitted;
  - (b) A detailed statement of the design, including complete engineering drawings and schedules of materials and methods of manufacture;
  - (c) A statement of the tests which have been done and their results, or evidence based on calculative methods or other evidence that the design is adequate to meet the applicable requirements;
  - (d) The proposed operating and maintenance instructions for the use of the packaging;
  - (e) If the package is designed to have a maximum normal operating pressure in excess of 100 kPa gauge, a specification of the materials of manufacture of the containment system, the samples to be taken, and the tests to be made;
  - (f) Where the proposed radioactive contents are irradiated fuel, a statement and a justification of any assumption in the safety analysis relating to the characteristics of the fuel and a description of any pre-shipment measurement as required by 6.4.11.4 (b);
  - (g) Any special stowage provisions necessary to ensure the safe dissipation of heat from the package considering the various modes of carriage to be used and type of wagon or container;
  - (h) A reproducible illustration, not larger than 21 cm by 30 cm, showing the make-up of the package; and
  - (i) A specification of the applicable quality assurance programme as required in 1.7.3.
- 6.4.23.5** An application for approval of a Type B(M) package design shall include, in addition to the general information required for package approval in 6.4.23.4 for Type B(U) packages:
- (a) A list of the requirements specified in 6.4.7.5, 6.4.8.5, 6.4.8.6 and 6.4.8.9 to 6.4.8.15 with which the package does not conform;
  - (b) Any proposed supplementary operational controls to be applied during carriage not regularly provided for in RID, but which are necessary to ensure the safety of the package or to compensate for the deficiencies listed in (a) above;
  - (c) A statement relative to any restrictions on the mode of carriage and to any special loading, carriage, unloading or handling procedures; and

(d) The range of ambient conditions (temperature, solar radiation) which are expected to be encountered during carriage and which have been taken into account in the design.

**6.4.23.6** The application for approval of designs for packages containing 0.1 kg or more of uranium hexafluoride shall include all information necessary to satisfy the competent authority that the design meets the applicable requirements of 6.4.6.1, and a description of the applicable quality assurance programme as required in 1.7.3.

**6.4.23.7** An application for a fissile package approval shall include all information necessary to satisfy the competent authority that the design meets the applicable requirements of 6.4.11.1, and a specification of the applicable quality assurance programme as required by 1.7.3.

**6.4.23.8** An application for approval of design for special form radioactive material and design for low dispersible radioactive material shall include:

(a) A detailed description of the radioactive material or, if a capsule, the contents; particular reference shall be made to both physical and chemical states;

(b) A detailed statement of the design of any capsule to be used;

(c) A statement of the tests which have been done and their results, or evidence based on calculative methods to show that the radioactive material is capable of meeting the performance standards, or other evidence that the special form radioactive material or low dispersible radioactive material meets the applicable requirements of RID;

(d) A specification of the applicable quality assurance programme as required in 1.7.3; and

(e) Any proposed pre-shipment actions for use in the consignment of special form radioactive material or low dispersible radioactive material.

**6.4.23.9** Each approval certificate issued by a competent authority shall be assigned an identification mark. The identification mark shall be of the following generalized type:

VRI/Number/Type Code

(a) Except as provided in 6.4.23.10 (b), VRI represents the international vehicle registration identification code of the country issuing the certificate<sup>1</sup>;

(b) The number shall be assigned by the competent authority, and shall be unique and specific with regard to the particular design or shipment. The shipment approval identification mark shall be clearly related to the design approval identification mark;

(c) The following type codes shall be used in the order listed to indicate the types of approval certificates issued:

AF Type A package design for fissile material

B(U) Type B(U) package design [B(U) F if for fissile material]

B(M) Type B(M) package design [B(M) F if for fissile material]

C Type C package design (CF if for fissile material)

IF Industrial package design for fissile material

S Special form radioactive material

LD Low dispersible radioactive material

T Shipment

X Special arrangement

In the case of package designs for non-fissile or fissile excepted uranium hexafluoride, where none of the above codes apply, then the following type codes shall be used:

H(U) Unilateral approval

H(M) Multilateral approval;

(d) For package design and special form radioactive material approval certificates, other than those issued under the transitional provisions of 1.6.6.2 and 1.6.6.3, and for low dispersible radioactive material approval certificates, the symbols "-96" shall be added to the type code.

**6.4.23.10** These type codes shall be applied as follows:

(a) Each certificate and each package shall bear the appropriate identification mark, comprising the symbols prescribed in 6.4.23.9 (a), (b), (c) and (d) above, except that, for packages, only the applicable design type codes including, if applicable, the symbols "-96", shall appear following the second stroke, that is, the "T" or "X" shall not appear in the identification marking on the package. Where the design approval and shipment approval are combined, the applicable type codes do not need to be repeated.

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<sup>1</sup> See Vienna Convention on Road Traffic (1968).

For example:

A/132/B(M)F-96: A Type B(M) package design approved for fissile material, requiring multilateral approval, for which the competent authority of Austria has assigned the design number 132 (to be marked on both the package and on the package design approval certificate);

A/132/B(M)F-96T: The shipment approval issued for a package bearing the identification mark elaborated above (to be marked on the certificate only);

A/137/X: A special arrangement approval issued by the competent authority of Austria, to which the number 137 has been assigned (to be marked on the certificate only);

A/139/IF-96: An industrial package design for fissile material approved by the competent authority of Austria, to which package design number 139 has been assigned (to be marked on both the package and on the package design approval certificate); and

A/145/H(U)-96: A package design for fissile excepted uranium hexafluoride approved by the competent authority of Austria, to which package design number 145 has been assigned (to be marked on both the package and on the package design approval certificate);

- (b) Where multilateral approval is effected by validation according to 6.4.23.16, only the identification mark issued by the country of origin of the design or shipment shall be used. Where multilateral approval is effected by issue of certificates by successive countries, each certificate shall bear the appropriate identification mark and the package whose design was so approved shall bear all appropriate identification marks.

For example:

A/132/B(M)F-96

CH/28/B(M)F-96

would be the identification mark of a package which was originally approved by Austria and was subsequently approved, by separate certificate, by Switzerland. Additional identification marks would be tabulated in a similar manner on the package;

- (c) The revision of a certificate shall be indicated by a parenthetical expression following the identification mark on the certificate. For example, A/132/B(M)F-96 (Rev.2) would indicate revision 2 of the Austrian package design approval certificate; or A/132/B(M)F-96 (Rev.0) would indicate the original issuance of the Austrian package design approval certificate. For original issuances, the parenthetical entry is optional and other words such as "original issuance" may also be used in place of "Rev.0". Certificate revision numbers may only be issued by the country issuing the original approval certificate;
- (d) Additional symbols (as may be necessitated by national regulations) may be added in brackets to the end of the identification mark; for example, A/132/B(M)F-96(SP503);
- (e) It is not necessary to alter the identification mark on the packaging each time that a revision to the design certificate is made. Such re-marking shall be required only in those cases where the revision to the package design certificate involves a change in the letter type codes for the package design following the second stroke.

**6.4.23.11** Each approval certificate issued by a competent authority for special form radioactive material or low dispersible radioactive material shall include the following information:

- (a) Type of certificate;
- (b) The competent authority identification mark;
- (c) The issue date and an expiry date;
- (d) List of applicable national and international regulations, including the edition of the IAEA Regulations for the Safe Transport of Radioactive Material under which the special form radioactive material or low dispersible radioactive material is approved;
- (e) The identification of the special form radioactive material or low dispersible radioactive material;
- (f) A description of the special form radioactive material or low dispersible radioactive material;
- (g) Design specifications for the special form radioactive material or low dispersible radioactive material which may include references to drawings;
- (h) A specification of the radioactive contents which includes the activities involved and which may include the physical and chemical form;
- (i) A specification of the applicable quality assurance programme as required in 1.7.3;
- (j) Reference to information provided by the applicant relating to specific actions to be taken prior to shipment;
- (k) If deemed appropriate by the competent authority, reference to the identity of the applicant;
- (l) Signature and identification of the certifying official.

**6.4.23.12** Each approval certificate issued by a competent authority for a special arrangement shall include the following information:

- (a) Type of certificate;
- (b) The competent authority identification mark;

- (c) The issue date and an expiry date;
- (d) Mode(s) of carriage;
- (e) Any restrictions on the modes of carriage, type of wagon, container, and any necessary routing instructions;
- (f) List of applicable national and international regulations, including the edition of the IAEA Regulations for the Safe Transport of Radioactive Material under which the special arrangement is approved;
- (g) The following statement:  
"This certificate does not relieve the consignor from compliance with any requirement of the government of any country through or into which the package will be carried.";
- (h) References to certificates for alternative radioactive contents, other competent authority validation, or additional technical data or information, as deemed appropriate by the competent authority;
- (i) Description of the packaging by a reference to the drawings or a specification of the design. If deemed appropriate by the competent authority, a reproducible illustration, not larger than 21 cm by 30 cm, showing the make-up of the package shall also be provided, accompanied by a brief description of the packaging, including materials of manufacture, gross mass, general outside dimensions and appearance;
- (j) A specification of the authorized radioactive contents, including any restrictions on the radioactive contents which might not be obvious from the nature of the packaging. This shall include the physical and chemical forms, the activities involved (including those of the various isotopes, if appropriate), amounts in grams (for fissile material), and whether special form radioactive material or low dispersible radioactive material, if applicable;
- (k) Additionally, for packages containing fissile material:
  - (i) a detailed description of the authorized radioactive contents;
  - (ii) the value of the criticality safety index;
  - (iii) reference to the documentation that demonstrates the criticality safety of the contents;
  - (iv) any special features, on the basis of which the absence of water from certain void spaces has been assumed in the criticality assessment;
  - (v) any allowance (based on 6.4.11.4 (b)) for a change in neutron multiplication assumed in the criticality assessment as a result of actual irradiation experience; and
  - (vi) the ambient temperature range for which the special arrangement has been approved;
- (l) A detailed listing of any supplementary operational controls required for preparation, loading, carriage, unloading and handling of the consignment, including any special stowage provisions for the safe dissipation of heat;
- (m) If deemed appropriate by the competent authority, reasons for the special arrangement;
- (n) Description of the compensatory measures to be applied as a result of the shipment being under special arrangement;
- (o) Reference to information provided by the applicant relating to the use of the packaging or specific actions to be taken prior to the shipment;
- (p) A statement regarding the ambient conditions assumed for purposes of design if these are not in accordance with those specified in 6.4.8.5, 6.4.8.6 and 6.4.8.15, as applicable;
- (q) Any emergency arrangements deemed necessary by the competent authority;
- (r) A specification of the applicable quality assurance programme as required in 1.7.3;
- (s) If deemed appropriate by the competent authority, reference to the identity of the applicant and to the identity of the carrier;
- (t) Signature and identification of the certifying official.

**6.4.23.13** Each approval certificate for a shipment issued by a competent authority shall include the following information:

- (a) Type of certificate;
- (b) The competent authority identification mark(s);
- (c) The issue date and an expiry date;
- (d) List of applicable national and international regulations, including the edition of the IAEA Regulations for the Safe Transport of Radioactive Material under which the shipment is approved;
- (e) Any restrictions on the modes of carriage, type of wagon, container, and any necessary routing instructions;
- (f) The following statement:  
"This certificate does not relieve the consignor from compliance with any requirement of the government of any country through or into which the package will be carried.";
- (g) A detailed listing of any supplementary operational controls required for preparation, loading, carriage, unloading and handling of the consignment, including any special stowage provisions for the safe dissipation of heat or maintenance of criticality safety;

- (h) Reference to information provided by the applicant relating to specific actions to be taken prior to shipment;
- (i) Reference to the applicable design approval certificate(s);
- (j) A specification of the actual radioactive contents, including any restrictions on the radioactive contents which might not be obvious from the nature of the packaging. This shall include the physical and chemical forms, the total activities involved (including those of the various isotopes, if appropriate), amounts in grams (for fissile material), and whether special form radioactive material or low dispersible radioactive material, if applicable;
- (k) Any emergency arrangements deemed necessary by the competent authority;
- (l) A specification of the applicable quality assurance programme as required in 1.7.3;
- (m) If deemed appropriate by the competent authority, reference to the identity of the applicant;
- (n) Signature and identification of the certifying official.

**6.4.23.14** Each approval certificate of the design of a package issued by a competent authority shall include the following information:

- (a) Type of certificate;
- (b) The competent authority identification mark;
- (c) The issue date and an expiry date;
- (d) Any restriction on the modes of carriage, if appropriate;
- (e) List of applicable national and international regulations, including the edition of the IAEA Regulations for the Safe Transport of Radioactive Material under which the design is approved;
- (f) The following statement:  
"This certificate does not relieve the consignor from compliance with any requirement of the government of any country through or into which the package will be carried.";
- (g) References to certificates for alternative radioactive contents, other competent authority validation, or additional technical data or information, as deemed appropriate by the competent authority;
- (h) A statement authorizing shipment where shipment approval is required under 5.1.5.1.2, if deemed appropriate;
- (i) Identification of the packaging;
- (j) Description of the packaging by a reference to the drawings or specification of the design. If deemed appropriate by the competent authority, a reproducible illustration, not larger than 21 cm by 30 cm, showing the make-up of the package should also be provided, accompanied by a brief description of the packaging, including materials of manufacture, gross mass, general outside dimensions and appearance;
- (k) Specification of the design by reference to the drawings;
- (l) A specification of the authorized radioactive content, including any restrictions on the radioactive contents which might not be obvious from the nature of the packaging. This shall include the physical and chemical forms, the activities involved (including those of the various isotopes, if appropriate), amounts in grams (for fissile material), and whether special form radioactive material or low dispersible radioactive material, if applicable;
- (m) A description of the containment system;
- (n) Additionally, for packages containing fissile material:
  - (i) a detailed description of the authorized radioactive contents;
  - (ii) a description of the confinement system;
  - (iii) the value of the criticality safety index;
  - (iv) reference to the documentation that demonstrates the criticality safety of the contents;
  - (v) any special features, on the basis of which the absence of water from certain void spaces has been assumed in the criticality assessment;
  - (vi) any allowance (based on 6.4.11.4 (b)) for a change in neutron multiplication assumed in the criticality assessment as a result of actual irradiation experience; and
  - (vii) the ambient temperature range for which the package design has been approved;
- (o) For Type B(M) packages, a statement specifying those requirements of 6.4.7.5, 6.4.8.4, 6.4.8.5, 6.4.8.6 and 6.4.8.9 to 6.4.8.15 with which the package does not conform and any amplifying information which may be useful to other competent authorities;
- (p) For packages containing more than 0.1 kg of uranium hexafluoride, a statement specifying those provisions of 6.4.6.4 which apply if any and any amplifying information which may be useful to other competent authorities;
- (q) A detailed listing of any supplementary operational controls required for preparation, loading, carriage, unloading and handling of the consignment, including any special stowage provisions for the safe dissipation of heat;

- (r) Reference to information provided by the applicant relating to the use of the packaging or specific actions to be taken prior to shipment;
- (s) A statement regarding the ambient conditions assumed for purposes of design if these are not in accordance with those specified in 6.4.8.5, 6.4.8.6 and 6.4.8.15, as applicable;
- (t) A specification of the applicable quality assurance programme as required in 1.7.3;
- (u) Any emergency arrangements deemed necessary by the competent authority;
- (v) If deemed appropriate by the competent authority, reference to the identity of the applicant;
- (w) Signature and identification of the certifying official.

**6.4.23.15** The competent authority shall be informed of the serial number of each packaging manufactured to a design approved by them under 1.6.6.2.1, 1.6.6.2.2, 6.4.22.2, 6.4.22.3 and 6.4.22.4.

**6.4.23.16** Multilateral approval may be by validation of the original certificate issued by the competent authority of the country of origin of the design or shipment. Such validation may take the form of an endorsement on the original certificate or the issuance of a separate endorsement, annex, supplement, etc., by the competent authority of the country through or into which the shipment is made.

## Chapter 6.5

### Requirements for the construction and testing of intermediate bulk containers (IBCs)

#### 6.5.1 General requirements

##### 6.5.1.1 Scope

**6.5.1.1.1** The requirements of this Chapter apply to intermediate bulk containers (IBCs) the use of which is expressly authorized for the carriage of certain dangerous goods according to the packing instructions indicated in Column (8) of Table A in Chapter 3.2. Portable tanks and tank-containers which meet the requirements of Chapter 6.7 or 6.8 respectively are not considered to be IBCs. IBCs which meet the requirements of this Chapter are not considered to be containers for the purposes of RID. The letters IBC only will be used in the rest of the text to refer to intermediate bulk containers.

**6.5.1.1.2** Exceptionally, IBCs and their service equipment not conforming strictly to the requirements herein, but having acceptable alternatives, may be considered by the competent authority for approval. In addition, in order to take into account progress in science and technology, the use of alternative arrangements which offer at least equivalent safety in use in respect of compatibility with the properties of the substances carried and equivalent or superior resistance to impact, loading and fire, may be considered by the competent authority.

**6.5.1.1.3** The construction, equipment, testing, marking and operation of IBCs shall be subject to acceptance by the competent authority of the country in which the IBCs are approved.

**6.5.1.1.4** Manufacturers and subsequent distributors of IBCs shall provide information regarding procedures to be followed and a description of the types and dimensions of closures (including required gaskets) and any other components needed to ensure that IBCs as presented for carriage are capable of passing the applicable performance tests of this Chapter.

**6.5.1.2** (Reserved)

**6.5.1.3** (Reserved)

#### 6.5.1.4 Designatory code system for IBCs

**6.5.1.4.1** The code shall consist of two Arabic numerals as specified in (a), followed by a capital letter(s) specified in (b), followed, when specified in an individual section, by an Arabic numeral indicating the category of IBC.

(a)

Type	For solids, filled or discharged		For liquids
	by gravity	under pressure of more than 10 kPa (0.1 bar)	
Rigid	11	21	31
Flexible	13	–	–

(b) Materials

- A. Steel (all types and surface treatments)
- B. Aluminium
- C. Natural wood
- D. Plywood
- F. Reconstituted wood
- G. Fibreboard
- H. Plastics material
- L. Textile
- M. Paper, multiwall
- N. Metal (other than steel or aluminium).

**6.5.1.4.2** For composite IBCs, two capital letters in Latin characters shall be used in sequence in the second position of the code. The first shall indicate the material of the inner receptacle of the IBC and the second that of the outer packaging of the IBC.



**6.5.1.4.3** The following types and codes of IBC are assigned:

Material	Category	Code	Sub-section
Metal			
A. Steel	for solids, filled or discharged by gravity for solids, filled or discharged under pressure for liquids	11A 21A 31A	6.5.5.1
B. Aluminium	for solids, filled or discharged by gravity for solids, filled or discharged under pressure for liquids	11B 21B 31B	
N. Other than steel or aluminium	for solids, filled or discharged by gravity for solids, filled or discharged under pressure for liquids	11N 21N 31N	
Flexible			
H. Plastics	woven plastics without coating or liner woven plastics, coated woven plastics with liner woven plastics, coated and with liner plastics film	13H1 13H2 13H3 13H4 13H5	6.5.5.2
L. Textile	without coating or liner coated with liner coated and with liner	13L1 13L2 13L3 13L4	
M. Paper	multiwall multiwall, water resistant	13M1 13M2	
H. Rigid plastics	for solids, filled or discharged by gravity, fitted with structural equipment for solids, filled or discharged by gravity, freestanding for solids, filled or discharged under pressure, fitted with structural equipment for solids, filled or discharged under pressure, freestanding for liquids, fitted with structural equipment for liquids, freestanding	11H1 11H2 21H1 21H2 31H1 31H2	6.5.5.3
HZ. Composite with plastics inner receptacle <sup>a</sup>	for solids, filled or discharged by gravity, with rigid plastics inner receptacle for solids, filled or discharged by gravity, with flexible plastics inner receptacle for solids, filled or discharged under pressure, with rigid plastics inner receptacle for solids, filled or discharged under pressure, with flexible plastics inner receptacle for liquids, with rigid plastics inner receptacle for liquids, with flexible plastics inner receptacle	11HZ1 11HZ2 21HZ1 21HZ2 31HZ1 31HZ2	6.5.5.4
G. Fibreboard	for solids, filled or discharged by gravity	11G	6.5.5.5
Wooden			
C. Natural wood	for solids, filled or discharged by gravity with inner liner	11C	6.5.5.6
D. Plywood	for solids, filled or discharged by gravity, with inner liner	11D	
F. Reconstituted wood	for solids, filled or discharged by gravity, with inner liner	11F	

<sup>a</sup> The code shall be completed by replacing the letter Z by a capital letter in accordance with 6.5.1.4.1 (b) to indicate the nature of the material used for the outer casing.




- 6.5.1.4.4** The letter "W" may follow the IBC code. The letter "W" signifies that the IBC, although of the same type indicated by the code, is manufactured to a specification different from those in 6.5.5 and is considered equivalent in accordance with the requirements in 6.5.1.1.2.

## **6.5.2 Marking**

### **6.5.2.1 Primary marking**






- 6.5.2.1.1** Each IBC manufactured and intended for use according to RID shall bear markings which are durable, legible and placed in a location so as to be readily visible. Letters, numerals and symbols shall be at least 12 mm high and shall show:

- (a) The United Nations packaging symbol: . This symbol shall not be used for any purpose other than certifying that a packaging complies with the relevant requirements in Chapter 6.1, 6.2, 6.3, 6.5 or 6.6. For metal IBCs on which the marking is stamped or embossed, the capital letters "UN" may be applied instead of the symbol;
- (b) The code designating the type of IBC according to 6.5.1.4;
- (c) A capital letter designating the packing group(s) for which the design type has been approved:
  - (i) X for packing groups I, II and III (IBCs for solids only);
  - (ii) Y for packing groups II and III;
  - (iii) Z for packing group III only;
- (d) The month and year (last two digits) of manufacture;
- (e) The State authorizing the allocation of the mark; indicated by the distinguishing sign for motor vehicles in international traffic<sup>1</sup>;
- (f) The name or symbol of the manufacturer and other identification of the IBC as specified by the competent authority;
- (g) The stacking test load in kg. For IBCs not designed for stacking, the figure "0" shall be shown;
- (h) The maximum permissible gross mass in kg.

The primary marking required above shall be applied in the sequence of the subparagraphs below. The marking required by 6.5.2.2 and any further marking authorized by a competent authority shall still enable the parts of the mark to be correctly identified.

Each element of the marking applied in accordance with (a) to (h) and with 6.5.2.2 shall be clearly separated, e.g. by a slash or space, so as to be easily identifiable.

- 6.5.2.1.2** Examples of markings for various types of IBC in accordance with 6.5.2.1.1 (a) to (h) above:

	11A/Y/0299 NL/Mulder 007/5500/1500	For a metal IBC for solids discharged by gravity and made from steel / for packing groups II and III / manufactured in February 1999 / authorized by the Netherlands / manufactured by Mulder and of a design type to which the competent authority has allocated serial number 007 / the stacking test load in kg / the maximum permissible gross mass in kg.
	13H3/Z/0301 F/Meunier 1713/0/1500	For a flexible IBC for solids discharged for instance by gravity and made from woven plastics with a liner/not designed to be stacked.
	31H1/Y/0499 GB/9099/10800/1200	For a rigid plastics IBC for liquids made from plastics with structural equipment withstanding the stack load.
	31HA1/Y/0501 D/Müller/1683/10800/1200	For a composite IBC for liquids with a rigid plastics inner receptacle and a steel outer casing.
	11C/X/0102 S/Aurigny/9876/3000/910	For a wooden IBC for solids with an inner liner authorized for packing groups I, II and III solids.

<sup>1</sup> Distinguishing sign for motor vehicles in international traffic prescribed in Vienna Convention on Road Traffic (1968).

**6.5.2.2 Additional marking**

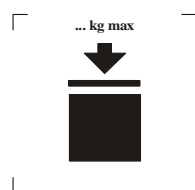
**6.5.2.2.1** Each IBC shall bear the markings required in 6.5.2.1 and, in addition, the following information which may appear on a corrosion-resistant plate permanently attached in a place readily accessible for inspection:

Additional marking	Category of IBC				
	Metal	Rigid plastics	Composite	Fibreboard	Wooden
Capacity in litres at 20 °C <sup>(a)</sup>	x	x	x		
Tare mass in kg <sup>(a)</sup>	x	x	x	x	x
Test (gauge) pressure, in kPa or bar <sup>(a)</sup> , if applicable		x	x		
Maximum filling / discharge pressure in kPa or bar <sup>(a)</sup> , if applicable	x	x	x		
Body material and its minimum thickness in mm	x				
Date of last leakproofness test, if applicable (month and year)	x	x	x		
Date of last inspection (month and year)	x	x	x		
Serial number of the manufacturer	x				
Maximum permitted stacking load <sup>(b)</sup>	x	x	x	x	x

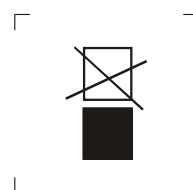
<sup>(a)</sup> The unit used shall be indicated.

<sup>(b)</sup> See 6.5.2.2.2. This additional marking shall apply to all IBCs manufactured, repaired or remanufactured as from 1 January 2011 (see also 1.6.1.15).

**6.5.2.2.2** The maximum permitted stacking load applicable when the IBC is in use shall be displayed on a symbol as follows:



IBCs capable of being stacked



IBCs NOT capable of being stacked

The symbol shall be not less than 100 mm × 100 mm, be durable and clearly visible. The letters and numbers indicating the mass shall be at least 12 mm high.

The mass marked above the symbol shall not exceed the load imposed during the design type test (see 6.5.6.6.4) divided by 1.8.

**NOTE:** The provisions of 6.5.2.2.2 shall apply to all IBCs manufactured, repaired or remanufactured as from 1 January 2011 (see also 1.6.1.15).

**6.5.2.2.3** In addition to the markings required in 6.5.2.1, flexible IBCs may bear a pictogram indicating recommended lifting methods.

**6.5.2.2.4** The inner receptacle of composite IBCs shall be marked with at least the following information:

- (a) The name or symbol of the manufacturer and other identification of the IBC as specified by the competent authority as in 6.5.2.1.1 (f);
- (b) The date of manufacture, as in 6.5.2.1.1 (d);

(c) The distinguishing sign of the State authorizing the allocation of the mark, as in 6.5.2.1.1 (e).

**6.5.2.2.5** Where a composite IBCs is designed in such a manner that the outer casing is intended to be dismantled for carriage when empty (such as for return of the IBC for reuse to the original consignor), each of the parts intended to be detached when so dismantled shall be marked with the month and year of manufacture and the name or symbol of the manufacturer and other identification of the IBC as specified by the competent authority (see 6.5.2.1.1 (f)).

### **6.5.2.3 Conformity to design type**

The marking indicates that IBCs correspond to a successfully tested design type and that the requirements referred to in the certificate have been met.

## **6.5.3 Construction requirements**

### **6.5.3.1 General requirements**

**6.5.3.1.1** IBCs shall be resistant to or adequately protected from deterioration due to the external environment.

**6.5.3.1.2** IBCs shall be so constructed and closed that none of the contents can escape under normal conditions of carriage including the effect of vibration, or by changes in temperature, humidity or pressure.

**6.5.3.1.3** IBCs and their closures shall be constructed of materials compatible with their contents, or be protected internally, so that they are not liable:

- (a) To be attacked by the contents so as to make their use dangerous;
- (b) To cause the contents to react or decompose, or form harmful or dangerous compounds with the IBCs.

**6.5.3.1.4** Gaskets, where used, shall be made of materials not subject to attack by the contents of the IBCs.

**6.5.3.1.5** All service equipment shall be so positioned or protected as to minimize the risk of escape of the contents owing to damage during handling and carriage.

**6.5.3.1.6** IBCs, their attachments and their service and structural equipment shall be designed to withstand, without loss of contents, the internal pressure of the contents and the stresses of normal handling and carriage. IBCs intended for stacking shall be designed for stacking. Any lifting or securing features of IBCs shall be of sufficient strength to withstand the normal conditions of handling and carriage without gross distortion or failure and shall be so positioned that no undue stress is caused in any part of the IBC.

**6.5.3.1.7** Where an IBC consists of a body within a framework it shall be so constructed that:

- (a) The body does not chafe or rub against the framework so as to cause material damage to the body;
- (b) The body is retained within the framework at all times;
- (c) The items of equipment are fixed in such a way that they cannot be damaged if the connections between body and frame allow relative expansion or movement.

**6.5.3.1.8** Where a bottom discharge valve is fitted, it shall be capable of being made secure in the closed position and the whole discharge system shall be suitably protected from damage. Valves having lever closures shall be able to be secured against accidental opening and the open or closed position shall be readily apparent. For IBCs containing liquids, a secondary means of sealing the discharge aperture shall also be provided, e.g. a blank flange or equivalent device.

### **6.5.4 Testing, certification and inspection**

**6.5.4.1** *Quality assurance:* the IBCs shall be manufactured and tested under a quality assurance programme which satisfies the competent authority, in order to ensure that each manufactured IBC meets the requirements of this Chapter.

**NOTE:** ISO 16106:2006 "Packaging – Transport packages for dangerous goods – Dangerous goods packagings, intermediate bulk containers (IBCs) and large packagings – Guidelines for the application of ISO 9001" provides acceptable guidance on procedures which may be followed.

**6.5.4.2** *Test requirements:* IBCs shall be subject to design type tests and, if applicable, to initial and periodic inspections and tests in accordance with 6.5.4.4.

**6.5.4.3** *Certification:* in respect of each design type of IBC a certificate and mark (as in 6.5.2) shall be issued attesting that the design type, including its equipment, meets the test requirements.

### **6.5.4.4 Inspection and testing**

**NOTE:** See also 6.5.4.5 for tests and inspections on repaired IBCs.

**6.5.4.4.1** Every metal, rigid plastics and composite IBC shall be inspected to the satisfaction of the competent authority

(a) before it is put into service (including after remanufactured), and thereafter at intervals not exceeding five years, with regard to:

- (i) conformity to design type including marking;
- (ii) internal and external condition;
- (iii) proper functioning of service equipment.

Thermal insulation, if any, need be removed only to the extent necessary for a proper examination of the body of the IBC.

(b) at intervals of not more than two and a half years, with regard to:

- (i) external condition;
- (ii) proper functioning of service equipment.

Thermal insulation, if any, need be removed only to the extent necessary for a proper examination of the body of the IBC.

Each IBC shall correspond in all respects to its design type.

**6.5.4.4.2** Every metal, rigid plastics and composite IBC for liquids, or for solids which are filled or discharged under pressure, shall undergo a suitable leakproofness test **at least equally effective as the test prescribed in 6.5.6.7.3** and be capable of meeting the test level indicated in 6.5.6.7.3:

- (a) before it is first used for carriage;
- (b) at intervals of not more than two and a half years.

For this test the IBC **shall be fitted with the primary bottom closure**. The inner receptacle of a composite IBC may be tested without the outer casing, provided that the test results are not affected.

**6.5.4.4.3** A report of each inspection and test shall be kept by the owner of the IBC at least until the next inspection or test. The report shall include the results of the inspection and test and shall identify the party performing the inspection and test (see also the marking requirements in 6.5.2.2.1).

**6.5.4.4.4** The competent authority may at any time require proof, by tests in accordance with this Chapter, that IBCs meet the requirements of the design type tests.

#### **6.5.4.5 Repaired IBCs**

**6.5.4.5.1** When an IBC is impaired as a result of impact (e.g. accident) or any other cause, it shall be repaired or otherwise maintained (see definition of "Routine maintenance of IBCs" in 1.2.1), so as to conform to the design type. The bodies of rigid plastics IBCs and the inner receptacles of composite IBCs that are impaired shall be replaced.

**6.5.4.5.2** In addition to any other testing and inspection requirements in RID, an IBC shall be subjected to the full testing and inspection requirements set out in 6.5.4.4, and the required reports shall be prepared, whenever it is repaired.

**6.5.4.5.3** The party performing the tests and inspections after the repair shall durably mark the IBC near the manufacturer's UN design type marking to show:

- (a) the State in which the tests and inspections were carried out;
- (b) the name or authorized symbol of the party performing the tests and inspections; and
- (c) the date (month, year) of the tests and inspections.

**6.5.4.5.4** Test and inspections performed in accordance with 6.5.4.5.2 may be considered to satisfy the requirements for the two and a half and five year periodic tests and inspections.

#### **6.5.5 Specific requirements for IBCs**

##### **6.5.5.1 Specific requirements for metal IBCs**

**6.5.5.1.1** These requirements apply to metal IBCs intended for the carriage of solids and liquids. There are three categories of metal IBCs:

- (a) those for solids which are filled or discharged by gravity (11A, 11B, 11N);
- (b) those for solids which are filled or discharged at a gauge pressure greater than 10 kPa (0.1 bar) (21A, 21B, 21N); and
- (c) those for liquids (31A, 31B, 31N).

**6.5.5.1.2** Bodies shall be made of suitable ductile metal in which the weldability has been fully demonstrated. Welds shall be skilfully made and afford complete safety. Low-temperature performance of the material shall be taken into account when appropriate.

**6.5.5.1.3** Care shall be taken to avoid damage by galvanic action due to the juxtaposition of dissimilar metals.

**6.5.5.1.4** Aluminium IBCs intended for the carriage of flammable liquids shall have no movable parts, such as covers, closures, etc., made of unprotected steel liable to rust, which might cause a dangerous reaction by coming into frictional or percussive contact with the aluminium.

**6.5.5.1.5** Metal IBCs shall be made of metals which meet the following requirements:

(a) for steel the elongation at fracture, in %, shall not be less than  $\frac{10000}{R_m}$  with an absolute minimum of 20%;

where  $R_m$  = guaranteed minimum tensile strength of the steel to be used, in  $N/mm^2$ ;

(b) for aluminium and its alloy the elongation at fracture, in %, shall not be less than  $\frac{10000}{6 R_m}$  with an absolute minimum of 8%.

Specimens used to determine the elongation at fracture shall be taken transversely to the direction of rolling and be so secured that:

$$L_0 = 5d \quad \text{or} \quad L_0 = 5,65 \sqrt{A}$$

where:  $L_0$  = gauge length of the specimen before the test

$d$  = diameter

$A$  = cross-sectional area of test specimen.

**6.5.5.1.6** Minimum wall thickness:

(a) for a reference steel having a product of  $R_m \times A_0 = 10\,000$ , the wall thickness shall not be less than:

Capacity (C) in litres	Wall thickness (T) in mm			
	Types 11A, 11B, 11N		Types 21A, 21B, 21N, 31A, 31B, 31N	
	Unprotected	Protected	Unprotected	Protected
$C \leq 1000$	2.0	1.5	2.5	2.0
$1000 < C \leq 2000$	$T = C/2000 + 1.5$	$T = C/2000 + 1.0$	$T = C/2000 + 2.0$	$T = C/2000 + 1.5$
$2000 < C \leq 3000$	$T = C/2000 + 1.5$	$T = C/2000 + 1.0$	$T = C/1000 + 1.0$	$T = C/2000 + 1.5$

where:  $A_0$  = minimum elongation (as a percentage) of the reference steel to be used on fracture under tensile stress (see 6.5.5.1.5);

(b) for metals other than the reference steel described in (a), the minimum wall thickness is given by the following equivalence formula:

$$e_1 = \frac{21.4 \times e_0}{\sqrt[3]{R_{m1} \times A_1}}$$

where:  $e_1$  = required equivalent wall thickness of the metal to be used (in mm);

$e_0$  = required minimum wall thickness for the reference steel (in mm);

$R_{m1}$  = guaranteed minimum tensile strength of the metal to be used (in  $N/mm^2$ ) (see (c));

$A_1$  = minimum elongation (as a percentage) of the metal to be used on fracture under tensile stress (see 6.5.5.1.5).

However, in no case shall the wall thickness be less than 1.5 mm.

(c) For purposes of the calculation described in (b), the guaranteed minimum tensile strength of the metal to be used ( $R_{m1}$ ) shall be the minimum value according to national or international material standards. However, for austenitic steels, the specified value for  $R_m$  according to the material standards may be increased by up to 15% when a greater value is attested in the material inspection certificate. When no material standard exists for the material in question, the value of  $R_m$  shall be the minimum value attested in the material inspection certificate.

**6.5.5.1.7** Pressure-relief requirements: IBCs for liquids shall be capable of releasing a sufficient amount of vapour in the event of fire engulfment to ensure that no rupture of the body will occur. This can be achieved by conventional pressure relief devices or by other constructional means. The start-to-discharge pressure shall not be higher than 65 kPa (0.65 bar) and no lower than the total gauge pressure experienced in the IBC (i.e. the vapour pressure of the filling substance plus the partial pressure of the air or other inert gases, minus 100 kPa (1 bar)) at 55 °C, determined on the basis of a maximum degree of filling as defined in 4.1.1.4. The required relief devices shall be fitted in the vapour space.

**6.5.5.2** **Specific requirements for flexible IBCs**

**6.5.5.2.1** These requirements apply to flexible IBCs of the following types:

13H1 woven plastics without coating or liner

- 13H2 woven plastics, coated
- 13H3 woven plastics with liner
- 13H4 woven plastics, coated and with liner
- 13H5 plastics film
- 13L1 textile without coating or liner
- 13L2 textile, coated
- 13L3 textile with liner
- 13L4 textile, coated and with liner
- 13M1 paper, multiwall
- 13M2 paper, multiwall, water resistant

Flexible IBCs are intended for the carriage of solids only.

- 6.5.5.2.2** Bodies shall be manufactured from suitable materials. The strength of the material and the construction of the flexible IBC shall be appropriate to its capacity and its intended use.
- 6.5.5.2.3** All materials used in the construction of flexible IBCs of types 13M1 and 13M2 shall, after complete immersion in water for not less than 24 hours, retain at least 85% of the tensile strength as measured originally on the material conditioned to equilibrium at 67% relative humidity or less.
- 6.5.5.2.4** Seams shall be formed by stitching, heat sealing, gluing or any equivalent method. All stitched seam-ends shall be secured.
- 6.5.5.2.5** Flexible IBCs shall provide adequate resistance to ageing and to degradation caused by ultraviolet radiation or the climatic conditions, or by the substance contained, thereby rendering them appropriate to their intended use.
- 6.5.5.2.6** For flexible plastics IBCs where protection against ultraviolet radiation is required, it shall be provided by the addition of carbon black or other suitable pigments or inhibitors. These additives shall be compatible with the contents and remain effective throughout the life of the body. Where use is made of carbon black, pigments or inhibitors other than those used in the manufacture of the tested design type, re-testing may be waived if changes in the carbon black content, the pigment content or the inhibitor content do not adversely affect the physical properties of the material of construction.
- 6.5.5.2.7** Additives may be incorporated into the material of the body to improve the resistance to ageing or to serve other purposes, provided that these do not adversely affect the physical or chemical properties of the material.
- 6.5.5.2.8** No material recovered from used receptacles shall be used in the manufacture of IBC bodies. Production residues or scrap from the same manufacturing process may, however, be used. Component parts such as fittings and pallet bases may also be used provided such components have not in any way been damaged in previous use.
- 6.5.5.2.9** When filled, the ratio of height to width shall be not more than 2:1.
- 6.5.5.2.10** The liner shall be made of a suitable material. The strength of the material used and the construction of the liner shall be appropriate to the capacity of the IBC and the intended use. Joins and closures shall be siftproof and capable of withstanding pressures and impacts liable to occur under normal conditions of handling and carriage.
- 6.5.5.3 Specific requirements for rigid plastics IBCs**
- 6.5.5.3.1** These requirements apply to rigid plastics IBCs for the carriage of solids or liquids. Rigid plastics IBCs are of the following types:
  - 11H1 fitted with structural equipment designed to withstand the whole load when IBCs are stacked, for solids which are filled or discharged by gravity
  - 11H2 freestanding, for solids which are filled or discharged by gravity
  - 21H1 fitted with structural equipment designed to withstand the whole load when IBCs are stacked, for solids which are filled or discharged under pressure
  - 21H2 freestanding, for solids which are filled or discharged under pressure
  - 31H1 fitted with structural equipment designed to withstand the whole load when IBCs are stacked, for liquids
  - 31H2 freestanding, for liquids.
- 6.5.5.3.2** The body shall be manufactured from suitable plastics material of known specifications and be of adequate strength in relation to its capacity and its intended use. The material shall be adequately resistant to ageing and to degradation caused by the substance contained or, where relevant, by ultraviolet radiation. Low

temperature performance shall be taken into account when appropriate. Any permeation of the substance contained shall not constitute a danger under normal conditions of carriage.

**6.5.5.3.3** Where protection against ultraviolet radiation is required, it shall be provided by the addition of carbon black or other suitable pigments or inhibitors. These additives shall be compatible with the contents and remain effective throughout the life of the body. Where use is made of carbon black, pigments or inhibitors other than those used in the manufacture of the tested design type, re-testing may be waived if changes in the carbon black content, the pigment content or the inhibitor content do not adversely affect the physical properties of the material of construction.

**6.5.5.3.4** Additives may be incorporated in the material of the body to improve the resistance to ageing or to serve other purposes, provided that these do not adversely affect the physical or chemical properties of the material.

**6.5.5.3.5** No used material other than production residues or regrind from the same manufacturing process may be used in the manufacture of rigid plastics IBCs.

**6.5.5.4 Specific requirements for composite IBCs with plastics inner receptacles**

**6.5.5.4.1** These requirements apply to composite IBCs for the carriage of solids and liquids of the following types:

11HZ1 Composite IBCs with a rigid plastics inner receptacle, for solids filled or discharged by gravity

11HZ2 Composite IBCs with a flexible plastics inner receptacle, for solids filled or discharged by gravity

21HZ1 Composite IBCs with a rigid plastics inner receptacle, for solids filled or discharged under pressure

21HZ2 Composite IBCs with a flexible plastics inner receptacle, for solids filled or discharged under pressure

31HZ1 Composite IBCs with a rigid plastics inner receptacle, for liquids

31HZ2 Composite IBCs with a flexible plastics inner receptacle, for liquids.

This code shall be completed by replacing the letter Z by a capital letter in accordance with 6.5.1.4.1 (b) to indicate the nature of the material used for the outer casing.

**6.5.5.4.2** The inner receptacle is not intended to perform a containment function without its outer casing. A "rigid" inner receptacle is a receptacle which retains its general shape when empty without closures in place and without benefit of the outer casing. Any inner receptacle that is not "rigid" is considered to be "flexible".

**6.5.5.4.3** The outer casing normally consists of rigid material formed so as to protect the inner receptacle from physical damage during handling and carriage but is not intended to perform the containment function. It includes the base pallet where appropriate.

**6.5.5.4.4** A composite IBC with a fully enclosing outer casing shall be so designed that the integrity of the inner receptacle may be readily assessed following the leakproofness and hydraulic pressure tests.

**6.5.5.4.5** IBCs of type 31HZ2 shall be limited to a capacity of not more than 1 250 litres.

**6.5.5.4.6** The inner receptacle shall be manufactured from suitable plastics material of known specifications and be of adequate strength in relation to its capacity and its intended use. The material shall be adequately resistant to ageing and to degradation caused by the substance contained or, where relevant, by ultraviolet radiation. Low temperature performance shall be taken into account when appropriate. Any permeation of the substance contained shall not constitute a danger under normal conditions of carriage.

**6.5.5.4.7** Where protection against ultraviolet radiation is required, it shall be provided by the addition of carbon black or other suitable pigments or inhibitors. These additives shall be compatible with the contents and remain effective throughout the life of the inner receptacle. Where use is made of carbon black, pigments or inhibitors, other than those used in the manufacture of the tested design type, retesting may be waived if changes in carbon black content, the pigment content or the inhibitor content do not adversely affect the physical properties of the material of construction.

**6.5.5.4.8** Additives may be incorporated in the material of the inner receptacle to improve the resistance to ageing or to serve other purposes, provided that these do not adversely affect the physical or chemical properties of the material.

**6.5.5.4.9** No used material other than production residues or regrind from the same manufacturing process may be used in the manufacture of inner receptacles.

**6.5.5.4.10** The inner receptacle of IBCs type 31HZ2 shall consist of at least three plies of film.

**6.5.5.4.11** The strength of the material and the construction of the outer casing shall be appropriate to the capacity of the composite IBC and its intended use.

**6.5.5.4.12** The outer casing shall be free of any projection that might damage the inner receptacle.



- 6.5.5.4.13** Metal outer casings shall be constructed of a suitable metal of adequate thickness.
- 6.5.5.4.14** Outer casings of natural wood shall be of well seasoned wood, commercially dry and free from defects that would materially lessen the strength of any part of the casing. The tops and bottoms may be made of water resistant reconstituted wood such as hardboard, particle board or other suitable type.
- 6.5.5.4.15** Outer casings of plywood shall be made of well seasoned rotary cut, sliced or sawn veneer, commercially dry and free from defects that would materially lessen the strength of the casing. All adjacent plies shall be glued with water resistant adhesive. Other suitable materials may be used with plywood for the construction of casings. Casings shall be firmly nailed or secured to corner posts or ends or be assembled by equally suitable devices.
- 6.5.5.4.16** The walls of outer casings of reconstituted wood shall be made of water resistant reconstituted wood such as hardboard, particle board or other suitable type. Other parts of the casings may be made of other suitable material.
- 6.5.5.4.17** For fibreboard outer casings, strong and good quality solid or double-faced corrugated fibreboard (single or multiwall) shall be used appropriate to the capacity of the casing and to its intended use. The water resistance of the outer surface shall be such that the increase in mass, as determined in a test carried out over 30 minutes by the Cobb method of determining water absorption, is not greater than 155 g/m<sup>2</sup> (see ISO 535:1991). It shall have proper bending qualities. Fibreboard shall be cut, creased without scoring, and slotted so as to permit assembly without cracking, surface breaks or undue bending. The fluting of corrugated fibreboard shall be firmly glued to the facings.
- 6.5.5.4.18** The ends of fibreboard outer casings may have a wooden frame or be entirely of wood. Reinforcements of wooden battens may be used.
- 6.5.5.4.19** Manufacturing joints in the fibreboard outer casing shall be taped, lapped and glued, or lapped and stitched with metal staples. Lapped joints shall have an appropriate overlap. Where closing is effected by gluing or taping, a water resistant adhesive shall be used.
- 6.5.5.4.20** Where the outer casing is of plastics material, the relevant requirements of 6.5.5.4.6 to 6.5.5.4.9 apply, on the understanding that, in this case, the requirements applicable to the inner receptacle are applicable to the outer casing of composite IBCs.
- 6.5.5.4.21** The outer casing of an IBC type 31HZ2 shall enclose the inner receptacle on all sides.
- 6.5.5.4.22** Any integral pallet base forming part of an IBC or any detachable pallet shall be suitable for mechanical handling with the IBC filled to its maximum permissible gross mass.
- 6.5.5.4.23** The pallet or integral base shall be designed so as to avoid any protrusion of the base of the IBC that might be liable to damage in handling.
- 6.5.5.4.24** The outer casing shall be secured to any detachable pallet to ensure stability in handling and carriage. Where a detachable pallet is used, its top surface shall be free from sharp protrusions that might damage the IBC.
- 6.5.5.4.25** Strengthening devices such as timber supports to increase stacking performance may be used but shall be external to the inner receptacle.
- 6.5.5.4.26** Where IBCs are intended for stacking, the bearing surface shall be such as to distribute the load in a safe manner. Such IBCs shall be designed so that the load is not supported by the inner receptacle.
- 6.5.5.5 Specific requirements for fibreboard IBCs**
- 6.5.5.5.1** These requirements apply to fibreboard IBCs for the carriage of solids which are filled or discharged by gravity. Fibreboard IBCs are of the following type: 11G.
- 6.5.5.5.2** Fibreboard IBCs shall not incorporate top lifting devices.
- 6.5.5.5.3** The body shall be made of strong and good quality solid or double-faced corrugated fibreboard (single or multiwall), appropriate to the capacity of the IBC and to its intended use. The water resistance of the outer surface shall be such that the increase in mass, as determined in a test carried out over a period of 30 minutes by the Cobb method of determining water absorption, is not greater than 155 g/m<sup>2</sup> (see ISO 535:1991). It shall have proper bending qualities. Fibreboard shall be cut, creased without scoring, and slotted so as to permit assembly without cracking, surface breaks or undue bending. The fluting or corrugated fibreboard shall be firmly glued to the facings.
- 6.5.5.5.4** The walls, including top and bottom, shall have a minimum puncture resistance of 15 J measured according to ISO 3036:1975.



- 6.5.5.5.5** Manufacturing joins in the body of IBCs shall be made with an appropriate overlap and shall be taped, glued, stitched with metal staples or fastened by other means at least equally effective. Where joins are effected by gluing or taping, a water resistant adhesive shall be used. Metal staples shall pass completely through all pieces to be fastened and be formed or protected so that any inner liner cannot be abraded or punctured by them.
- 6.5.5.5.6** The liner shall be made of a suitable material. The strength of the material used and the construction of the liner shall be appropriate to the capacity of the IBC and the intended use. Joins and closures shall be siftproof and capable of withstanding pressures and impacts liable to occur under normal conditions of handling and carriage.
- 6.5.5.5.7** Any integral pallet base forming part of an IBC or any detachable pallet shall be suitable for mechanical handling with the IBC filled to its maximum permissible gross mass.
- 6.5.5.5.8** The pallet or integral base shall be designed so as to avoid any protrusion of the base of the IBC that might be liable to damage in handling.
- 6.5.5.5.9** The body shall be secured to any detachable pallet to ensure stability in handling and carriage. Where a detachable pallet is used, its top surface shall be free from sharp protrusions that might damage the IBC.
- 6.5.5.5.10** Strengthening devices such as timber supports to increase stacking performance may be used but shall be external to the liner.
- 6.5.5.5.11** Where IBCs are intended for stacking, the bearing surface shall be such as to distribute the load in a safe manner.
- 6.5.5.6 Specific requirements for wooden IBCs**
- 6.5.5.6.1** These requirements apply to wooden IBCs for the carriage of solids which are filled or discharged by gravity. Wooden IBCs are of the following types:
- 11C Natural wood with inner liner
  - 11D Plywood with inner liner
  - 11F Reconstituted wood with inner liner.
- 6.5.5.6.2** Wooden IBCs shall not incorporate top lifting devices.
- 6.5.5.6.3** The strength of the materials used and the method of construction of the body shall be appropriate to the capacity and intended use of the IBC.
- 6.5.5.6.4** Natural wood shall be well seasoned, commercially dry and free from defects that would materially lessen the strength of any part of the IBC. Each part of the IBC shall consist of one piece or be equivalent thereto. Parts are considered equivalent to one piece when a suitable method of glued assembly is used (as for instance Lindermann joint, tongue and groove joint, ship lap or rabbet joint); or butt joint with at least two corrugated metal fasteners at each joint, or when other methods at least equally effective are used.
- 6.5.5.6.5** Bodies of plywood shall be at least 3-ply. They shall be made of well seasoned rotary cut, sliced or sawn veneer, commercially dry and free from defects that would materially lessen the strength of the body. All adjacent plies shall be glued with water resistant adhesive. Other suitable materials may be used with plywood for the construction of the body.
- 6.5.5.6.6** Bodies of reconstituted wood shall be made of water resistant reconstituted wood such as hardboard, particle board or other suitable type.
- 6.5.5.6.7** IBCs shall be firmly nailed or secured to corner posts or ends or be assembled by equally suitable devices.
- 6.5.5.6.8** The liner shall be made of a suitable material. The strength of the material used and the construction of the liner shall be appropriate to the capacity of the IBC and the intended use. Joins and closures shall be siftproof and capable of withstanding pressures and impacts liable to occur under normal conditions of handling and carriage.
- 6.5.5.6.9** Any integral pallet base forming part of an IBC or any detachable pallet shall be suitable for mechanical handling with the IBC filled to its maximum permissible gross mass.
- 6.5.5.6.10** The pallet or integral base shall be designed so as to avoid any protrusion of the base of the IBC that might be liable to damage in handling.
- 6.5.5.6.11** The body shall be secured to any detachable pallet to ensure stability in handling and carriage. Where a detachable pallet is used, its top surface shall be free from sharp protrusions that might damage the IBC.
- 6.5.5.6.12** Strengthening devices such as timber supports to increase stacking performance may be used but shall be external to the liner.

**6.5.5.6.13** Where IBCs are intended for stacking, the bearing surface shall be such as to distribute the load in a safe manner.

## **6.5.6 Test requirements for IBCs**

### **6.5.6.1 Performance and frequency of tests**

**6.5.6.1.1** Each IBC design type shall successfully pass the tests prescribed in this Chapter before being used and being approved by the competent authority allowing the allocation of the mark. An IBC design type is defined by the design, size, material and thickness, manner of construction and means of filling and discharging but may include various surface treatments. It also includes IBCs which differ from the design type only in their lesser external dimensions.

**6.5.6.1.2** Tests shall be carried out on IBCs prepared for carriage. IBCs shall be filled as indicated in the relevant sections. The substances to be carried in the IBCs may be replaced by other substances except where this would invalidate the results of the tests. For solids, when another substance is used it shall have the same physical characteristics (mass, grain size, etc.) as the substance to be carried. It is permissible to use additives, such as bags of lead shot, to achieve the requisite total package mass, so long as they are placed so that the test results are not affected.

### **6.5.6.2 Design type tests**

**6.5.6.2.1** One IBC of each design type, size, wall thickness and manner of construction shall be submitted to the tests listed in the order shown in 6.5.6.3.7 and as set out in 6.5.6.5 to 6.5.6.13. These design type tests shall be carried out as required by the competent authority.

**6.5.6.2.2** To prove sufficient chemical compatibility with the contained goods or standard liquids in accordance with 6.5.6.3.3 or 6.5.6.3.5 for rigid plastics IBCs of type 31H2 and for composite IBCs of types 31HH1 and 31HH2, a second IBC may be used when the IBCs are designed to be stacked. In such case both IBCs shall be subjected to a preliminary storage.

**6.5.6.2.3** The competent authority may permit the selective testing of IBCs which differ only in minor respects from a tested type, e.g. with small reductions in external dimensions.

**6.5.6.2.4** If detachable pallets are used in the tests, the test report issued in accordance with 6.5.6.14 shall include a technical description of the pallets used.

### **6.5.6.3 Preparation of IBCs for testing**

**6.5.6.3.1** Paper and fibreboard IBCs and composite IBCs with fibreboard outer casings shall be conditioned for at least 24 hours in an atmosphere having a controlled temperature and relative humidity (r.h.). There are three options, one of which shall be chosen. The preferred atmosphere is  $23\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$  and  $50\% \pm 2\%$  r.h. The two other options are  $20\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$  and  $65\% \pm 2\%$  r.h.; or  $27\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$  and  $65\% \pm 2\%$  r.h.

**NOTE:** Average values shall fall within these limits. Short-term fluctuations and measurement limitations may cause individual measurements to vary by up to  $\pm 5\%$  relative humidity without significant impairment of test reproducibility.

**6.5.6.3.2** Additional steps shall be taken to ascertain that the plastics material used in the manufacture of rigid plastics IBCs (types 31H1 and 31H2) and composite IBCs (types 31HZ1 and 31HZ2) complies respectively with the requirements in 6.5.5.3.2 to 6.5.5.3.4 and 6.5.5.4.6 to 6.5.5.4.9.

**6.5.6.3.3** To prove there is sufficient chemical compatibility with the contained goods, the sample IBC shall be subjected to a preliminary storage for six months, during which the samples shall remain filled with the substances they are intended to contain or with substances which are known to have at least as severe a stress-cracking, weakening or molecular degradation influence on the plastics materials in question, and after which the samples shall be submitted to the applicable tests listed in the table in 6.5.6.3.7.

**6.5.6.3.4** Where the satisfactory behaviour of the plastics material has been established by other means, the above compatibility test may be dispensed with. Such procedures shall be at least equivalent to the above compatibility test and recognized by the competent authority.

**6.5.6.3.5** For polyethylene rigid plastics IBCs (types 31H1 and 31H2) in accordance with 6.5.5.3 and composite IBCs with polyethylene inner receptacle (types 31HZ1 and 31HZ2) in accordance with 6.5.5.4, chemical compatibility with filling liquids assimilated in accordance with 4.1.1.19 may be verified as follows with standard liquids (see 6.1.6).

The standard liquids are representative for the processes of deterioration on polyethylene, as there are softening through swelling, cracking under stress, molecular degradation and combinations thereof.

The sufficient chemical compatibility of the IBCs may be verified by storage of the required test samples for three weeks at  $40\text{ }^{\circ}\text{C}$  with the appropriate standard liquid(s); where this standard liquid is water, storage in accordance with this procedure is not required. Storage is not required either for test samples which are

used for the stacking test in case of the standard liquids wetting solution and acetic acid. After this storage, the test samples shall undergo the tests prescribed in 6.5.6.4 to 6.5.6.9.

The compatibility test for tert-Butyl hydroperoxide with more than 40% peroxide content and peroxyacetic acids of Class 5.2 shall not be carried out using standard liquids. For these substances, sufficient chemical compatibility of the test samples shall be verified during a storage period of six months at ambient temperature with the substances they are intended to carry.

Results of the procedure in accordance with this paragraph from polyethylene IBCs can be approved for an equal design type, the internal surface of which is fluorinated.

**6.5.6.3.6** For IBC design types, made of polyethylene, as specified in 6.5.6.3.5, which have passed the test in 6.5.6.3.5, the chemical compatibility with filling substances may also be verified by laboratory tests<sup>2</sup> proving that the effect of such filling substances on the test specimens is less than that of the appropriate standard liquid(s) taking into account the relevant processes of deterioration. The same conditions as those set out in 4.1.1.19.2 shall apply with respect to relative density and vapour pressure.

**6.5.6.3.7** Design type tests required and sequential order

Type of IBC	Vibration <sup>(f)</sup>	Bottom lift	Top lift <sup>(a)</sup>	Stacking <sup>(b)</sup>	Leak-proofness	Hydraulic pressure	Drop	Tear	Topple	Rigging <sup>(c)</sup>
Metal: 11A, 11B, 11N	—	1st <sup>(a)</sup>	2nd	3rd	—	—	4th <sup>(e)</sup>	—	—	—
21A, 21B, 21N	—	1st <sup>(a)</sup>	2nd	3rd	4th	5th	6th <sup>(e)</sup>	—	—	—
31A, 31B, 31N	1st	2nd <sup>(a)</sup>	3rd	4th	5th	6th	7th <sup>(e)</sup>	—	—	—
Flexible <sup>(d)</sup>	—	—	x <sup>(c)</sup>	x	—	—	x	x	x	x
Rigid plastics: 11H1, 11H2	—	1st <sup>(a)</sup>	2nd	3rd	—	—	4th	—	—	—
21H1, 21H2	—	1st <sup>(a)</sup>	2nd	3rd	4th	5th	6th	—	—	—
31H1, 31H2	1st	2nd <sup>(a)</sup>	3rd	4th <sup>(g)</sup>	5th	6th	7th	—	—	—
Compos- ite: 11HZ1, 11HZ2	—	1st <sup>(a)</sup>	2nd	3rd	—	—	4th <sup>(e)</sup>	—	—	—
21HZ1, 21HZ2	—	1st <sup>(a)</sup>	2nd	3rd	4th	5th	6th <sup>(e)</sup>	—	—	—
31HZ1, 31HZ2	1st	2nd <sup>(a)</sup>	3rd	4th <sup>(g)</sup>	5th	6th	7th <sup>(e)</sup>	—	—	—
Fibreboard	—	1st	—	2nd	—	—	3rd	—	—	—
Wooden	—	1st	—	2nd	—	—	3rd	—	—	—

<sup>(a)</sup> When IBCs are designed for this method of handling.

<sup>(b)</sup> When IBCs are designed to be stacked.

<sup>(c)</sup> When IBCs are designed to be lifted from the top or the side.

<sup>(d)</sup> Required test indicated by x; an IBC which has passed one test may be used for other tests, in any order.

<sup>2</sup> Laboratory tests for the proof of the chemical compatibility of polyethylene according to 6.5.6.3.5 proving that the effect of filling substances (substances, mixtures and preparations) is less than that of the standard liquids set out in 6.1.6 see guidelines in the non-legally binding part of RID published by the Secretariat of OTIF.

(e) Another IBC of the same design may be used for the drop test.

(f) Another IBC of the same design may be used for the vibration test.

(g) The second IBC in accordance with 6.5.6.2.2 can be used out of the sequential order direct after the preliminary storage.

#### **6.5.6.4 Bottom lift test**

##### **6.5.6.4.1 Applicability**

For all fibreboard and wooden IBCs, and for all types of IBC which are fitted with means of lifting from the base, as a design type test.

##### **6.5.6.4.2 Preparation of the IBC for test**

The IBC shall be filled. A load shall be added and evenly distributed. The mass of the filled IBC and the load shall be 1.25 times the maximum permissible gross mass.

##### **6.5.6.4.3 Method of testing**

The IBC shall be raised and lowered twice by a lift truck with the forks centrally positioned and spaced at three quarters of the dimension of the side of entry (unless the points of entry are fixed). The forks shall penetrate to three quarters of the direction of entry. The test shall be repeated from each possible direction of entry.

##### **6.5.6.4.4 Criteria for passing the test**

No permanent deformation which renders the IBC, including the base pallet, if any, unsafe for carriage and no loss of contents.

#### **6.5.6.5 Top lift test**

##### **6.5.6.5.1 Applicability**

For all types of IBC which are designed to be lifted from the top and for flexible IBCs designed to be lifted from the top or the side, as a design type test.

##### **6.5.6.5.2 Preparation of the IBC for test**

Metal, rigid plastics and composite IBCs shall be filled. A load shall be added and evenly distributed. The mass of the filled IBC and the load shall be twice the maximum permissible gross mass. Flexible IBCs shall be filled with a representative material and then shall be loaded to six times their maximum permissible gross mass, the load being evenly distributed.

##### **6.5.6.5.3 Methods of testing**

Metal and flexible IBCs shall be lifted in the manner for which they are designed until clear of the floor and maintained in that position for a period of five minutes.

Rigid plastics and composite IBCs shall be lifted:

- (a) by each pair of diagonally opposite lifting devices, so that the hoisting forces are applied vertically, for a period of five minutes; and
- (b) by each pair of diagonally opposite lifting devices, so that the hoisting forces are applied toward the centre at 45° to the vertical, for a period of five minutes.

##### **6.5.6.5.4 Other methods of top lift testing and preparation at least equally effective may be used for flexible IBCs.**

##### **6.5.6.5.5 Criteria for passing the test**

- (a) Metal, rigid plastics and composite IBCs: the IBC remains safe for normal conditions of carriage, there is no observable permanent deformation of the IBC, including the base pallet, if any, and no loss of contents;
- (b) Flexible IBCs: no damage to the IBC or its lifting devices which renders the IBC unsafe for carriage or handling and no loss of contents.

#### **6.5.6.6 Stacking test**

##### **6.5.6.6.1 Applicability**

For all types of IBC which are designed to be stacked on each other, as a design type test.

**6.5.6.6.2** Preparation of the IBC for test

The IBC shall be filled to its maximum permissible gross mass. If the specific gravity of the product being used for testing makes this impracticable, the IBC shall additionally be loaded so that it is tested at its maximum permissible gross mass the load being evenly distributed.

**6.5.6.6.3** Method of testing

(a) The IBC shall be placed on its base on level hard ground and subjected to a uniformly distributed superimposed test load (see 6.5.6.6.4). For rigid plastics IBCs of type 31H2 and composite IBCs of types 31HH1 and 31HH2, a stacking test shall be carried out with the original filling substance or a standard liquid (see 6.1.6) in accordance with 6.5.6.3.3 or 6.5.6.3.5 using the second IBC in accordance with 6.5.6.2.2 after the preliminary storage. IBCs shall be subjected to the test load for a period of at least:

- (i) 5 minutes, for metal IBCs;
- (ii) 28 days at 40 °C, for rigid plastics IBCs of types 11H2, 21H2 and 31H2 and for composite IBCs with outer casings of plastics material which bear the stacking load (i.e., types 11HH1, 11HH2, 21HH1, 21HH2, 31HH1 and 31HH2);
- (iii) 24 hours, for all other types of IBCs;

(b) The load shall be applied by one of the following methods:

- (i) one or more IBCs of the same type filled to the maximum permissible gross mass stacked on the test IBC;
- (ii) appropriate weights loaded on to either a flat plate or a reproduction of the base of the IBC, which is stacked on the test IBC.

**6.5.6.6.4** Calculation of superimposed test load

The load to be placed on the IBC shall be 1.8 times the combined maximum permissible gross mass of the number of similar IBCs that may be stacked on top of the IBC during carriage.

**6.5.6.6.5** Criteria for passing the test

- (a) All types of IBCs other than flexible IBCs: no permanent deformation which renders the IBC including the base pallet, if any, unsafe for carriage and no loss of contents.
- (b) Flexible IBCs: no deterioration of the body which renders the IBC unsafe for carriage and no loss of contents.

**6.5.6.7** Leakproofness test**6.5.6.7.1** Applicability

For those types of IBC used for liquids or for solids filled or discharged under pressure, as a design type test and periodic test.

**6.5.6.7.2** Preparation of the IBC for test

The test shall be carried out before the fitting of any thermal insulation equipment. Vented closures shall either be replaced by similar non-vented closures or the vent shall be sealed.

**6.5.6.7.3** Method of testing and pressure to be applied

The test shall be carried out for a period of at least 10 minutes using air at a gauge pressure of not less than 20 kPa (0.2 bar). The air tightness of the IBC shall be determined by a suitable method such as by air-pressure differential test or by immersing the IBC in water or, for metal IBCs, by coating the seams and joints with a soap solution. In the case of immersing a correction factor shall be applied for the hydrostatic pressure.

**6.5.6.7.4** Criterion for passing the test

No leakage of air.

**6.5.6.8** Internal pressure (hydraulic) test**6.5.6.8.1** Applicability

For those types of IBCs used for liquids or for solids filled or discharged under pressure, as a design type test.

**6.5.6.8.2** Preparation of the IBC for test

The test shall be carried out before the fitting of any thermal insulation equipment.

Pressure-relief devices shall be removed and their apertures plugged, or shall be rendered inoperative.

**6.5.6.8.3** Method of testing

The test shall be carried out for a period of at least 10 minutes applying a hydraulic pressure not less than that indicated in 6.5.6.8.4. The IBCs shall not be mechanically restrained during the test.

**6.5.6.8.4** Pressures to be applied

**6.5.6.8.4.1** Metal IBCs:

- (a) For IBCs of types 21A, 21B and 21N, for packing group I solids, a 250 kPa (2.5 bar) gauge pressure;
- (b) For IBCs of types 21A, 21B, 21N, 31A, 31B and 31N, for packing groups II or III substances, a 200 kPa (2 bar) gauge pressure;
- (c) In addition, for IBCs of types 31A, 31B and 31N, a 65kPa (0.65 bar) gauge pressure. This test shall be performed before the 200 kPa (2 bar) test.

**6.5.6.8.4.2** Rigid plastics and composite IBCs:

- (a) For IBCs of types 21H1, 21H2, 21HZ1 and 21HZ2: 75 kPa (0.75 bar) (gauge);
- (b) For IBCs of types 31H1, 31H2, 31HZ1 and 31HZ2: whichever is the greater of two values, the first as determined by one of the following methods:
  - (i) the total gauge pressure measured in the IBC (i.e. the vapour pressure of the filling substance and the partial pressure of the air or other inert gases, minus 100 kPa) at 55 °C multiplied by a safety factor of 1.5; this total gauge pressure shall be determined on the basis of a maximum degree of filling in accordance with 4.1.1.4 and a filling temperature of 15 °C;
  - (ii) 1.75 times the vapour pressure at 50 °C of the substance to be carried minus 100 kPa, but with a minimum test pressure of 100 kPa;
  - (iii) 1.5 times the vapour pressure at 55 °C of the substance to be carried minus 100 kPa, but with a minimum test pressure of 100 kPa;and the second as determined by the following method:
  - (iv) twice the static pressure of the substance to be carried, with a minimum of twice the static pressure of water;

**6.5.6.8.5** Criteria for passing the test(s):

- (a) For IBCs of types 21A, 21B, 21N, 31A, 31B and 31N, when subjected to the test pressure specified in 6.5.6.8.4.1 (a) or (b): no leakage;
- (b) For IBCs of types 31A, 31B and 31N, when subjected to the test pressure specified in 6.5.6.8.4.1 (c): no permanent deformation which renders the IBC unsafe for carriage and no leakage;
- (c) For rigid plastics and composite IBCs: no permanent deformation which would render the IBC unsafe for carriage and no leakage.

**6.5.6.9** Drop test

**6.5.6.9.1** Applicability

For all types of IBCs, as a design type test.

**6.5.6.9.2** Preparation of the IBC for test

- (a) Metal IBCs: the IBC shall be filled to not less than 95% of its maximum capacity for solids or 98% of its maximum capacity for liquids. Pressure-relief devices shall be removed and their apertures plugged, or shall be rendered inoperative;
- (b) Flexible IBCs: the IBC shall be filled to the maximum permissible gross mass, the contents being evenly distributed;
- (c) Rigid plastics and composite IBCs: the IBC shall be filled to not less than 95% of its maximum capacity for solids or 98% of its maximum capacity for liquids. Arrangements provided for pressure relief may be removed and plugged or rendered inoperative. Testing of IBCs shall be carried out when the temperature of the test sample and its contents has been reduced to minus 18 °C or lower. Where test samples of composite IBCs are prepared in this way the conditioning specified in 6.5.6.3.1 may be waived. Test liquids shall be kept in the liquid state, if necessary by the addition of anti-freeze. This conditioning may be disregarded if the materials in question are of sufficient ductility and tensile strength at low temperatures;
- (d) Fibreboard and wooden IBCs: The IBC shall be filled to not less than 95% of its maximum capacity.

**6.5.6.9.3** Method of testing

The IBC shall be dropped on its base onto a non-resilient, horizontal, flat, massive and rigid surface in conformity with the requirements of 6.1.5.3.4, in such a manner as to ensure that the point of impact is that part

of the base of the IBC considered to be the most vulnerable. IBCs of 0.45 m<sup>3</sup> or less capacity shall also be dropped:

- (a) Metal IBCs: on the most vulnerable part other than the part of the base tested in the first drop;
- (b) Flexible IBCs: on the most vulnerable side;
- (c) Rigid plastics, composite, fibreboard and wooden IBCs: flat on a side, flat on the top and on a corner.

The same or different IBCs may be used for each drop.

#### 6.5.6.9.4 Drop height

For solids and liquids, if the test is performed with the solid or liquid to be carried or with another substance having essentially the same physical characteristics:

Packing group I	Packing group II	Packing group III
1.8 m	1.2 m	0.8 m

For liquids if the test is performed with water:

- (a) Where the substances to be carried have a relative density not exceeding 1.2:

Packing group II	Packing group III
1.2 m	0.8 m

- (b) Where the substances to be carried have a relative density exceeding 1.2, the drop heights shall be calculated on the basis of the relative density (d) of the substance to be carried rounded up to the first decimal as follows:

Packing group II	Packing group III
d x 1.0 m	d x 0.67 m

#### 6.5.6.9.5 Criteria for passing the test(s):

- (a) Metal IBCs: no loss of contents;
- (b) Flexible IBCs: no loss of contents. A slight discharge, e.g. from closures or stitch holes, upon impact shall not be considered to be a failure of the IBC provided that no further leakage occurs after the IBC has been raised clear of the ground;
- (c) Rigid plastics, composite, fibreboard and wooden IBCs: no loss of contents. A slight discharge from a closure upon impact shall not be considered to be a failure of the IBC provided that no further leakage occurs;
- (d) All IBCs: no damage which renders the IBC unsafe to be carried for salvage or for disposal, and no loss of contents. In addition, the IBC shall be capable of being lifted by an appropriate means until clear of the floor for five minutes.

#### 6.5.6.10 Tear test

##### 6.5.6.10.1 Applicability

For all types of flexible IBCs, as a design type test.

##### 6.5.6.10.2 Preparation of the IBC for test

The IBC shall be filled to not less than 95% of its capacity and to its maximum permissible gross mass, the contents being evenly distributed.

##### 6.5.6.10.3 Method of testing

Once the IBC is placed on the ground, a 100 mm knife score, completely penetrating the wall of a wide face, is made at a 45° angle to the principal axis of the IBC, halfway between the bottom surface and the top level of the contents. The IBC shall then be subjected to a uniformly distributed superimposed load equivalent to twice the maximum permissible gross mass. The load shall be applied for at least five minutes. An IBC which is designed to be lifted from the top or the side shall then, after removal of the superimposed load, be lifted clear of the floor and maintained in that position for a period of five minutes.

##### 6.5.6.10.4 Criteria for passing the test

The cut shall not propagate more than 25% of its original length.

**6.5.6.11 Topple test****6.5.6.11.1** Applicability

For all types of flexible IBC, as a design type test.

**6.5.6.11.2** Preparation of the IBC for test

The IBC shall be filled to not less than 95% of its capacity and to its maximum permissible gross mass, the contents being evenly distributed.

**6.5.6.11.3** Method of testing

The IBC shall be caused to topple on to any part of its top on to a rigid, non-resilient, smooth, flat and horizontal surface.

**6.5.6.11.4** Topple height

Packing group I	Packing group II	Packing group III
1.8 m	1.2 m	0.8 m

**6.5.6.11.5** Criteria for passing the test

No loss of contents. A slight discharge, e.g. from closures or stitch holes, upon impact shall not be considered to be a failure of the IBC provided that no further leakage occurs.

**6.5.6.12 Righting test****6.5.6.12.1** Applicability

For all flexible IBCs designed to be lifted from the top or side, as a design type test.

**6.5.6.12.2** Preparation of the IBC for test

The IBC shall be filled to not less than 95% of its capacity and to its maximum permissible gross mass, the contents being evenly distributed.

**6.5.6.12.3** Method of testing

The IBC, lying on its side, shall be lifted at a speed of at least 0.1 m/s to upright position, clear of the floor, by one lifting device or by two lifting devices when four are provided.

**6.5.6.12.4** Criteria for passing the test

No damage to the IBC or its lifting devices which renders the IBC unsafe for carriage or handling.

**6.5.6.13 Vibration test****6.5.6.13.1** Applicability

For all IBCs used for liquids, as a design type test.

**NOTE:** This test applies to design types for IBCs manufactured after 31 December 2010 (see also 1.6.1.14).

**6.5.6.13.2** Preparation of the IBC for test

A sample IBC shall be selected at random and shall be fitted and closed as for carriage. The IBC shall be filled with water to not less than 98% of its maximum capacity.

**6.5.6.13.3** Test method and duration**6.5.6.13.3.1** The IBC shall be placed in the center of the test machine platform with a vertical sinusoidal, double amplitude (peak-to-peak displacement) of 25 mm  $\pm$  5%. If necessary, restraining devices shall be attached to the platform to prevent the specimen from moving horizontally off the platform without restricting vertical movement.**6.5.6.13.3.2** The test shall be conducted for one hour at a frequency that causes part of the base of the IBC to be momentarily raised from the vibrating platform for part of each cycle to such a degree that a metal shim can be completely inserted intermittently at, at least, one point between the base of the IBC and the test platform. The frequency may need to be adjusted after the initial set point to prevent the packaging from going into



resonance. Nevertheless, the test frequency shall continue to allow placement of the metal shim under the IBC as described in this paragraph. The continuing ability to insert the metal shim is essential to passing the test. The metal shim used for this test shall be at least 1.6 mm thick, 50 mm wide, and be of sufficient length to be inserted between the IBC and the test platform a minimum of 100 mm to perform the test.

**6.5.6.13.4** Criteria for passing the test

No leakage or rupture shall be observed. In addition, no breakage or failure of structural components, such as broken welds or failed fastenings, shall be observed.

**6.5.6.14** Test report

**6.5.6.14.1** A test report containing at least the following particulars shall be drawn up and shall be made available to the users of the IBC:

1. Name and address of the test facility;
2. Name and address of applicant (where appropriate);
3. A unique test report identification;
4. Date of the test report;
5. Manufacturer of the IBC;
6. Description of the IBC design type (e.g. dimensions, materials, closures, thickness, etc.) including method of manufacture (e.g. blow moulding) and which may include drawing(s) and/or photograph(s);
7. Maximum capacity;
8. Characteristics of test contents, e.g. viscosity and relative density for liquids and particle size for solids;
9. Test descriptions and results;
10. The test report shall be signed with the name and status of the signatory.

**6.5.6.14.2** The test report shall contain statements that the IBC prepared as for carriage was tested in accordance with the appropriate requirements of this Chapter and that the use of other packaging methods or components may render it invalid. A copy of the test report shall be available to the competent authority.

## Chapter 6.6

### Requirements for the construction and testing of large packagings

#### 6.6.1 General

##### 6.6.1.1 The requirements of this Chapter do not apply to:

- packagings for Class 2, except large packagings for articles, including aerosols;
- packagings for Class 6.2, except large packagings for clinical waste of UN No. 3291;
- Class 7 packages containing radioactive material.

##### 6.6.1.2 Large packagings shall be manufactured and tested under a quality assurance programme which satisfies the competent authority in order to ensure that each manufactured packaging meets the requirements of this Chapter.

**NOTE:** ISO 16106:2006 "Packaging – Transport packages for dangerous goods – Dangerous goods packagings, intermediate bulk containers (IBCs) and large packagings – Guidelines for the application of ISO 9001" provides acceptable guidance on procedures which may be followed.

##### 6.6.1.3 The specific requirements for large packagings in 6.6.4 are based on large packagings currently used. In order to take into account progress in science and technology, there is no objection to the use of large packagings having specifications different from those in 6.6.4 provided they are equally effective, acceptable to the competent authority and able successfully to withstand the tests described in 6.6.5. Methods of testing other than those described in RID are acceptable provided they are equivalent and are recognized by the competent authority.

##### 6.6.1.4 Manufacturers and subsequent distributors of packagings shall provide information regarding procedures to be followed and a description of the types and dimensions of closures (including required gaskets) and any other components needed to ensure that packages as presented for carriage are capable of passing the applicable performance tests of this Chapter.

#### 6.6.2 Code for designating types of large packagings

##### 6.6.2.1 The code used for large packagings consist of:

###### (a) Two Arabic numerals:


- 50 for rigid large packagings; or
- 51 for flexible large packagings; and

###### (b) A capital letter in Latin character indicating the nature of the material, e.g. wood, steel etc. The capital letters used shall be those shown in 6.1.2.6.

##### 6.6.2.2 The letter "W" may follow the Large Packaging code. The letter "W" signifies that the large packaging, although of the same type indicated by the code, is manufactured to a specification different from those in 6.6.4 and is considered equivalent in accordance with the requirements in 6.6.1.3.

#### 6.6.3 Marking

##### 6.6.3.1 **Primary marking:** Each large packaging manufactured and intended for use in accordance with the provisions of RID shall bear durable and legible markings showing:

- (a) The United Nations packaging symbol . This symbol shall not be used for any purpose other than certifying that a packaging complies with the relevant requirements in Chapter 6.1, 6.2, 6.3, 6.5 or 6.6. For metal large packagings on which the marking is stamped or embossed, the capital letters "UN" may be applied instead of the symbol;
- (b) The number "50" designating a large rigid packaging or "51" for flexible large packagings, followed by the material type in accordance with 6.5.1.4.1 (b);
- (c) A capital letter designating the packing group(s) for which the design type has been approved:
  - X for packing groups I, II and III
  - Y for packing groups II and III
  - Z for packing group III only;
- (d) The month and year (last two digits) of manufacture;
- (e) The State authorizing the allocation of the mark; indicated by the distinguishing sign for motor vehicles in international traffic<sup>1</sup>;

<sup>1</sup> Distinguishing sign for motor vehicles in international traffic prescribed in the Vienna Convention on Road Traffic (1968).

- (f) The name or symbol of the manufacturer and other identification of the large packagings as specified by the competent authority;
- (g) The stacking test load in kg. For large packagings not designed for stacking the figure "0" shall be shown;
- (h) The maximum permissible gross mass in kilograms.

The primary marking required above shall be applied in the sequence of the sub-paragraphs.

Each element of the marking applied in accordance with (a) to (h) shall be clearly separated, e.g. by a slash or space, so as to be easily identifiable.

#### 6.6.3.2 Examples of the marking:

	50A/X/0501/N/PQRS 2500/1000	For a large steel packaging suitable for stacking; stacking load: 2500 kg; maximum gross mass: 1000 kg
	50H/Y/0402/D/ABCD 987 0/800	For a large plastics packaging not suitable for stacking; maximum gross mass: 800 kg
	51H/Z/0601/S/1999 0/500	For a large flexible packaging not suitable for stacking; maximum gross mass: 500 kg

#### 6.6.4 Specific requirements for large packagings

##### 6.6.4.1 Specific requirements for metal large packagings

50A steel  
50B aluminium  
50N metal (other than steel or aluminium)

**6.6.4.1.1** The large packaging shall be made of suitable ductile metal in which the weldability has been fully demonstrated. Welds shall be skilfully made and afford complete safety. Low-temperature performance shall be taken into account when appropriate.

**6.6.4.1.2** Care shall be taken to avoid damage by galvanic action due to the juxtaposition of dissimilar metals.

##### 6.6.4.2 Specific requirements for flexible material large packagings

51H flexible plastics  
51M flexible paper

**6.6.4.2.1** The large packaging shall be manufactured from suitable materials. The strength of the material and the construction of the flexible large packagings shall be appropriate to its capacity and its intended use.

**6.6.4.2.2** All materials used in the construction of flexible large packagings of types 51M shall, after complete immersion in water for not less than 24 hours, retain at least 85% of the tensile strength as measured originally on the material conditioned to equilibrium at 67% relative humidity or less.

**6.6.4.2.3** Seams shall be formed by stitching, heat sealing, glueing or any equivalent method. All stitched seam-ends shall be secured.

**6.6.4.2.4** Flexible large packagings shall provide adequate resistance to ageing and to degradation caused by ultraviolet radiation or the climatic conditions, or by the substance contained, thereby rendering them appropriate to their intended use.

**6.6.4.2.5** For plastics flexible large packagings where protection against ultraviolet radiation is required, it shall be provided by the addition of carbon black or other suitable pigments or inhibitors. These additives shall be compatible with the contents and remain effective throughout the life of the large packaging. Where use is made of carbon black, pigments or inhibitors other than those used in the manufacture of the tested design type, re-testing may be waived if changes in the carbon black content, the pigment content or the inhibitor content do not adversely affect the physical properties of the material of construction.

**6.6.4.2.6** Additives may be incorporated into the material of the large packaging to improve the resistance to ageing or to serve other purposes, provided that these do not adversely affect the physical or chemical properties of the material.

**6.6.4.2.7** When filled, the ratio of height to width shall be not more than 2:1.

**6.6.4.3 Specific requirements for plastics large packagings**

50H rigid plastics

**6.6.4.3.1** The large packaging shall be manufactured from suitable plastics material of known specifications and be of adequate strength in relation to its capacity and its intended use. The material shall be adequately resistant to ageing and to degradation caused by the substance contained or, where relevant, by ultraviolet radiation. Low temperature performance shall be taken into account when appropriate. Any permeation of the substance contained shall not constitute a danger under normal conditions of carriage.

**6.6.4.3.2** Where protection against ultraviolet radiation is required, it shall be provided by the addition of carbon black or other suitable pigments or inhibitors. These additives shall be compatible with the contents and remain effective throughout the life of the outer packaging. Where use is made of carbon black, pigments or inhibitors other than those used in the manufacture of the tested design type, re-testing may be waived if changes in the carbon black content, the pigment content or the inhibitor content do not adversely affect the physical properties of the material of construction.

**6.6.4.3.3** Additives may be incorporated in the material of the large packaging to improve the resistance to ageing or to serve other purposes, provided that these do not adversely affect the physical or chemical properties of the material.

**6.6.4.4 Specific requirements for fibreboard large packagings**

50G rigid fibreboard

**6.6.4.4.1** Strong and good quality solid or double-faced corrugated fibreboard (single or multiwall) shall be used, appropriate to the capacity of the large packagings and to their intended use. The water resistance of the outer surface shall be such that the increase in mass, as determined in a test carried out over a period of 30 minutes by the Cobb method of determining water absorption, is not greater than  $155 \text{ g/m}^2$  – see ISO 535:1991. It shall have proper bending qualities. Fibreboard shall be cut, creased without scoring, and slotted so as to permit assembly without cracking, surface breaks or undue bending. The fluting or corrugated fibreboard shall be firmly glued to the facings.

**6.6.4.4.2** The walls, including top and bottom, shall have a minimum puncture resistance of 15 J measured according to ISO 3036:1975.

**6.6.4.4.3** Manufacturing joints in the outer packaging of large packagings shall be made with an appropriate overlap and shall be taped, glued, stitched with metal staples or fastened by other means at least equally effective. Where joints are effected by gluing or taping, a water resistant adhesive shall be used. Metal staples shall pass completely through all pieces to be fastened and be formed or protected so that any inner liner cannot be abraded or punctured by them.

**6.6.4.4.4** Any integral pallet base forming part of a large packaging or any detachable pallet shall be suitable for mechanical handling with the large packaging filled to its maximum permissible gross mass.

**6.6.4.4.5** The pallet or integral base shall be designed so as to avoid any protrusion of the base of the large packaging that might be liable to damage in handling.

**6.6.4.4.6** The body shall be secured to any detachable pallet to ensure stability in handling and carriage. Where a detachable pallet is used, its top surface shall be free from sharp protrusions that might damage the large packaging.

**6.6.4.4.7** Strengthening devices such as timber supports to increase stacking performance may be used but shall be external to the liner.

**6.6.4.4.8** Where large packagings are intended for stacking, the bearing surface shall be such as to distribute the load in a safe manner.

**6.6.4.5 Specific requirements for wooden large packagings**

50C natural wood

50D plywood

50F reconstituted wood

**6.6.4.5.1** The strength of the materials used and the method of construction shall be appropriate to the capacity and intended use of the large packagings.

**6.6.4.5.2** Natural wood shall be well seasoned, commercially dry and free from defects that would materially lessen the strength of any part of the large packagings. Each part of the large packagings shall consist of one piece or be equivalent thereto. Parts are considered equivalent to one piece when a suitable method of glued assembly is used as for instance Lindermann joint, tongue and groove joint, ship lap or rabbet joint; or butt joint with at least two corrugated metal fasteners at each joint, or when other methods at least equally effective are used.

- 6.6.4.5.3** Large packagings of plywood shall be at least 3-ply. They shall be made of well seasoned rotary cut, sliced or sawn veneer, commercially dry and free from defects that would materially lessen the strength of the large packaging. All adjacent plies shall be glued with water resistant adhesive. Other suitable materials may be used with plywood for the construction of the large packaging.
- 6.6.4.5.4** Large packagings of reconstituted wood shall be made of water resistant reconstituted wood such as hard-board, particle board or other suitable type.
- 6.6.4.5.5** Large packagings shall be firmly nailed or secured to corner posts or ends or be assembled by equally suitable devices.
- 6.6.4.5.6** Any integral pallet base forming part of a large packaging or any detachable pallet shall be suitable for mechanical handling with the large packaging filled to its maximum permissible gross mass.
- 6.6.4.5.7** The pallet or integral base shall be designed so as to avoid any protrusion of the base of the large packaging that might be liable to damage in handling.
- 6.6.4.5.8** The body shall be secured to any detachable pallet to ensure stability in handling and carriage. Where a detachable pallet is used, its top surface shall be free from sharp protrusions that might damage the large packaging.
- 6.6.4.5.9** Strengthening devices such as timber supports to increase stacking performance may be used but shall be external to the liner.
- 6.6.4.5.10** Where large packagings are intended for stacking, the bearing surface shall be such as to distribute the load in a safe manner.
- 6.6.5 Test requirements for large packagings**
- 6.6.5.1 Performance and frequency of test**
- 6.6.5.1.1** The design type of each large packaging shall be tested as provided in 6.6.5.3 in accordance with procedures established by the competent authority allowing the allocation of the mark and shall be approved by this competent authority.
- 6.6.5.1.2** Each large packaging design type shall successfully pass the tests prescribed in this Chapter before being used. A large packaging design type is defined by the design, size, material and thickness, manner of construction and packing, but may include various surface treatments. It also includes large packagings which differ from the design type only in their lesser design height.
- 6.6.5.1.3** Tests shall be repeated on production samples at intervals established by the competent authority. For such tests on fibreboard large packagings, preparation at ambient conditions is considered equivalent to the provisions of 6.6.5.2.4.
- 6.6.5.1.4** Tests shall also be repeated after each modification which alters the design, material or manner of construction of large packagings.
- 6.6.5.1.5** The competent authority may permit the selective testing of large packagings that differ only in minor respects from a tested type, e.g. smaller sizes of inner packagings or inner packagings of lower net mass; and large packagings which are produced with small reductions in external dimension(s).
- 6.6.5.1.6** (Reserved)  
**NOTE:** For the conditions for assembling different inner packagings in a large packaging and permissible variations in inner packagings, see 4.1.1.5.1.
- 6.6.5.1.7** The competent authority may at any time require proof, by tests in accordance with this section, that serially-produced large packagings meet the requirements of the design type tests.
- 6.6.5.1.8** Provided the validity of the test results is not affected and with the approval of the competent authority, several tests may be made on one sample.
- 6.6.5.2 Preparation for testing**
- 6.6.5.2.1** Tests shall be carried out on large packagings prepared as for carriage including the inner packagings or articles used. Inner packagings shall be filled to not less than 98% of their maximum capacity for liquids or 95% for solids. For large packagings where the inner packagings are designed to carry liquids and solids, separate testing is required for both liquid and solid contents. The substances in the inner packagings or the articles to be carried in the large packagings may be replaced by other material or articles except where this would invalidate the results of the tests. When other inner packagings or articles are used they shall have the same physical characteristics (mass, etc) as the inner packagings or articles to be carried. It is permissible to use additives, such as bags of lead shot, to achieve the requisite total package mass, so long as they are placed so that the test results are not affected.

**6.6.5.2.2** In the drop tests for liquids, when another substance is used, its relative density and viscosity shall be similar to those of the substance to be carried. Water may also be used for the liquid drop test under the following conditions:

- (a) where the substances to be carried have a relative density not exceeding 1.2, the drop heights shall be those shown in the table in 6.6.5.3.4.4;
- (b) where the substances to be carried have a relative density exceeding 1.2, the drop heights shall be calculated on the basis of the relative density ( $d$ ) of the substance to be carried rounded up to the first decimal as follows:

Packing group I	Packing group II	Packing group III
$d \times 1.5 \text{ m}$	$d \times 1.0 \text{ m}$	$d \times 0.67 \text{ m}$

**6.6.5.2.3** Large packagings made of plastics materials and large packagings containing inner packagings of plastic materials - other than bags intended to contain solids or articles - shall be drop tested when the temperature of the test sample and its contents has been reduced to  $-18^\circ\text{C}$  or lower. This conditioning may be disregarded if the materials in question are of sufficient ductility and tensile strength at low temperatures. Where test sample are prepared in this way, the conditioning in 6.6.5.2.4 may be waived. Test liquids shall be kept in the liquid state by the addition of anti-freeze if necessary.

**6.6.5.2.4** Large packagings of fibreboard shall be conditioned for at least 24 hours in an atmosphere having a controlled temperature and relative humidity (r.h.). There are three options, one of which shall be chosen.

The preferred atmosphere is  $23^\circ\text{C} \pm 2^\circ\text{C}$  and  $50\% \pm 2\%$  r.h. The two other options are:  $20^\circ\text{C} \pm 2^\circ\text{C}$  and  $65\% \pm 2\%$  r.h.; or  $27^\circ\text{C} \pm 2^\circ\text{C}$  and  $65\% \pm 2\%$  r.h.

**NOTE:** Average values shall fall within these limits. Short term fluctuations and measurement limitations may cause individual measurements to vary by up to  $\pm 5\%$  relative humidity without significant impairment of test reproducibility.

### **6.6.5.3 Test requirements**

#### **6.6.5.3.1 Bottom lift test**

##### **6.6.5.3.1.1 Applicability**

For all types of large packagings which are fitted with means of lifting from the base, as a design type test.

##### **6.6.5.3.1.2 Preparation of large packaging for test**

The large packaging shall be loaded to 1.25 times its maximum permissible gross mass, the load being evenly distributed.

##### **6.6.5.3.1.3 Method of testing**

The large packaging shall be raised and lowered twice by a lift truck with the forks centrally positioned and spaced at three quarters of the dimension of the side of entry (unless the points of entry are fixed). The forks shall penetrate to three quarters of the direction of entry. The test shall be repeated from each possible direction of entry.

##### **6.6.5.3.1.4 Criteria for passing the test**

No permanent deformation which renders the large packaging unsafe for carriage and no loss of contents.

#### **6.6.5.3.2 Top lift test**

##### **6.6.5.3.2.1 Applicability**

For types of large packagings which are intended to be lifted from the top and fitted with means of lifting, as a design type test.

##### **6.6.5.3.2.2 Preparation of large packaging for test**

The large packaging shall be loaded to twice its maximum permissible gross mass. A flexible large packaging shall be loaded to six times its maximum permissible gross mass, the load being evenly distributed.

##### **6.6.5.3.2.3 Method of testing**

The large packaging shall be lifted in the manner for which it is designed until clear of the floor and maintained in that position for a period of five minutes.

**6.6.5.3.2.4** Criteria for passing the test

- (a) Metal and rigid plastics large packagings: no permanent deformation which renders the large packaging, including the base pallet, if any, unsafe for carriage and no loss of contents.
- (b) Flexible large packagings: no damage to the large packaging or its lifting devices which renders the large packaging unsafe for carriage or handling and no loss of contents.

**6.6.5.3.3 Stacking test****6.6.5.3.3.1** Applicability

For all types of large packagings which are designed to be stacked on each other, as a design type test.

**6.6.5.3.3.2** Preparation of large packaging for test

The large packaging shall be filled to its maximum permissible gross mass.

**6.6.5.3.3.3** Method of testing

The large packaging shall be placed on its base on level hard ground and subjected to a uniformly distributed superimposed test load (see 6.6.5.3.3.4) for a period of at least five minutes, large packagings of wood, fibreboard and plastics materials for a period of 24 h.

**6.6.5.3.3.4** Calculation of superimposed test load

The load to be placed on the large packagings shall be 1.8 times the combined maximum permissible gross mass of the number of similar large packagings that may be stacked on top of the large packagings during carriage.

**6.6.5.3.3.5** Criteria for passing the test

- (a) All types of large packaging other than flexible large packagings: no permanent deformation which renders the large packaging including the base pallet, if any, unsafe for carriage and no loss of contents.
- (b) Flexible large packagings: no deterioration of the body which renders the large packaging unsafe for carriage and no loss of contents.

**6.6.5.3.4 Drop test****6.6.5.3.4.1** Applicability

For all types of large packagings as a design type test.

**6.6.5.3.4.2** Preparation of large packaging for testing

The large packaging shall be filled in accordance with 6.6.5.2.1

**6.6.5.3.4.3** Method of testing

The large packaging shall be dropped onto a non resilient, horizontal, flat, massive and rigid surface in conformity with the requirements of 6.1.5.3.4, in such a manner as to ensure that the point of impact is that part of the base of the large packaging considered to be the most vulnerable.

**6.6.5.3.4.4** Drop height

Packing group I	Packing group II	Packing group III
1.8 m	1.2 m	0.8 m

**NOTE:** Large packagings for substances and articles of Class 1, self-reactive substances of Class 4.1 and organic peroxides of Class 5.2 shall be tested at the packing group II performance level.

**6.6.5.3.4.5** Criteria for passing the test

**6.6.5.3.4.5.1** The large packaging shall not exhibit any damage liable to affect safety during carriage. There shall be no leakage of the filling substance from inner packaging(s) or article(s).

**6.6.5.3.4.5.2** No rupture is permitted in large packagings for articles of Class 1 which would permit the spillage of loose explosive substances or articles from the large packaging.

**6.6.5.3.4.5.3** Where a large packaging undergoes a drop test, the sample passes the test if the entire contents are retained even if the closure is no longer sift-proof.

**6.6.5.4 Certification and test report**

**6.6.5.4.1** In respect of each design type of large packaging a certificate and mark (as in 6.6.3) shall be issued attesting that the design type including its equipment meets the test requirements.

**6.6.5.4.2** A test report containing at least the following particulars shall be drawn up and shall be made available to the users of the large packaging:

1. Name and address of the test facility;
2. Name and address of applicant (where appropriate);
3. A unique test report identification;
4. Date of the test report;
5. Manufacturer of the large packaging;
6. Description of the large packaging design type (e.g. dimensions, materials, closures, thickness, etc) and/or photograph(s);
7. Maximum capacity/maximum permissible gross mass;
8. Characteristics of test contents, e.g. types and descriptions of inner packagings or articles used;
9. Test descriptions and results;
10. The test report shall be signed with the name and status of the signatory.

**6.6.5.4.3** The test report shall contain statements that the large packaging prepared as for carriage was tested in accordance with the appropriate provisions of this Chapter and that the use of other packaging methods or components may render it invalid. A copy of the test report shall be available to the competent authority.



## Chapter 6.7

### Requirements for the design, construction, inspection and testing of portable tanks and UN multiple element gas containers (MEGCs)

**NOTE:** For tank-wagons, demountable tanks and tank-containers and tank swap bodies, with shells made of metallic materials, and battery-wagons and multiple element gas containers (MEGCs), other than UN MEGCs see Chapter 6.8; for fibre-reinforced plastics tank-containers, see Chapter 6.9; for vacuum-operated waste tanks, see Chapter 6.10.

#### 6.7.1 Application and general requirements

**6.7.1.1** The requirements of this Chapter apply to portable tanks intended for the carriage of dangerous goods, and to MEGCs intended for the carriage of non-refrigerated gases of Class 2, by all modes of carriage. In addition to the requirements of this Chapter, unless otherwise specified, the applicable requirements of the International Convention for Safe Containers (CSC) 1972, as amended, shall be fulfilled by any multimodal portable tank or MEGC which meets the definition of a "container" within the terms of that Convention. Additional requirements may apply to offshore portable tanks or MEGCs that are handled in open seas.

**6.7.1.2** In recognition of scientific and technological advances, the technical requirements of this Chapter may be varied by alternative arrangements. These alternative arrangements shall offer a level of safety not less than that given by the requirements of this Chapter with respect to the compatibility with substances carried and the ability of the portable tank or MEGC to withstand impact, loading and fire conditions. For international carriage, alternative arrangement portable tanks or MEGCs shall be approved by the applicable competent authorities.

**6.7.1.3** When a substance is not assigned a portable tank instruction (T1 to T23, T50 or T75) in Column (10) of Table A of in Chapter 3.2, interim approval for carriage may be issued by the competent authority of the country of origin. The approval shall be included in the documentation of the consignment and contain as a minimum the information normally provided in the portable tank instructions and the conditions under which the substance shall be carried.

#### 6.7.2 Requirements for the design, construction, inspection and testing of portable tanks intended for the carriage of substances of Class 1 and Classes 3 to 9

##### 6.7.2.1 Definitions

For the purposes of this section:

*Alternative arrangement* means an approval granted by the competent authority for a portable tank or MEGC that has been designed, constructed or tested to technical requirements or testing methods other than those specified in this Chapter:

*Design pressure* means the pressure to be used in calculations required by a recognized pressure vessel code. The design pressure shall be not less than the highest of the following pressures:

- (a) The maximum effective gauge pressure allowed in the shell during filling or discharge; or
- (b) The sum of:
  - (i) the absolute vapour pressure (in bar) of the substance at 65 °C, minus 1 bar;
  - (ii) the partial pressure (in bar) of air or other gases in the ullage space being determined by a maximum ullage temperature of 65 °C and a liquid expansion due to an increase in mean bulk temperature of  $t_r - t_f$  ( $t_f$  = filling temperature usually 15 °C;  $t_r$  = maximum mean bulk temperature, 50 °C); and
  - (iii) a head pressure determined on the basis of the static forces specified in 6.7.2.2.12, but not less than 0.35 bar; or
- (c) Two thirds of the minimum test pressure specified in the applicable portable tank instruction in 4.2.5.2.6;

*Design temperature range* for the shell shall be -40 °C to 50 °C for substances carried under ambient conditions. For the other substances handled under elevated temperature conditions the design temperature shall be not less than the maximum temperature of the substance during filling, discharge or carriage. More severe design temperatures shall be considered for portable tanks subjected to severe climatic conditions;

*Fine grain steel* means steel which has a ferritic grain size of 6 or finer when determined in accordance with ASTM E 112-96 or as defined in EN 10028-3, Part 3;

*Fusible element* means a non-reclosable pressure relief device that is thermally actuated;

*Leakproofness test* means a test using gas subjecting the shell and its service equipment to an effective internal pressure of not less than 25% of the MAWP;

*Maximum allowable working pressure (MAWP)* means a pressure that shall be not less than the highest of the following pressures measured at the top of the shell while in operating position:

- (a) The maximum effective gauge pressure allowed in the shell during filling or discharge; or
- (b) The maximum effective gauge pressure to which the shell is designed which shall be not less than the sum of:
  - (i) the absolute vapour pressure (in bar) of the substance at 65 °C, minus 1 bar; and
  - (ii) the partial pressure (in bar) of air or other gases in the ullage space being determined by a maximum ullage temperature of 65 °C and a liquid expansion due to an increase in mean bulk temperature of  $t_r - t_f$  ( $t_f$  = filling temperature, usually 15 °C;  $t_r$  = maximum mean bulk temperature, 50 °C);

*Maximum permissible gross mass (MPGM)* means the sum of the tare mass of the portable tank and the heaviest load authorized for carriage;

*Mild steel* means a steel with a guaranteed minimum tensile strength of 360 N/mm<sup>2</sup> to 440 N/mm<sup>2</sup> and a guaranteed minimum elongation at fracture conforming to 6.7.2.3.3.3;

*Offshore portable tank* means a portable tank specially designed for repeated use for carriage to, from and between offshore facilities. An offshore portable tank is designed and constructed in accordance with the guidelines for the approval of containers handled in open seas specified by the International Maritime Organization in document MSC/Circ.860;

*Portable tank* means a multimodal tank used for the carriage of substances of Class 1 and Classes 3 to 9. The portable tank includes a shell fitted with service equipment and structural equipment necessary for the carriage of dangerous substances. The portable tank shall be capable of being filled and discharged without the removal of its structural equipment. It shall possess stabilizing members external to the shell, and shall be capable of being lifted when full. It shall be designed primarily to be loaded onto a vehicle, wagon or sea-going or inland navigation vessel and shall be equipped with skids, mountings or accessories to facilitate mechanical handling. Tank-vehicles, tank-wagons, non-metallic tanks and intermediate bulk containers (IBCs) are not considered to fall within the definition for portable tanks;

*Reference steel* means a steel with a tensile strength of 370 N/mm<sup>2</sup> and an elongation at fracture of 27%;

*Service equipment* means measuring instruments and filling, discharge, venting, safety, heating, cooling and insulating devices;

*Shell* means the part of the portable tank which retains the substance intended for carriage (tank proper), including openings and their closures, but does not include service equipment or external structural equipment;

*Structural equipment* means the reinforcing, fastening, protective and stabilizing members external to the shell;

*Test pressure* means the maximum gauge pressure at the top of the shell during the hydraulic pressure test equal to not less than 1.5 times the design pressure. The minimum test pressure for portable tanks intended for specific substances is specified in the applicable portable tank instruction in 4.2.5.2.6.

## **6.7.2.2 General design and construction requirements**

- 6.7.2.2.1** Shells shall be designed and constructed in accordance with the requirements of a pressure vessel code recognized by the competent authority. Shells shall be made of metallic materials suitable for forming. The materials shall in principle conform to national or international material standards. For welded shells only a material whose weldability has been fully demonstrated shall be used. Welds shall be skilfully made and afford complete safety. When the manufacturing process or the materials make it necessary, the shells shall be suitably heat-treated to guarantee adequate toughness in the weld and in the heat affected zones. In choosing the material, the design temperature range shall be taken into account with respect to risk of brittle fracture, to stress corrosion cracking and to resistance to impact. When fine grain steel is used, the guaranteed value of the yield strength shall be not more than 460 N/mm<sup>2</sup> and the guaranteed value of the upper limit of the tensile strength shall be not more than 725 N/mm<sup>2</sup> according to the material specification. Aluminium may only be used as a construction material when indicated in a portable tank special provision assigned to a specific substance in Column (11) of Table A of Chapter 3.2 or when approved by the competent authority. When aluminium is authorized, it shall be insulated to prevent significant loss of physical properties when subjected to a heat load of 110 kW/m<sup>2</sup> for a period of not less than 30 minutes. The insulation shall remain effective at all temperatures less than 649 °C and shall be jacketed with a material with a melting point of not less than 700 °C. Portable tank materials shall be suitable for the external environment in which they may be carried.

- 6.7.2.2.2** Portable tank shells, fittings, and pipework shall be constructed from materials which are:
- (a) Substantially immune to attack by the substance(s) intended to be carried; or
  - (b) Properly passivated or neutralized by chemical reaction; or
  - (c) Lined with corrosion-resistant material directly bonded to the shell or attached by equivalent means.
- 6.7.2.2.3** Gaskets shall be made of materials not subject to attack by the substance(s) intended to be carried.
- 6.7.2.2.4** When shells are lined, the lining shall be substantially immune to attack by the substance(s) intended to be carried, homogeneous, non porous, free from perforations, sufficiently elastic and compatible with the thermal expansion characteristics of the shell. The lining of every shell, shell fittings and piping shall be continuous, and shall extend around the face of any flange. Where external fittings are welded to the tank, the lining shall be continuous through the fitting and around the face of external flanges.
- 6.7.2.2.5** Joints and seams in the lining shall be made by fusing the material together or by other equally effective means.
- 6.7.2.2.6** Contact between dissimilar metals which could result in damage by galvanic action shall be avoided.
- 6.7.2.2.7** The materials of the portable tank, including any devices, gaskets, linings and accessories, shall not adversely affect the substance(s) intended to be carried in the portable tank.
- 6.7.2.2.8** Portable tanks shall be designed and constructed with supports to provide a secure base during carriage and with suitable lifting and tie-down attachments.
- 6.7.2.2.9** Portable tanks shall be designed to withstand, without loss of contents, at least the internal pressure due to the contents, and the static, dynamic and thermal loads during normal conditions of handling and carriage. The design shall demonstrate that the effects of fatigue, caused by repeated application of these loads through the expected life of the portable tank, have been taken into account.
- 6.7.2.2.10** A shell which is to be equipped with a vacuum-relief device shall be designed to withstand, without permanent deformation, an external pressure of not less than 0.21 bar above the internal pressure. The vacuum-relief device shall be set to relieve at a vacuum setting not greater than minus (–)0.21 bar unless the shell is designed for a higher external over pressure, in which case the vacuum-relief pressure of the device to be fitted shall be not greater than the tank design vacuum pressure. A shell used for the carriage of solid substances (powdery or granular) of packing groups II or III only, which do not liquefy during carriage, may be designed for a lower external pressure, subject to the approval of the competent authority. In this case, the vacuum valve shall be set to relieve at this lower pressure. A shell that is not to be fitted with a vacuum-relief device shall be designed to withstand, without permanent deformation an external pressure of not less than 0.4 bar above the internal pressure.
- 6.7.2.2.11** Vacuum-relief devices used on portable tanks intended for the carriage of substances meeting the flash-point criteria of Class 3, including elevated temperature substances carried at or above their flash-point, shall prevent the immediate passage of flame into the shell, or the portable tank shall have a shell capable of withstanding, without leakage an internal explosion resulting from the passage of flame into the shell.
- 6.7.2.2.12** Portable tanks and their fastenings shall, under the maximum permissible load, be capable of absorbing the following separately applied static forces:
- (a) In the direction of travel: twice the MPGM multiplied by the acceleration due to gravity ( $g$ )<sup>1</sup>;
  - (b) Horizontally at right angles to the direction of travel: the MPGM (when the direction of travel is not clearly determined, the forces shall be equal to twice the MPGM) multiplied by the acceleration due to gravity ( $g$ )<sup>1</sup>;
  - (c) Vertically upwards: the MPGM multiplied by the acceleration due to gravity ( $g$ )<sup>1</sup>; and
  - (d) Vertically downwards: twice the MPGM (total loading including the effect of gravity) multiplied by the acceleration due to gravity ( $g$ )<sup>1</sup>.
- 6.7.2.2.13** Under each of the forces in 6.7.2.2.12, the safety factor to be observed shall be as follows:
- (a) For metals having a clearly defined yield point, a safety factor of 1.5 in relation to the guaranteed yield strength; or
  - (b) For metals with no clearly defined yield point, a safety factor of 1.5 in relation to the guaranteed 0.2% proof strength and, for austenitic steels, the 1% proof strength.

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<sup>1</sup> For calculation purposes  $g = 9.81 \text{ m/s}^2$ .

- 6.7.2.2.14** The values of yield strength or proof strength shall be the values according to national or international material standards. When austenitic steels are used, the specified minimum values of yield strength or proof strength according to the material standards may be increased by up to 15% when these greater values are attested in the material inspection certificate. When no material standard exists for the metal in question, the value of yield strength or proof strength used shall be approved by the competent authority.
- 6.7.2.2.15** Portable tanks shall be capable of being electrically earthed when intended for the carriage of substances meeting the flash-point criteria of Class 3 including elevated temperature substances carried at or above their flash-point. Measures shall be taken to prevent dangerous electrostatic discharge.
- 6.7.2.2.16** When required for certain substances by the applicable portable tank instruction indicated in Column (10) of Table A of Chapter 3.2 and described in 4.2.5.2.6 or by a portable tank special provision indicated in Column (11) of Table A of Chapter 3.2 and described in 4.2.5.3, portable tanks shall be provided with additional protection, which may take the form of additional shell thickness or a higher test pressure, the additional shell thickness or higher test pressure being determined in the light of the inherent risks associated with the carriage of the substances concerned.
- 6.7.2.3 Design criteria**
- 6.7.2.3.1** Shells shall be of a design capable of being stress-analysed mathematically or experimentally by resistance strain gauges, or by other methods approved by the competent authority.
- 6.7.2.3.2** Shells shall be designed and constructed to withstand a hydraulic test pressure not less than 1.5 times the design pressure. Specific requirements are laid down for certain substances in the applicable portable tank instruction indicated in Column (10) of Table A of Chapter 3.2 and described in 4.2.5.2.6 or by a portable tank special provision indicated in Column (11) of Table A of Chapter 3.2 and described in 4.2.5.3. Attention is drawn to the minimum shell thickness requirements specified in 6.7.2.4.1 to 6.7.2.4.10.
- 6.7.2.3.3** For metals exhibiting a clearly defined yield point or characterized by a guaranteed proof strength (0.2% proof strength, generally, or 1% proof strength for austenitic steels) the primary membrane stress  $\sigma$  (sigma) in the shell shall not exceed  $0.75 R_e$  or  $0.50 R_m$ , whichever is lower, at the test pressure, where:  
 $R_e$  = yield strength in  $N/mm^2$ , or 0.2% proof strength or, for austenitic steels, 1% proof strength;  
 $R_m$  = minimum tensile strength in  $N/mm^2$ .
- 6.7.2.3.3.1** The values of  $R_e$  and  $R_m$  to be used shall be the specified minimum values according to national or international material standards. When austenitic steels are used, the specified minimum values for  $R_e$  and  $R_m$  according to the material standards may be increased by up to 15% when greater values are attested in the material inspection certificate. When no material standard exists for the metal in question, the values of  $R_e$  and  $R_m$  used shall be approved by the competent authority or its authorized body.
- 6.7.2.3.3.2** Steels which have a  $R_e/R_m$  ratio of more than 0.85 are not allowed for the construction of welded shells. The values of  $R_e$  and  $R_m$  to be used in determining this ratio shall be the values specified in the material inspection certificate.
- 6.7.2.3.3.3** Steels used in the construction of shells shall have an elongation at fracture, in %, of not less than  $10\,000/R_m$  with an absolute minimum of 16% for fine grain steels and 20% for other steels. Aluminium and aluminium alloys used in the construction of shells shall have an elongation at fracture, in %, of not less than  $10\,000/6R_m$  with an absolute minimum of 12%.
- 6.7.2.3.3.4** For the purpose of determining actual values for materials, it shall be noted that for sheet metal, the axis of the tensile test specimen shall be at right angles (transversely) to the direction of rolling. The permanent elongation at fracture shall be measured on test specimens of rectangular cross sections in accordance with ISO 6892:1998 using a 50 mm gauge length.
- 6.7.2.4 Minimum shell thickness**
- 6.7.2.4.1** The minimum shell thickness shall be the greater thickness based on:
- The minimum thickness determined in accordance with the requirements of 6.7.2.4.2 to 6.7.2.4.10;
  - The minimum thickness determined in accordance with the recognized pressure vessel code including the requirements in 6.7.2.3; and
  - The minimum thickness specified in the applicable portable tank instruction indicated in Column (10) of Table A of Chapter 3.2 and described in 4.2.5.2.6 or by a portable tank special provision indicated in Column (11) of Table A of Chapter 3.2 and described in 4.2.5.3.

- 6.7.2.4.2** The cylindrical portions, ends (heads) and manhole covers of shells not more than 1.80 m in diameter shall be not less than 5 mm thick in the reference steel or of equivalent thickness in the metal to be used. Shells more than 1.80 m in diameter shall be not less than 6 mm thick in the reference steel or of equivalent thickness in the metal to be used, except that for powdered or granular solid substances of packing group II or III the minimum thickness requirement may be reduced to not less than 5 mm thick in the reference steel or of equivalent thickness in the metal to be used.
- 6.7.2.4.3** When additional protection against shell damage is provided, portable tanks with test pressures less than 2.65 bar may have the minimum shell thickness reduced, in proportion to the protection provided, as approved by the competent authority. However, shells not more than 1.80 m in diameter shall be not less than 3 mm thick in the reference steel or of equivalent thickness in the metal to be used. Shells more than 1.80 m in diameter shall be not less than 4 mm thick in the reference steel or of equivalent thickness in the metal to be used.
- 6.7.2.4.4** The cylindrical portions, ends (heads) and manhole covers of all shells shall be not less than 3 mm thick regardless of the material of construction.
- 6.7.2.4.5** The additional protection referred to in 6.7.2.4.3 may be provided by overall external structural protection, such as suitable "sandwich" construction with the outer sheathing (jacket) secured to the shell, double wall construction or by enclosing the shell in a complete framework with longitudinal and transverse structural members.
- 6.7.2.4.6** The equivalent thickness of a metal other than the thickness prescribed for the reference steel in 6.7.2.4.2 shall be determined using the following formula:
- $$e_1 = \frac{21.4 e_0}{\sqrt[3]{R_{m1} A_1}}$$
- where:
- $e_1$  = required equivalent thickness (in mm) of the metal to be used;
  - $e_0$  = minimum thickness (in mm) of the reference steel specified in the applicable portable tank instruction indicated in Column (10) of Table A of Chapter 3.2 and described in 4.2.5.2.6 or by a portable tank special provision indicated in Column (11) of Table A of Chapter 3.2 and described in 4.2.5.3;
  - $R_{m1}$  = guaranteed minimum tensile strength (in N/mm<sup>2</sup>) of the metal to be used (see 6.7.2.3.3);
  - $A_1$  = guaranteed minimum elongation at fracture (in %) of the metal to be used according to national or international standards.
- 6.7.2.4.7** When in the applicable portable tank instruction in 4.2.5.2.6, a minimum thickness of 8 mm or 10 mm is specified, it shall be noted that these thicknesses are based on the properties of the reference steel and a shell diameter of 1.80 m. When a metal other than mild steel (see 6.7.2.1) is used or the shell has a diameter of more than 1.80 m, the thickness shall be determined using the following formula:
- $$e_1 = \frac{21.4 e_0 d_1}{1.8 \sqrt[3]{R_{m1} A_1}}$$
- where:
- $e_1$  = required equivalent thickness (in mm) of the metal to be used;
  - $e_0$  = minimum thickness (in mm) of the reference steel specified in the applicable portable tank instruction indicated in Column (10) of Table A of Chapter 3.2 and described in 4.2.5.2.6 or by a portable tank special provision indicated in Column (11) of Table A of Chapter 3.2 and described in 4.2.5.3;
  - $d_1$  = diameter of the shell (in m), but not less than 1.80 m;
  - $R_{m1}$  = guaranteed minimum tensile strength (in N/mm<sup>2</sup>) of the metal to be used (see 6.7.2.3.3);
  - $A_1$  = guaranteed minimum elongation at fracture (in %) of the metal to be used according to national or international standards.
- 6.7.2.4.8** In no case shall the wall thickness be less than that prescribed in 6.7.2.4.2, 6.7.2.4.3 and 6.7.2.4.4. All parts of the shell shall have a minimum thickness as determined by 6.7.2.4.2 to 6.7.2.4.4. This thickness shall be exclusive of any corrosion allowance.
- 6.7.2.4.9** When mild steel is used (see 6.7.2.1), calculation using the formula in 6.7.2.4.6 is not required.
- 6.7.2.4.10** There shall be no sudden change of plate thickness at the attachment of the ends (heads) to the cylindrical portion of the shell.

**6.7.2.5 Service equipment**

- 6.7.2.5.1** Service equipment shall be so arranged as to be protected against the risk of being wrenched off or damaged during handling and carriage. When the connection between the frame and the shell allows relative movement between the sub-assemblies, the equipment shall be so fastened as to permit such movement without risk of damage to working parts. The external discharge fittings (pipe sockets, shut-off devices), the internal stop-valve and its seating shall be protected against the danger of being wrenched off by external forces (for example using shear sections). The filling and discharge devices (including flanges or threaded plugs) and any protective caps shall be capable of being secured against unintended opening.
- 6.7.2.5.2** All openings in the shell, intended for filling or discharging the portable tank shall be fitted with a manually operated stop-valve located as close to the shell as reasonably practicable. Other openings, except for openings leading to venting or pressure-relief devices, shall be equipped with either a stop-valve or another suitable means of closure located as close to the shell as reasonably practicable.
- 6.7.2.5.3** All portable tanks shall be fitted with a manhole or other inspection openings of a suitable size to allow for internal inspection and adequate access for maintenance and repair of the interior. Compartmented portable tanks shall have a manhole or other inspection openings for each compartment.
- 6.7.2.5.4** As far as reasonably practicable, external fittings shall be grouped together. For insulated portable tanks, top fittings shall be surrounded by a spill collection reservoir with suitable drains.
- 6.7.2.5.5** Each connection to a portable tank shall be clearly marked to indicate its function.
- 6.7.2.5.6** Each stop-valve or other means of closure shall be designed and constructed to a rated pressure not less than the MAWP of the shell taking into account the temperatures expected during carriage. All stop-valves with screwed spindles shall close by a clockwise motion of the handwheel. For other stop-valves the position (open and closed) and direction of closure shall be clearly indicated. All stop-valves shall be designed to prevent unintentional opening.
- 6.7.2.5.7** No moving parts, such as covers, components of closures, etc., shall be made of unprotected corrodible steel when they are liable to come into frictional or percussive contact with aluminium portable tanks intended for the carriage of substances meeting the flash-point criteria of Class 3 including elevated temperature substances carried at or above their flash-point.
- 6.7.2.5.8** Piping shall be designed, constructed and installed so as to avoid the risk of damage due to thermal expansion and contraction, mechanical shock and vibration. All piping shall be of a suitable metallic material. Welded pipe joints shall be used wherever possible.
- 6.7.2.5.9** Joints in copper tubing shall be brazed or have an equally strong metal union. The melting point of brazing materials shall be no lower than 525 °C. The joints shall not decrease the strength of the tubing as may happen when cutting threads.
- 6.7.2.5.10** The burst pressure of all piping and pipe fittings shall be not less than the highest of four times the MAWP of the shell or four times the pressure to which it may be subjected in service by the action of a pump or other device (except pressure-relief devices).
- 6.7.2.5.11** Ductile metals shall be used in the construction of valves and accessories.

**6.7.2.6 Bottom openings**

- 6.7.2.6.1** Certain substances shall not be carried in portable tanks with bottom openings. When the applicable portable tank instruction identified in Column (10) of Table A of Chapter 3.2 and described in 4.2.5.2.6 indicates that bottom openings are prohibited there shall be no openings below the liquid level of the shell when it is filled to its maximum permissible filling limit. When an existing opening is closed it shall be accomplished by internally and externally welding one plate to the shell.
- 6.7.2.6.2** Bottom discharge outlets for portable tanks carrying certain solid, crystallizable or highly viscous substances shall be equipped with not less than two serially fitted and mutually independent shut-off devices. The design of the equipment shall be to the satisfaction of the competent authority or its authorized body and shall include:
- (a) An external stop-valve fitted as close to the shell as reasonably practicable; and
  - (b) A liquid tight closure at the end of the discharge pipe, which may be a bolted blank flange or a screw cap.
- 6.7.2.6.3** Every bottom discharge outlet, except as provided in 6.7.2.6.2, shall be equipped with three serially fitted and mutually independent shut-off devices. The design of the equipment shall be to the satisfaction of the competent authority or its authorized body and include:
- (a) A self-closing internal stop-valve, that is a stop-valve within the shell or within a welded flange or its companion flange, such that:



- (i) The control devices for the operation of the valve are designed so as to prevent any unintended opening through impact or other inadvertent act;
  - (ii) The valve may be operable from above or below;
  - (iii) If possible, the setting of the valve (open or closed) shall be capable of being verified from the ground;
  - (iv) Except for portable tanks having a capacity of not more than 1 000 litres, it shall be possible to close the valve from an accessible position of the portable tank that is remote from the valve itself; and
  - (v) The valve shall continue to be effective in the event of damage to the external device for controlling the operation of the valve;
- (b) An external stop-valve fitted as close to the shell as reasonably practicable; and
- (c) A liquid tight closure at the end of the discharge pipe, which may be a bolted blank flange or a screw cap.

**6.7.2.6.4** For a lined shell, the internal stop-valve required by 6.7.2.6.3 (a) may be replaced by an additional external stop-valve. The manufacturer shall satisfy the requirements of the competent authority or its authorized body.

**6.7.2.7 Safety-relief devices**

**6.7.2.7.1** All portable tanks shall be fitted with at least one pressure-relief device. All relief devices shall be designed, constructed and marked to the satisfaction of the competent authority or its authorized body.

**6.7.2.8 Pressure-relief devices**

**6.7.2.8.1** Every portable tank with a capacity not less than 1 900 litres and every independent compartment of a portable tank with a similar capacity, shall be provided with one or more pressure-relief devices of the spring-loaded type and may in addition have a frangible disc or fusible element in parallel with the spring-loaded devices except when prohibited by reference to 6.7.2.8.3 in the applicable portable tank instruction in 4.2.5.2.6. The pressure-relief devices shall have sufficient capacity to prevent rupture of the shell due to over pressurization or vacuum resulting from filling, discharging, or from heating of the contents.

**6.7.2.8.2** Pressure-relief devices shall be designed to prevent the entry of foreign matter, the leakage of liquid and the development of any dangerous excess pressure.

**6.7.2.8.3** When required for certain substances by the applicable portable tank instruction indicated in Column (10) of Table A of Chapter 3.2 and described in 4.2.5.2.6, portable tanks shall have a pressure-relief device approved by the competent authority. Unless a portable tank in dedicated service is fitted with an approved relief device constructed of materials compatible with the substance carried, the relief device shall comprise a frangible disc preceding a spring-loaded pressure-relief device. When a frangible disc is inserted in series with the required pressure-relief device, the space between the frangible disc and the pressure-relief device shall be provided with a pressure gauge or suitable tell-tale indicator for the detection of disc rupture, pinholing, or leakage which could cause a malfunction of the pressure-relief system. The frangible disc shall rupture at a nominal pressure 10% above the start to discharge pressure of the relief device.

**6.7.2.8.4** Every portable tank with a capacity less than 1 900 litres shall be fitted with a pressure-relief device which may be a frangible disc when this disc complies with the requirements of 6.7.2.11.1. When no spring-loaded pressure-relief device is used, the frangible disc shall be set to rupture at a nominal pressure equal to the test pressure.

**6.7.2.8.5** When the shell is fitted for pressure discharge, the inlet line shall be provided with a suitable pressure-relief device set to operate at a pressure not higher than the MAWP of the shell, and a stop-valve shall be fitted as close to the shell as reasonably practicable.

**6.7.2.9 Setting of pressure-relief devices**

**6.7.2.9.1** It shall be noted that the pressure-relief devices shall operate only in conditions of excessive rise in temperature, since the shell shall not be subject to undue fluctuations of pressure during normal conditions of carriage (see 6.7.2.12.2).

**6.7.2.9.2** The required pressure-relief device shall be set to start-to-discharge at a nominal pressure of five-sixths of the test pressure for shells having a test pressure of not more than 4.5 bar and 110% of two-thirds of the test pressure for shells having a test pressure of more than 4.5 bar. After discharge the device shall close at a pressure not more than 10% below the pressure at which the discharge starts. The device shall remain closed at all lower pressures. This requirement does not prevent the use of vacuum-relief or combination pressure-relief and vacuum-relief devices.

**6.7.2.10 Fusible elements**

**6.7.2.10.1** Fusible elements shall operate at a temperature between 110 °C and 149 °C on condition that the pressure in the shell at the fusing temperature will be not more than the test pressure. They shall be placed at the top of the shell with their inlets in the vapour space and in no case shall they be shielded from external heat. Fusible elements shall not be utilized on portable tanks with a test pressure which exceeds 2.65 bar. Fusible elements used on portable tanks intended for the carriage of elevated temperature substances shall be designed to operate at a temperature higher than the maximum temperature that will be experienced during carriage and shall be to the satisfaction of the competent authority or its authorized body.

**6.7.2.11 Frangible discs**

**6.7.2.11.1** Except as specified in 6.7.2.8.3, frangible discs shall be set to rupture at a nominal pressure equal to the test pressure throughout the design temperature range. Particular attention shall be given to the requirements of 6.7.2.5.1 and 6.7.2.8.3 if frangible discs are used.

**6.7.2.11.2** Frangible discs shall be appropriate for the vacuum pressures which may be produced in the portable tank.

**6.7.2.12 Capacity of pressure-relief devices**

**6.7.2.12.1** The spring-loaded pressure-relief device required by 6.7.2.8.1 shall have a minimum cross sectional flow area equivalent to an orifice of 31.75 mm diameter. Vacuum-relief devices, when used, shall have a cross sectional flow area not less than 284 mm<sup>2</sup>.

**6.7.2.12.2** The combined delivery capacity of the pressure relief system (taking into account the reduction of the flow when the portable tank is fitted with frangible-discs preceding spring-loaded pressure-relief devices or when the spring-loaded pressure-relief devices are provided with a device to prevent the passage of the flame), in condition of complete fire engulfment of the portable tank shall be sufficient to limit the pressure in the shell to 20% above the start-to-discharge pressure of the pressure limiting device. Emergency pressure-relief devices may be used to achieve the full relief capacity prescribed. These devices may be fusible, spring loaded or frangible disc components, or a combination of spring-loaded and frangible disc devices. The total required capacity of the relief devices may be determined using the formula in 6.7.2.12.2.1 or the table in 6.7.2.12.2.3.

**6.7.2.12.2.1** To determine the total required capacity of the relief devices, which shall be regarded as being the sum of the individual capacities of all the contributing devices, the following formula shall be used:

$$Q = 12.4 \frac{FA^{0.82}}{LC} \sqrt{\frac{ZT}{M}}$$

where:

**Q** = minimum required rate of discharge in cubic metres of air per second (m<sup>3</sup>/s) at standard conditions: 1 bar and 0 °C (273 K);

**F** = is a coefficient with the following value:

for uninsulated shells:  $F = 1$ ;

for insulated shells:  $F = U(649 - t)/13.6$  but in no case is less than 0.25

where:

**U** = thermal conductance of the insulation, in kW·m<sup>-2</sup>·K<sup>-1</sup>, at 38 °C;

**t** = actual temperature of the substance during filling (in °C);

when this temperature is unknown, let  $t = 15$  °C;

The value of **F** given above for insulated shells may be taken provided that the insulation is in accordance with 6.7.2.12.2.4;

**A** = total external surface area of shell in m<sup>2</sup>;

**Z** = the gas compressibility factor in the accumulating condition (when this factor is unknown, let  $Z = 1.0$ );

**T** = absolute temperature in Kelvin (°C + 273) above the pressure-relief devices in the accumulating condition;

**L** = the latent heat of vaporization of the liquid, in kJ/kg, in the accumulating condition;

**M** = molecular mass of the discharged gas;

**C** = a constant which is derived from one of the following formulae as a function of the ratio **k** of specific heats:

$$k = \frac{c_p}{c_v}$$



where:

$c_p$  is the specific heat at constant pressure; and

$c_v$  is the specific heat at constant volume.

When  $k > 1$ :

$$C = \sqrt{k \left( \frac{2}{k+1} \right)^{\frac{k+1}{k-1}}}$$

When  $k = 1$  or  $k$  is unknown:

$$C = \frac{1}{\sqrt{e}} = 0.607$$

where  $e$  is the mathematical constant 2.7183.

$C$  may also be taken from the following table:

k	C	k	C	k	C
1.00	0.607	1.26	0.660	1.52	0.704
1.02	0.611	1.28	0.664	1.54	0.707
1.04	0.615	1.30	0.667	1.56	0.710
1.06	0.620	1.32	0.671	1.58	0.713
1.08	0.624	1.34	0.674	1.60	0.716
1.10	0.628	1.36	0.678	1.62	0.719
1.12	0.633	1.38	0.681	1.64	0.722
1.14	0.637	1.40	0.685	1.66	0.725
1.16	0.641	1.42	0.688	1.68	0.728
1.18	0.645	1.44	0.691	1.70	0.731
1.20	0.649	1.46	0.695	2.00	0.770
1.22	0.652	1.48	0.698	2.20	0.793
1.24	0.656	1.50	0.701		

**6.7.2.12.2.2** As an alternative to the formula above, shells designed for the carriage of liquids may have their relief devices sized in accordance with the table in 6.7.2.12.2.3. This table assumes an insulation value of  $F = 1$  and shall be adjusted accordingly when the shell is insulated. Other values used in determining this table are:

$$\begin{aligned} M &= 86.7 & T &= 394 \text{ K} \\ L &= 334.94 \text{ kJ/kg} & C &= 0.607 \\ Z &= 1 \end{aligned}$$

**6.7.2.12.2.3** Minimum required rate of discharge,  $Q$ , in cubic metres per air per second at 1 bar and 0 °C (273 K)

A Exposed area (square metres)	Q (Cubic metres of air per second)	A Exposed area (square metres)	Q (Cubic metres of air per second)
2	0.230	37.5	2.539
3	0.320	40	2.677
4	0.405	42.5	2.814
5	0.487	45	2.949
6	0.565	47.5	3.082
7	0.641	50	3.215
8	0.715	52.5	3.346
9	0.788	55	3.476
10	0.859	57.5	3.605
12	0.998	60	3.733
14	1.132	62.5	3.860
16	1.263	65	3.987
18	1.391	67.5	4.112
20	1.517	70	4.236
22.5	1.670	75	4.483
25	1.821	80	4.726
27.5	1.969	85	4.967
30	2.115	90	5.206
32.5	2.258	95	5.442
35	2.400	100	5.676

**6.7.2.12.2.4** Insulation systems, used for the purpose of reducing venting capacity, shall be approved by the competent authority or its authorized body. In all cases, insulation systems approved for this purpose shall:

- (a) Remain effective at all temperatures up to 649 °C; and
- (b) Be jacketed with a material having a melting point of 700 °C or greater.

**6.7.2.13 Marking of pressure-relief devices**

**6.7.2.13.1** Every pressure-relief device shall be clearly and permanently marked with the following particulars:

- (a) The pressure (in bar or kPa) or temperature (in °C) at which it is set to discharge;
- (b) The allowable tolerance at the discharge pressure for spring-loaded devices;
- (c) The reference temperature corresponding to the rated pressure for frangible discs;
- (d) The allowable temperature tolerance for fusible elements; and
- (e) The rated flow capacity of the spring-loaded pressure relief devices, frangible discs or fusible elements in standard cubic metres of air per second (m<sup>3</sup>/s);

When practicable, the following information shall also be shown:

- (f) The manufacturer's name and relevant catalogue number of the device.

**6.7.2.13.2** The rated flow capacity marked on the spring-loaded pressure-relief devices shall be determined according to ISO 4126-1:1991.

**6.7.2.14 Connections to pressure-relief devices**

**6.7.2.14.1** Connections to pressure-relief devices shall be of sufficient size to enable the required discharge to pass unrestricted to the safety device. No stop-valve shall be installed between the shell and the pressure-relief devices except where duplicate devices are provided for maintenance or other reasons and the stop-valves serving the devices actually in use are locked open or the stop-valves are interlocked so that at least one of the duplicate devices is always in use. There shall be no obstruction in an opening leading to a vent or pressure-relief device which might restrict or cut-off the flow from the shell to that device. Vents or pipes from the pressure-relief device outlets, when used, shall deliver the relieved vapour or liquid to the atmosphere in conditions of minimum back-pressure on the relieving devices.

**6.7.2.15 Siting of pressure-relief devices**

**6.7.2.15.1** Each pressure-relief device inlet shall be situated on top of the shell in a position as near the longitudinal and transverse centre of the shell as reasonably practicable. All pressure-relief device inlets shall under maximum filling conditions be situated in the vapour space of the shell and the devices shall be so arranged as to ensure the escaping vapour is discharged unrestrictedly. For flammable substances, the escaping vapour shall be directed away from the shell in such a manner that it cannot impinge upon the shell. Protective devices which deflect the flow of vapour are permissible provided the required relief-device capacity is not reduced.

**6.7.2.15.2** Arrangements shall be made to prevent access to the pressure-relief devices by unauthorized persons and to protect the devices from damage caused by the portable tank overturning.

**6.7.2.16 Gauging devices**

**6.7.2.16.1** Glass level-gauges and gauges made of other fragile material, which are in direct communication with the contents of the tank shall not be used.

**6.7.2.17 Portable tank supports, frameworks, lifting and tie-down attachments**

**6.7.2.17.1** Portable tanks shall be designed and constructed with a support structure to provide a secure base during carriage. The forces specified in 6.7.2.2.12 and the safety factor specified in 6.7.2.2.13 shall be considered in this aspect of the design. Skids, frameworks, cradles or other similar structures are acceptable.

**6.7.2.17.2** The combined stresses caused by portable tank mountings (e.g. cradles, framework, etc.) and portable tank lifting and tie-down attachments shall not cause excessive stress in any portion of the shell. Permanent lifting and tie-down attachments shall be fitted to all portable tanks. Preferably they shall be fitted to the portable tank supports but may be secured to reinforcing plates located on the shell at the points of support.

**6.7.2.17.3** In the design of supports and frameworks the effects of environmental corrosion shall be taken into account.

**6.7.2.17.4** Forklift pockets shall be capable of being closed off. The means of closing forklift pockets shall be a permanent part of the framework or permanently attached to the framework. Single compartment portable tanks with a length less than 3.65 m need not have closed off forklift pockets provided that:

- (a) The shell including all the fittings are well protected from being hit by the forklift blades; and

- (b) The distance between the centres of the forklift pockets is at least half of the maximum length of the portable tank.

**6.7.2.17.5** When portable tanks are not protected during carriage, according to 4.2.1.2, the shells and service equipment shall be protected against damage to the shell and service equipment resulting from lateral or longitudinal impact or overturning. External fittings shall be protected so as to preclude the release of the shell contents upon impact or overturning of the portable tank on its fittings. Examples of protection include:

- (a) Protection against lateral impact which may consist of longitudinal bars protecting the shell on both sides at the level of the median line;
- (b) Protection of the portable tank against overturning which may consist of reinforcement rings or bars fixed across the frame;
- (c) Protection against rear impact which may consist of a bumper or frame;
- (d) Protection of the shell against damage from impact or overturning by use of an ISO frame in accordance with ISO 1496-3:1995.

**6.7.2.18 Design approval**

**6.7.2.18.1** The competent authority or its authorized body shall issue a design approval certificate for any new design of a portable tank. This certificate shall attest that a portable tank has been surveyed by that authority, is suitable for its intended purpose and meets the requirements of this Chapter and where appropriate, the provisions for substances provided in Chapter 4.2 and in Table A of Chapter 3.2. When a series of portable tanks are manufactured without change in the design, the certificate shall be valid for the entire series. The certificate shall refer to the prototype test report, the substances or group of substances allowed to be carried, the materials of construction of the shell and lining (when applicable) and an approval number. The approval number shall consist of the distinguishing sign or mark of the State in whose territory the approval was granted, i.e. the distinguishing sign for use in international traffic as prescribed by the Convention on Road Traffic, Vienna 1968, and a registration number. Any alternative arrangements according to 6.7.1.2 shall be indicated on the certificate. A design approval may serve for the approval of smaller portable tanks made of materials of the same kind and thickness, by the same fabrication techniques and with identical supports, equivalent closures and other appurtenances.

**6.7.2.18.2** The prototype test report for the design approval shall include at least the following:

- (a) The results of the applicable framework test specified in ISO 1496-3:1995;
- (b) The results of the initial inspection and test according to 6.7.2.19.3; and
- (c) The results of the impact test in 6.7.2.19.1, when applicable.

**6.7.2.19 Inspection and testing**

**6.7.2.19.1** Portable tanks meeting the definition of container in the International Convention for Safe Containers (CSC), 1972, as amended, shall not be used unless they are successfully qualified by subjecting a representative prototype of each design to the Dynamic, Longitudinal Impact Test prescribed in the Manual of Tests and Criteria, Part IV, Section 41.

**6.7.2.19.2** The shell and items of equipment of each portable tank shall be inspected and tested before being put into service for the first time (initial inspection and test) and thereafter at not more than five-year intervals (5 year periodic inspection and test) with an intermediate periodic inspection and test (2.5 year periodic inspection and test) midway between the 5 year periodic inspections and tests. The 2.5 year inspection and test may be performed within 3 months of the specified date. An exceptional inspection and test shall be performed regardless of the date of the last periodic inspection and test when necessary according to 6.7.2.19.7.

**6.7.2.19.3** The initial inspection and test of a portable tank shall include a check of the design characteristics, an internal and external examination of the portable tank and its fittings with due regard to the substances to be carried, and a pressure test. Before the portable tank is placed into service, a leakproofness test and a check of the satisfactory operation of all service equipment shall also be performed. When the shell and its fittings have been pressure-tested separately, they shall be subjected together after assembly to a leakproofness test.

**6.7.2.19.4** The 5-year periodic inspection and test shall include an internal and external examination and, as a general rule, a hydraulic pressure test. Sheathing, thermal insulation and the like shall be removed only to the extent required for reliable appraisal of the condition of the portable tank. When the shell and equipment have been pressure-tested separately, they shall be subjected together after assembly to a leakproofness test.

**6.7.2.19.5** The intermediate 2.5 year periodic inspection and test shall at least include an internal and external examination of the portable tank and its fittings with due regard to the substances intended to be carried, a leakproofness test and a check of the satisfactory operation of all service equipment. Sheathing, thermal insulation and the like shall be removed only to the extent required for reliable appraisal of the condition of the portable tank. For portable tanks intended for the carriage of a single substance, the 2.5 year internal ex-

amination may be waived or substituted by other test methods or inspection procedures specified by the competent authority or its authorized body.

**6.7.2.19.6** A portable tank may not be filled and offered for carriage after the date of expiry of the last 5 year or 2.5 year periodic inspection and test as required by 6.7.2.19.2. However, a portable tank filled prior to the date of expiry of the last periodic inspection and test may be carried for a period not to exceed three months beyond the date of expiry of the last periodic test or inspection. In addition, a portable tank may be carried after the date of expiry of the last periodic test and inspection:

- (a) After emptying but before cleaning, for purposes of performing the next required test or inspection prior to refilling; and
- (b) Unless otherwise approved by the competent authority, for a period not to exceed six months beyond the date of expiry of the last periodic test or inspection, in order to allow the return of dangerous goods for proper disposal or recycling. Reference to this exemption shall be mentioned in the transport document.

**6.7.2.19.7** The exceptional inspection and test is necessary when the portable tank shows evidence of damaged or corroded areas, or leakage, or other conditions that indicate a deficiency that could affect the integrity of the portable tank. The extent of the exceptional inspection and test shall depend on the amount of damage or deterioration of the portable tank. It shall include at least the 2.5 year inspection and test according to 6.7.2.19.5.

**6.7.2.19.8** The internal and external examinations shall ensure that:

- (a) The shell is inspected for pitting, corrosion, or abrasions, dents, distortions, defects in welds or any other conditions, including leakage, that might render the portable tank unsafe for carriage;
- (b) The piping, valves, heating/cooling system, and gaskets are inspected for corroded areas, defects, or any other conditions, including leakage, that might render the portable tank unsafe for filling, discharge or carriage;
- (c) Devices for tightening manhole covers are operative and there is no leakage at manhole covers or gaskets;
- (d) Missing or loose bolts or nuts on any flanged connection or blank flange are replaced or tightened;
- (e) All emergency devices and valves are free from corrosion, distortion and any damage or defect that could prevent their normal operation. Remote closure devices and self-closing stop-valves shall be operated to demonstrate proper operation;
- (f) Linings, if any, are inspected in accordance with criteria outlined by the lining manufacturer;
- (g) Required markings on the portable tank are legible and in accordance with the applicable requirements; and
- (h) The framework, supports and arrangements for lifting the portable tank are in a satisfactory condition.

**6.7.2.19.9** The inspections and tests in 6.7.2.19.1, 6.7.2.19.3, 6.7.2.19.4, 6.7.2.19.5 and 6.7.2.19.7 shall be performed or witnessed by an expert approved by the competent authority or its authorized body. When the pressure test is a part of the inspection and test, the test pressure shall be the one indicated on the data plate of the portable tank. While under pressure, the portable tank shall be inspected for any leaks in the shell, piping or equipment.

**6.7.2.19.10** In all cases when cutting, burning or welding operations on the shell have been effected, that work shall be to the approval of the competent authority or its authorized body taking into account the pressure vessel code used for the construction of the shell. A pressure test to the original test pressure shall be performed after the work is completed.

**6.7.2.19.11** When evidence of any unsafe condition is discovered, the portable tank shall not be returned to service until it has been corrected and the test is repeated and passed.

## **6.7.2.20 Marking**

**6.7.2.20.1** Every portable tank shall be fitted with a corrosion resistant metal plate permanently attached to the portable tank in a conspicuous place readily accessible for inspection. When for reasons of portable tank arrangements the plate cannot be permanently attached to the shell, the shell shall be marked with at least the information required by the pressure vessel code. As a minimum at least the following information shall be marked on the plate by stamping or by any other similar method.

Country of manufacture

U	Approval	Approval	For Alternative Arrangements (see 6.7.1.2)
N	country	number	"AA"

Manufacturer's name or mark

Manufacturer's serial number

Authorized body for the design approval

Owner's registration number

Year of manufacture

Pressure vessel code to which the shell is designed

Test pressure \_\_\_\_\_ bar/kPa gauge<sup>2</sup>

MAWP \_\_\_\_\_ bar/kPa gauge<sup>2</sup>

External design pressure<sup>3</sup> \_\_\_\_\_ bar/kPa gauge<sup>2</sup>

Design temperature range \_\_\_\_\_ °C to \_\_\_\_\_ °C

Water capacity at 20 °C \_\_\_\_\_ litres

Water capacity of each compartment at 20 °C \_\_\_\_\_ litres

Initial pressure test date and witness identification

MAWP for heating/cooling system \_\_\_\_\_ bar/kPa gauge<sup>2</sup>

Shell material(s) and material standard reference(s)

Equivalent thickness in reference steel \_\_\_\_\_ mm

Lining material (when applicable)

Date and type of most recent periodic test(s)

Month \_\_\_\_\_ Year \_\_\_\_\_ Test pressure \_\_\_\_\_ bar/kPa gauge<sup>2</sup>

Stamp of expert who performed or witnessed the most recent test

**6.7.2.20.2** The following particulars shall be marked either on the portable tank itself or on a metal plate firmly secured to the portable tank:

Name of the operator

Maximum permissible gross mass (MPGM) \_\_\_\_\_ kg

Unladen (tare) mass \_\_\_\_\_ kg

**NOTE:** For the identification of the substances being carried, see also Part 5.

**6.7.2.20.3** If a portable tank is designed and approved for handling in open seas, the words "OFFSHORE PORTABLE TANK" shall be marked on the identification plate.

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<sup>2</sup> The unit used shall be marked.

<sup>3</sup> See 6.7.2.2.10.

### 6.7.3 Requirements for the design, construction, inspection and testing of portable tanks intended for the carriage of non-refrigerated liquefied gases

#### 6.7.3.1 Definitions

For the purposes of this section:

*Alternative arrangement* means an approval granted by the competent authority for a portable tank or MEGC that has been designed, constructed or tested to technical requirements or testing methods other than those specified in this Chapter;

*Design pressure* means the pressure to be used in calculations required by a recognized pressure vessel code. The design pressure shall be not less than the highest of the following pressures:

- (a) The maximum effective gauge pressure allowed in the shell during filling or discharge; or
- (b) The sum of:
  - (i) the maximum effective gauge pressure to which the shell is designed as defined in (b) of the MAWP definition (see above); and
  - (ii) a head pressure determined on the basis of the static forces specified in 6.7.3.2.9, but not less than 0.35 bar;

*Design reference temperature* means the temperature at which the vapour pressure of the contents is determined for the purpose of calculating the MAWP. The design reference temperature shall be less than the critical temperature of the non-refrigerated liquefied gas intended to be carried to ensure that the gas at all times is liquefied. This value for each portable tank type is as follows:

- (a) Shell with a diameter of 1.5 metres or less: 65 °C;
- (b) Shell with a diameter of more than 1.5 metres:
  - (i) without insulation or sun shield: 60 °C;
  - (ii) with sun shield (see 6.7.3.2.12): 55 °C; and
  - (iii) with insulation (see 6.7.3.2.12) : 50 °C;

*Design temperature range* for the shell shall be –40 °C to 50 °C for non-refrigerated liquefied gases carried under ambient conditions. More severe design temperatures shall be considered for portable tanks subjected to severe climatic conditions;

*Filling density* means the average mass of non-refrigerated liquefied gas per litre of shell capacity (kg/l). The filling density is given in portable tank instruction T50 in 4.2.5.2.6;

*Leakproofness test* means a test using gas subjecting the shell and its service equipment to an effective internal pressure of not less than 25% of the MAWP;

*Maximum allowable working pressure (MAWP)* means a pressure that shall be not less than the highest of the following pressures measured at the top of the shell while in operating position, but in no case less than 7 bar:

- (a) The maximum effective gauge pressure allowed in the shell during filling or discharge; or
- (b) The maximum effective gauge pressure to which the shell is designed, which shall be:
  - (i) for a non-refrigerated liquefied gas listed in the portable tank instruction T50 in 4.2.5.2.6, the MAWP (in bar) given in T50 portable tank instruction for that gas;
  - (ii) for other non-refrigerated liquefied gases, not less than the sum of:
    - the absolute vapour pressure (in bar) of the non-refrigerated liquefied gas at the design reference temperature minus 1 bar; and
    - the partial pressure (in bar) of air or other gases in the ullage space being determined by the design reference temperature and the liquid phase expansion due to an increase of the mean bulk temperature of  $t_r$  -  $t_l$  ( $t_l$  = filling temperature, usually 15 °C,  $t_r$  = maximum mean bulk temperature, 50 °C);

*Maximum permissible gross mass (MPGM)* means the sum of the tare mass of the portable tank and the heaviest load authorized for carriage;

*Mild steel* means a steel with a guaranteed minimum tensile strength of 360 N/mm<sup>2</sup> to 440 N/mm<sup>2</sup> and a guaranteed minimum elongation at fracture conforming to 6.7.3.3.3.3;

*Portable tank* means a multimodal tank having a capacity of more than 450 litres used for the carriage of non-refrigerated liquefied gases of Class 2. The portable tank includes a shell fitted with service equipment and structural equipment necessary for the carriage of gases. The portable tank shall be capable of being filled and discharged without the removal of its structural equipment. It shall possess stabilizing members external to the shell, and shall be capable of being lifted when full. It shall be designed primarily to be

loaded onto a vehicle, wagon or sea-going or inland navigation vessel and shall be equipped with skids, mountings or accessories to facilitate mechanical handling. Tank-vehicles, tank-wagons, non-metallic tanks, intermediate bulk containers (IBCs), gas cylinders and large receptacles are not considered to fall within the definition for portable tanks;

*Reference steel* means a steel with a tensile strength of 370 N/mm<sup>2</sup> and an elongation at fracture of 27%;

*Service equipment* means measuring instruments and filling, discharge, venting, safety and insulating devices;

*Shell* means the part of the portable tank which retains the non-refrigerated liquefied gas intended for carriage (tank proper), including openings and their closures, but does not include service equipment or external structural equipment;

*Structural equipment* means the reinforcing, fastening, protective and stabilizing members external to the shell;

*Test pressure* means the maximum gauge pressure at the top of the shell during the pressure test.

#### 6.7.3.2 General design and construction requirements

**6.7.3.2.1** Shells shall be designed and constructed in accordance with the requirements of a pressure vessel code recognized by the competent authority. Shells shall be made of steel suitable for forming. The materials shall in principle conform to national or international material standards. For welded shells, only a material whose weldability has been fully demonstrated shall be used. Welds shall be skilfully made and afford complete safety. When the manufacturing process or the materials make it necessary, the shells shall be suitably heat-treated to guarantee adequate toughness in the weld and in the heat affected zones. In choosing the material the design temperature range shall be taken into account with respect to risk of brittle fracture, to stress corrosion cracking and to resistance to impact. When fine grain steel is used, the guaranteed value of the yield strength shall be not more than 460 N/mm<sup>2</sup> and the guaranteed value of the upper limit of the tensile strength shall be not more than 725 N/mm<sup>2</sup> according to the material specification. Portable tank materials shall be suitable for the external environment in which they may be carried.

**6.7.3.2.2** Portable tank shells, fittings and pipework shall be constructed of materials which are:

- (a) Substantially immune to attack by the non-refrigerated liquefied gas(es) intended to be carried; or
- (b) Properly passivated or neutralized by chemical reaction.

**6.7.3.2.3** Gaskets shall be made of materials compatible with the non-refrigerated liquefied gas(es) intended to be carried.

**6.7.3.2.4** Contact between dissimilar metals which could result in damage by galvanic action shall be avoided.

**6.7.3.2.5** The materials of the portable tank, including any devices, gaskets, and accessories, shall not adversely affect the non-refrigerated liquefied gas(es) intended for carriage in the portable tank.

**6.7.3.2.6** Portable tanks shall be designed and constructed with supports to provide a secure base during carriage and with suitable lifting and tie-down attachments.

**6.7.3.2.7** Portable tanks shall be designed to withstand, without loss of contents, at least the internal pressure due to the contents, and the static, dynamic and thermal loads during normal conditions of handling and carriage. The design shall demonstrate that the effects of fatigue, caused by repeated application of these loads through the expected life of the portable tank, have been taken into account.

**6.7.3.2.8** Shells shall be designed to withstand an external pressure of at least 0.4 bar (gauge pressure) above the internal pressure without permanent deformation. When the shell is to be subjected to a significant vacuum before filling or during discharge it shall be designed to withstand an external pressure of at least 0.9 bar (gauge pressure) above the internal pressure and shall be proven at that pressure.

**6.7.3.2.9** Portable tanks and their fastenings shall, under the maximum permissible load, be capable of absorbing the following separately applied static forces:

- (a) In the direction of travel: twice the MPGM multiplied by the acceleration due to gravity ( $g$ )<sup>4</sup>;
- (b) Horizontally at right angles to the direction of travel: the MPGM (when the direction of travel is not clearly determined, the forces shall be equal to twice the MPGM) multiplied by the acceleration due to gravity ( $g$ )<sup>4</sup>;
- (c) Vertically upwards: the MPGM multiplied by the acceleration due to gravity ( $g$ )<sup>4</sup>; and

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<sup>4</sup> For calculation purposes  $g = 9.81 \text{ m/s}^2$ .



(d) Vertically downwards: twice the MPGM (total loading including the effect of gravity) multiplied by the acceleration due to gravity ( $g$ )<sup>4</sup>.

**6.7.3.2.10** Under each of the forces in 6.7.3.2.9, the safety factor to be observed shall be as follows:

- (a) For steels having a clearly defined yield point, a safety factor of 1.5 in relation to the guaranteed yield strength; or
- (b) For steels with no clearly defined yield point, a safety factor of 1.5 in relation to the guaranteed 0.2% proof strength and, for austenitic steels, the 1% proof strength.

**6.7.3.2.11** The values of yield strength or proof strength shall be the values according to national or international material standards. When austenitic steels are used, the specified minimum values of yield strength and proof strength according to the material standards may be increased by up to 15% when these greater values are attested in the material inspection certificate. When no material standard exists for the steel in question, the value of yield strength or proof strength used shall be approved by the competent authority.

**6.7.3.2.12** When the shells intended for the carriage of non-refrigerated liquefied gases are equipped with thermal insulation, the thermal insulation systems shall satisfy the following requirements:

- (a) It shall consist of a shield covering not less than the upper third but not more than the upper half of the surface of the shell and separated from the shell by an air space about 40 mm across;
- (b) It shall consist of a complete cladding of adequate thickness of insulating materials protected so as to prevent the ingress of moisture and damage under normal conditions of carriage and so as to provide a thermal conductance of not more than  $0.67 \text{ (W}\cdot\text{m}^{-2}\cdot\text{K}^{-1}\text{)}$ ;
- (c) When the protective covering is so closed as to be gas-tight, a device shall be provided to prevent any dangerous pressure from developing in the insulating layer in the event of inadequate gas tightness of the shell or of its items of equipment; and
- (d) The thermal insulation shall not inhibit access to the fittings and discharge devices.

**6.7.3.2.13** Portable tanks intended for the carriage of flammable non-refrigerated liquefied gases shall be capable of being electrically earthed.

#### **6.7.3.3 Design criteria**

**6.7.3.3.1** Shells shall be of a circular cross-section.

**6.7.3.3.2** Shells shall be designed and constructed to withstand a test pressure not less than 1.3 times the design pressure. The shell design shall take into account the minimum MAWP values provided in portable tank instruction T50 in 4.2.5.2.6 for each non-refrigerated liquefied gas intended for carriage. Attention is drawn to the minimum shell thickness requirements for these shells specified in 6.7.3.4.

**6.7.3.3.3** For steels exhibiting a clearly defined yield point or characterized by a guaranteed proof strength (0.2% proof strength, generally, or 1% proof strength for austenitic steels) the primary membrane stress  $\sigma$  (sigma) in the shell shall not exceed  $0.75 R_e$  or  $0.50 R_m$ , whichever is lower, at the test pressure, where:  
 $R_e$  = yield strength in  $\text{N/mm}^2$ , or 0.2% proof strength or, for austenitic steels, 1% proof stress;  
 $R_m$  = minimum tensile strength in  $\text{N/mm}^2$ .

**6.7.3.3.3.1** The values of  $R_e$  and  $R_m$  to be used shall be the specified minimum values according to national or international material standards. When austenitic steels are used, the specified minimum values for  $R_e$  and  $R_m$  according to the material standards may be increased by up to 15% when these greater values are attested in the material inspection certificate. When no material standard exists for the steel in question, the values of  $R_e$  and  $R_m$  used shall be approved by the competent authority or its authorized body.

**6.7.3.3.3.2** Steels which have a  $R_e/R_m$  ratio of more than 0.85 are not allowed for the construction of welded shells. The values of  $R_e$  and  $R_m$  to be used in determining this ratio shall be the values specified in the material inspection certificate.

**6.7.3.3.3.3** Steels used in the construction of shells shall have an elongation at fracture, in %, of not less than  $10\,000/R_m$  with an absolute minimum of 16% for fine grain steels and 20% for other steels.

**6.7.3.3.3.4** For the purpose of determining actual values for materials, it shall be noted that for sheet metal, the axis of the tensile test specimen shall be at right angles (transversely) to the direction of rolling. The permanent elongation at fracture shall be measured on test specimens of rectangular cross sections in accordance with ISO 6892:1998 using a 50 mm gauge length.

#### **6.7.3.4 Minimum shell thickness**

**6.7.3.4.1** The minimum shell thickness shall be the greater thickness based on:

- (a) The minimum thickness determined in accordance with the requirements in 6.7.3.4; and
- (b) The minimum thickness determined in accordance with the recognized pressure vessel code including the requirements in 6.7.3.3.



- 6.7.3.4.2** The cylindrical portions, ends (heads) and manhole covers of shells of not more than 1.80 m in diameter shall be not less than 5 mm thick in the reference steel or of equivalent thickness in the steel to be used. Shells of more than 1.80 m in diameter shall be not less than 6 mm thick in the reference steel or of equivalent thickness in the steel to be used.
- 6.7.3.4.3** The cylindrical portions, ends (heads) and manhole covers of all shells shall be not less than 4 mm thick regardless of the material of construction.
- 6.7.3.4.4** The equivalent thickness of a steel other than the thickness prescribed for the reference steel in 6.7.3.4.2 shall be determined using the following formula:

$$e_1 = \frac{21.4 e_0}{\sqrt[3]{R_{m1} A_1}}$$

where:

- $e_1$  = required equivalent thickness (in mm) of the steel to be used;  
 $e_0$  = minimum thickness (in mm) for the reference steel specified in 6.7.3.4.2;  
 $R_{m1}$  = guaranteed minimum tensile strength (in N/mm<sup>2</sup>) of the steel to be used (see 6.7.3.3.3);  
 $A_1$  = guaranteed minimum elongation at fracture (in %) of the steel to be used according to national or international standards.

- 6.7.3.4.5** In no case shall the wall thickness be less than that prescribed in 6.7.3.4.1 to 6.7.3.4.3. All parts of the shell shall have a minimum thickness as determined by 6.7.3.4.1 to 6.7.3.4.3. This thickness shall be exclusive of any corrosion allowance.
- 6.7.3.4.6** When mild steel is used (see 6.7.3.1), calculation using the formula in 6.7.3.4.4 is not required.
- 6.7.3.4.7** There shall be no sudden change of plate thickness at the attachment of the ends (heads) to the cylindrical portion of the shell.

### **6.7.3.5 Service equipment**

- 6.7.3.5.1** Service equipment shall be so arranged as to be protected against the risk of being wrenched off or damaged during handling and carriage. When the connection between the frame and the shell allows relative movement between the sub-assemblies, the equipment shall be so fastened as to permit such movement without risk of damage to working parts. The external discharge fittings (pipe sockets, shut-off devices), the internal stop-valve and its seating shall be protected against the danger of being wrenched off by external forces (for example using shear sections). The filling and discharge devices (including flanges or threaded plugs) and any protective caps shall be capable of being secured against unintended opening.
- 6.7.3.5.2** All openings with a diameter of more than 1.5 mm in shells of portable tanks, except openings for pressure-relief devices, inspection openings and closed bleed holes, shall be fitted with at least three mutually independent shut-off devices in series, the first being an internal stop-valve, excess flow valve or equivalent device, the second being an external stop-valve and the third being a blank flange or equivalent device.
- 6.7.3.5.2.1** When a portable tank is fitted with an excess flow valve, the excess flow valve shall be so fitted that its seating is inside the shell or inside a welded flange or, when fitted externally, its mountings shall be designed so that in the event of impact its effectiveness shall be maintained. The excess flow valves shall be selected and fitted so as to close automatically when the rated flow specified by the manufacturer is reached. Connections and accessories leading to or from such a valve shall have a capacity for a flow more than the rated flow of the excess flow valve.
- 6.7.3.5.3** For filling and discharge openings, the first shut-off device shall be an internal stop-valve and the second shall be a stop-valve placed in an accessible position on each discharge and filling pipe.
- 6.7.3.5.4** For filling and discharge bottom openings of portable tanks intended for the carriage of flammable and/or toxic non-refrigerated liquefied gases the internal stop-valve shall be a quick closing safety device which closes automatically in the event of unintended movement of the portable tank during filling or discharge or fire engulfment. Except for portable tanks having a capacity of not more than 1 000 litres, it shall be possible to operate this device by remote control.
- 6.7.3.5.5** In addition to filling, discharge and gas pressure equalizing orifices, shells may have openings in which gauges, thermometers and manometers can be fitted. Connections for such instruments shall be made by suitable welded nozzles or pockets and not be screwed connections through the shell.
- 6.7.3.5.6** All portable tanks shall be fitted with manholes or other inspection openings of suitable size to allow for internal inspection and adequate access for maintenance and repair of the interior.
- 6.7.3.5.7** External fittings shall be grouped together so far as reasonably practicable.

- 6.7.3.5.8** Each connection on a portable tank shall be clearly marked to indicate its function.
- 6.7.3.5.9** Each stop-valve or other means of closure shall be designed and constructed to a rated pressure not less than the MAWP of the shell taking into account the temperatures expected during carriage. All stop-valves with a screwed spindle shall close by a clockwise motion of the handwheel. For other stop-valves the position (open and closed) and direction of closure shall be clearly indicated. All stop-valves shall be designed to prevent unintentional opening.
- 6.7.3.5.10** Piping shall be designed, constructed and installed so as to avoid the risk of damage due to thermal expansion and contraction, mechanical shock and vibration. All piping shall be of suitable metallic material. Welded pipe joints shall be used wherever possible.
- 6.7.3.5.11** Joints in copper tubing shall be brazed or have an equally strong metal union. The melting point of brazing materials shall be no lower than 525 °C. The joints shall not decrease the strength of tubing as may happen when cutting threads.
- 6.7.3.5.12** The burst pressure of all piping and pipe fittings shall be not less than the highest of four times the MAWP of the shell or four times the pressure to which it may be subjected in service by the action of a pump or other device (except pressure-relief devices).
- 6.7.3.5.13** Ductile metals shall be used in the construction of valves and accessories.
- 6.7.3.6** **Bottom openings**
- 6.7.3.6.1** Certain non-refrigerated liquefied gases shall not be carried in portable tanks with bottom openings when portable tank instruction T50 in 4.2.5.2.6 indicates that bottom openings are not allowed. There shall be no openings below the liquid level of the shell when it is filled to its maximum permissible filling limit.
- 6.7.3.7** **Pressure-relief devices**
- 6.7.3.7.1** Portable tanks shall be provided with one or more spring-loaded pressure-relief devices. The pressure-relief devices shall open automatically at a pressure not less than the MAWP and be fully open at a pressure equal to 110% of the MAWP. These devices shall, after discharge, close at a pressure not lower than 10% below the pressure at which discharge starts and shall remain closed at all lower pressures. The pressure-relief devices shall be of a type that will resist dynamic forces including liquid surge. Frangible discs not in series with a spring-loaded pressure-relief device are not permitted.
- 6.7.3.7.2** Pressure-relief devices shall be designed to prevent the entry of foreign matter, the leakage of gas and the development of any dangerous excess pressure.
- 6.7.3.7.3** Portable tanks intended for the carriage of certain non-refrigerated liquefied gases identified in portable tank instruction T50 in 4.2.5.2.6 shall have a pressure-relief device approved by the competent authority. Unless a portable tank in dedicated service is fitted with an approved relief device constructed of materials compatible with the load, such device shall comprise a frangible disc preceding a spring-loaded device. The space between the frangible disc and the device shall be provided with a pressure gauge or a suitable tell-tale indicator. This arrangement permits the detection of disc rupture, pinholing or leakage which could cause a malfunction of the pressure-relief device. The frangible discs shall rupture at a nominal pressure 10% above the start-to-discharge pressure of the relief device.
- 6.7.3.7.4** In the case of multi-purpose portable tanks, the pressure-relief devices shall open at a pressure indicated in 6.7.3.7.1 for the gas having the highest maximum allowable pressure of the gases allowed to be carried in the portable tank.
- 6.7.3.8** **Capacity of relief devices**
- 6.7.3.8.1** The combined delivery capacity of the relief devices shall be sufficient that, in the event of total fire engulfment, the pressure (including accumulation) inside the shell does not exceed 120% of the MAWP. Spring-loaded relief devices shall be used to achieve the full relief capacity prescribed. In the case of multi-purpose tanks, the combined delivery capacity of the pressure-relief devices shall be taken for the gas which requires the highest delivery capacity of the gases allowed to be carried in portable tanks.
- 6.7.3.8.1.1** To determine the total required capacity of the relief devices, which shall be regarded as being the sum of the individual capacities of the several devices, the following formula<sup>5</sup> shall be used:

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<sup>5</sup> This formula applies only to non-refrigerated liquefied gases which have critical temperatures well above the temperature at the accumulating condition. For gases which have critical temperatures near or below the temperature at the accumulating condition, the calculation of the pressure-relief device delivery capacity shall consider further thermodynamic properties of the gas (see for example CGA S-1.2-2003 "Pressure Relief Device Standards – Part 2 – Cargo and Portable Tanks for Compressed Gases").

$$Q = 12.4 \frac{FA^{0.82}}{LC} \sqrt{\frac{ZT}{M}}$$

where:

Q = minimum required rate of discharge in cubic metres of air per second (m<sup>3</sup>/s) at standard conditions: 1 bar and 0 °C (273 K);

F = is a coefficient with the following value:

for uninsulated shells: F = 1;

for insulated shells: F = U(649-t)/13.6 but in no case is less than 0.25

where:

U = thermal conductance of the insulation, in kW·m<sup>-2</sup>·K<sup>-1</sup>, at 38 °C;

t = actual temperature of the non-refrigerated liquefied gas during filling (°C); when this temperature is unknown, let t=15 °C;

The value of F given above for insulated shells may be taken provided that the insulation is in accordance with 6.7.3.8.1.2;

A = total external surface area of shell in square metres;

Z = the gas compressibility factor in the accumulating condition (when this factor is unknown, let Z =1.0);

T = absolute temperature in Kelvin (°C + 273) above the pressure relief devices in the accumulating condition;

L = the latent heat of vaporization of the liquid, in kJ/kg, in the accumulating condition;

M = molecular mass of the discharged gas;

C = a constant which is derived from one of the following formulae as a function of the ratio k of specific heats

$$k = \frac{c_p}{c_v}$$

where

c<sub>p</sub> is the specific heat at constant pressure; and

c<sub>v</sub> is the specific heat at constant volume.

when k>1:

$$C = \sqrt{k \left( \frac{2}{k+1} \right)^{\frac{k+1}{k-1}}}$$

when k = 1 or k is unknown:

$$C = \frac{1}{\sqrt{e}} = 0.607$$

where e is the mathematical constant 2.7183.

C may also be taken from the following table:

k	C	k	C	k	C
1.00	0.607	1.26	0.660	1.52	0.704
1.02	0.611	1.28	0.664	1.54	0.707
1.04	0.615	1.30	0.667	1.56	0.710
1.06	0.620	1.32	0.671	1.58	0.713
1.08	0.624	1.34	0.674	1.60	0.716
1.10	0.628	1.36	0.678	1.62	0.719
1.12	0.633	1.38	0.681	1.64	0.722
1.14	0.637	1.40	0.685	1.66	0.725
1.16	0.641	1.42	0.688	1.68	0.728
1.18	0.645	1.44	0.691	1.70	0.731
1.20	0.649	1.46	0.695	2.00	0.770
1.22	0.652	1.48	0.698	2.20	0.793
1.24	0.656	1.50	0.701		

**6.7.3.8.1.2** Insulation systems, used for the purpose of reducing the venting capacity, shall be approved by the competent authority or its authorized body. In all cases, insulation systems approved for this purpose shall:

(a) Remain effective at all temperatures up to 649 °C; and

(b) Be jacketed with a material having a melting point of 700 °C or greater.

**6.7.3.9 Marking of pressure-relief devices**

**6.7.3.9.1** Every pressure-relief device shall be plainly and permanently marked with the following particulars:

- (a) The pressure (in bar or kPa) at which it is set to discharge;
- (b) The allowable tolerance at the discharge pressure for spring-loaded devices;
- (c) The reference temperature corresponding to the rated pressure for frangible discs; and
- (d) The rated flow capacity of the device in standard cubic metres of air per second ( $\text{m}^3/\text{s}$ ).

When practicable, the following information shall also be shown:

- (e) The manufacturer's name and relevant catalogue number of the device.

**6.7.3.9.2** The rated flow capacity marked on the pressure-relief devices shall be determined according to ISO 4126-1:1991.

**6.7.3.10 Connections to pressure-relief devices**

**6.7.3.10.1** Connections to pressure-relief devices shall be of sufficient size to enable the required discharge to pass unrestricted to the safety device. No stop-valve shall be installed between the shell and the pressure-relief devices except when duplicate devices are provided for maintenance or other reasons and the stop-valves serving the devices actually in use are locked open or the stop-valves are interlocked so that at least one of the duplicate devices is always operable and capable of meeting the requirements of 6.7.3.8. There shall be no obstruction in an opening leading to a vent or pressure-relief device which might restrict or cut-off the flow from the shell to that device. Vents from the pressure-relief devices, when used, shall deliver the relieved vapour or liquid to the atmosphere in conditions of minimum back-pressure on the relieving device.

**6.7.3.11 Siting of pressure-relief devices**

**6.7.3.11.1** Each pressure-relief device inlet shall be situated on top of the shell in a position as near the longitudinal and transverse centre of the shell as reasonably practicable. All pressure relief device inlets shall under maximum filling conditions be situated in the vapour space of the shell and the devices shall be so arranged as to ensure that the escaping vapour is discharged unrestrictedly. For flammable non-refrigerated liquefied gases, the escaping vapour shall be directed away from the shell in such a manner that it cannot impinge upon the shell. Protective devices which deflect the flow of vapour are permissible provided the required relief-device capacity is not reduced.

**6.7.3.11.2** Arrangements shall be made to prevent access to the pressure-relief devices by unauthorized persons and to protect the devices from damage caused by the portable tank overturning.

**6.7.3.12 Gauging devices**

**6.7.3.12.1** Unless a portable tank is intended to be filled by weight it shall be equipped with one or more gauging devices. Glass level-gauges and gauges made of other fragile material, which are in direct communication with the contents of the shell shall not be used.

**6.7.3.13 Portable tank supports, frameworks, lifting and tie-down attachments**

**6.7.3.13.1** Portable tanks shall be designed and constructed with a support structure to provide a secure base during carriage. The forces specified in 6.7.3.2.9 and the safety factor specified in 6.7.3.2.10 shall be considered in this aspect of the design. Skids, frameworks, cradles or other similar structures are acceptable.

**6.7.3.13.2** The combined stresses caused by portable tank mountings (e.g. cradles, frameworks, etc.) and portable tank lifting and tie-down attachments shall not cause excessive stress in any portion of the shell. Permanent lifting and tie-down attachments shall be fitted to all portable tanks. Preferably they shall be fitted to the portable tank supports but may be secured to reinforcing plates located on the shell at the points of support.

**6.7.3.13.3** In the design of supports and frameworks the effects of environmental corrosion shall be taken into account.

**6.7.3.13.4** Forklift pockets shall be capable of being closed off. The means of closing forklift pockets shall be a permanent part of the framework or permanently attached to the framework. Single compartment portable tanks with a length less than 3.65 m need not have closed off forklift pockets provided that:

- (a) The shell and all the fittings are well protected from being hit by the forklift blades; and
- (b) The distance between the centres of the forklift pockets is at least half of the maximum length of the portable tank.

**6.7.3.13.5** When portable tanks are not protected during carriage, according to 4.2.2.3, the shells and service equipment shall be protected against damage to the shell and service equipment resulting from lateral or longitudinal impact or overturning. External fittings shall be protected so as to preclude the release of the shell contents upon impact or overturning of the portable tank on its fittings. Examples of protection include:

- (a) Protection against lateral impact which may consist of longitudinal bars protecting the shell on both sides at the level of the median line;
- (b) Protection of the portable tank against overturning which may consist of reinforcement rings or bars fixed across the frame;
- (c) Protection against rear impact which may consist of a bumper or frame;
- (d) Protection of the shell against damage from impact or overturning by use of an ISO frame in accordance with ISO 1496-3:1995.

#### **6.7.3.14 Design approval**

**6.7.3.14.1** The competent authority or its authorized body shall issue a design approval certificate for any new design of a portable tank. This certificate shall attest that a portable tank has been surveyed by that authority, is suitable for its intended purpose and meets the requirements of this Chapter and where appropriate the provisions for gases provided in portable tank instruction T50 in 4.2.5.2.6. When a series of portable tanks are manufactured without change in the design, the certificate shall be valid for the entire series. The certificate shall refer to the prototype test report, the gases allowed to be carried, the materials of construction of the shell and an approval number. The approval number shall consist of the distinguishing sign or mark of the State in whose territory the approval was granted, i.e. the distinguishing sign for use in international traffic, as prescribed by the Convention on Road Traffic, Vienna 1968, and a registration number. Any alternative arrangements according to 6.7.1.2 shall be indicated on the certificate. A design approval may serve for the approval of smaller portable tanks made of materials of the same kind and thickness, by the same fabrication techniques and with identical supports, equivalent closures and other appurtenances.

**6.7.3.14.2** The prototype test report for the design approval shall include at least the following:

- (a) The results of the applicable framework test specified in ISO 1496-3:1995;
- (b) The results of the initial inspection and test in 6.7.3.15.3; and
- (c) The results of the impact test in 6.7.3.15.1, when applicable.

#### **6.7.3.15 Inspection and testing**

**6.7.3.15.1** Portable tanks meeting the definition of container in the International Convention for Safe Containers (CSC), 1972, as amended, shall not be used unless they are successfully qualified by subjecting a representative prototype of each design to the Dynamic, Longitudinal Impact Test prescribed in the Manual of Tests and Criteria, Part IV, Section 41.

**6.7.3.15.2** The shell and items of equipment of each portable tank shall be inspected and tested before being put into service for the first time (initial inspection and test) and thereafter at not more than five-year intervals (5 year periodic inspection and test) with an intermediate periodic inspection and test (2.5 year periodic inspection and test) midway between the 5 year periodic inspections and tests. The 2.5 year inspection and test may be performed within 3 months of the specified date. An exceptional inspection and test shall be performed regardless of the last periodic inspection and test when necessary according to 6.7.3.15.7.

**6.7.3.15.3** The initial inspection and test of a portable tank shall include a check of the design characteristics, an internal and external examination of the portable tank and its fittings with due regard to the non-refrigerated liquefied gases to be carried, and a pressure test referring to the test pressures according to 6.7.3.3.2. The pressure test may be performed as a hydraulic test or by using another liquid or gas with the agreement of the competent authority or its authorized body. Before the portable tank is placed into service, a leakproofness test and a test of the satisfactory operation of all service equipment shall also be performed. When the shell and its fittings have been pressure-tested separately, they shall be subjected together after assembly to a leakproofness test. All welds subject to full stress level in the shell shall be inspected during the initial test by radiographic, ultrasonic, or another suitable non-destructive test method. This does not apply to the jacket.

**6.7.3.15.4** The 5 year periodic inspection and test shall include an internal and external examination and, as a general rule, a hydraulic pressure test. Sheathing, thermal insulation and the like shall be removed only to the extent required for reliable appraisal of the condition of the portable tank. When the shell and equipment have been pressure-tested separately, they shall be subjected together after assembly to a leakproofness test.

**6.7.3.15.5** The intermediate 2.5 year periodic inspection and test shall at least include an internal and external examination of the portable tank and its fittings with due regard to the non-refrigerated liquefied gases intended to be carried, a leakproofness test and a check of the satisfactory operation of all service equipment. Sheathing thermal insulation and the like shall be removed only to the extent required for reliable appraisal of the condition of the portable tank. For portable tanks intended for the carriage of a single non-refrigerated liquefied gas, the 2.5 year internal examination may be waived or substituted by other test methods or inspection procedures specified by the competent authority or its authorized body.

- 6.7.3.15.6** A portable tank may not be filled and offered for carriage after the date of expiry of the last 5 year or 2.5 year periodic inspection and test as required by 6.7.3.15.2. However a portable tank filled prior to the date of expiry of the last periodic inspection and test may be carried for a period not to exceed three months beyond the date of expiry of the last periodic test or inspection. In addition, a portable tank may be carried after the date of expiry of the last periodic test and inspection:
- (a) After emptying but before cleaning, for purposes of performing the next required test or inspection prior to refilling; and
  - (b) Unless otherwise approved by the competent authority, for a period not to exceed six months beyond the date of expiry of the last periodic test or inspection, in order to allow the return of dangerous goods for proper disposal or recycling. Reference to this exemption shall be mentioned in the transport document.
- 6.7.3.15.7** The exceptional inspection and test is necessary when the portable tank shows evidence of damaged or corroded areas, or leakage, or other conditions that indicate a deficiency that could affect the integrity of the portable tank. The extent of the exceptional inspection and test shall depend on the amount of damage or deterioration of the portable tank. It shall include at least the 2.5 year inspection and test according to 6.7.3.15.5.
- 6.7.3.15.8** The internal and external examinations shall ensure that:
- (a) The shell is inspected for pitting, corrosion, or abrasions, dents, distortions, defects in welds or any other conditions, including leakage, that might render the portable tank unsafe for carriage;
  - (b) The piping, valves, and gaskets are inspected for corroded areas, defects, or any other conditions, including leakage, that might render the portable tank unsafe for filling, discharge or carriage;
  - (c) Devices for tightening manhole covers are operative and there is no leakage at manhole covers or gaskets;
  - (d) Missing or loose bolts or nuts on any flanged connection or blank flange are replaced or tightened;
  - (e) All emergency devices and valves are free from corrosion, distortion and any damage or defect that could prevent their normal operation. Remote closure devices and self-closing stop-valves shall be operated to demonstrate proper operation;
  - (f) Required markings on the portable tank are legible and in accordance with the applicable requirements; and
  - (g) The framework, the supports and the arrangements for lifting the portable tank are in satisfactory condition.
- 6.7.3.15.9** The inspections and tests in 6.7.3.15.1, 6.7.3.15.3, 6.7.3.15.4, 6.7.3.15.5 and 6.7.3.15.7 shall be performed or witnessed by an expert approved by the competent authority or its authorized body. When the pressure test is a part of the inspection and test, the test pressure shall be the one indicated on the data plate of the portable tank. While under pressure, the portable tank shall be inspected for any leaks in the shell, piping or equipment.
- 6.7.3.15.10** In all cases when cutting, burning or welding operations on the shell have been effected, that work shall be to the approval of the competent authority or its authorized body taking into account the pressure vessel code used for the construction of the shell. A pressure test to the original test pressure shall be performed after the work is completed.
- 6.7.3.15.11** When evidence of any unsafe condition is discovered, the portable tank shall not be returned to service until it has been corrected and the pressure test is repeated and passed.
- 6.7.3.16 Marking**
- 6.7.3.16.1** Every portable tank shall be fitted with a corrosion resistant metal plate permanently attached to the portable tank in a conspicuous place readily accessible for inspection. When for reasons of portable tank arrangements, the plate cannot be permanently attached to the shell, the shell shall be marked with at least the information required by the pressure vessel code. As a minimum at least the following information shall be marked on the plate by stamping or by any other similar method:

Country of manufacture

U	Approval	Approval	For Alternative Arrangements (see 6.7.1.2)
N	country	number	"AA"

Manufacturer's name or mark

Manufacturer's serial number

Authorized body for the design approval

Owner's registration number

Year of manufacture

Pressure vessel code to which the shell is designed

Test pressure \_\_\_\_\_ bar/kPa gauge<sup>6</sup>

MAWP \_\_\_\_\_ bar/kPa gauge<sup>6</sup>

External design pressure<sup>7</sup> \_\_\_\_\_ bar/kPa gauge<sup>6</sup>

Design temperature range \_\_\_\_\_ °C to \_\_\_\_\_ °C

Design reference temperature \_\_\_\_\_ °C

Water capacity at 20 °C \_\_\_\_\_ litres

Initial pressure test date and witness identification

Shell material(s) and material standard reference(s)

Equivalent thickness in reference steel \_\_\_\_\_ mm

Date and type of most recent periodic test(s)

Month \_\_\_\_\_ Year \_\_\_\_\_ Test pressure \_\_\_\_\_ bar/kPa gauge<sup>6</sup>

Stamp of expert who performed or witnessed the most recent test

**6.7.3.16.2** The following information shall be marked either on the portable tank itself or on a metal plate firmly secured to the portable tank:

Name of the operator

Name of non-refrigerated liquefied gas(es) permitted for carriage

Maximum permissible load mass for each non-refrigerated liquefied gas permitted \_\_\_\_\_ kg

Maximum permissible gross mass (MPGM) \_\_\_\_\_ kg

Unladen (tare) mass \_\_\_\_\_ kg

**NOTE:** For the identification of the non-refrigerated liquefied gases being carried, see also Part 5.

**6.7.3.16.3** If a portable tank is designed and approved for handling in open seas, the words "OFFSHORE PORTABLE TANK" shall be marked on the identification plate.

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<sup>6</sup> The unit used shall be marked.

<sup>7</sup> See 6.7.3.2.8.



#### 6.7.4 Requirements for the design, construction, inspection and testing of portable tanks intended for the carriage of refrigerated liquefied gases

##### 6.7.4.1 Definitions

For the purposes of this section:

*Alternative arrangement* means an approval granted by the competent authority for a portable tank or MEGC that has been designed, constructed or tested to technical requirements or testing methods other than those specified in this Chapter;

*Holding time* means the time that will elapse from the establishment of the initial filling condition until the pressure has risen due to heat influx to the lowest set pressure of the pressure limiting device(s);

*Jacket* means the outer insulation cover or cladding which may be part of the insulation system;

*Leakproofness test* means a test using gas subjecting the shell and its service equipment, to an effective internal pressure not less than 90% of the MAWP;

*Maximum allowable working pressure (MAWP)* means the maximum effective gauge pressure permissible at the top of the shell of a loaded portable tank in its operating position including the highest effective pressure during filling and discharge;

*Maximum permissible gross mass (MPGM)* means the sum of the tare mass of the portable tank and the heaviest load authorized for carriage;

*Minimum design temperature* means the temperature which is used for the design and construction of the shell not higher than the lowest (coldest) temperature (service temperature) of the contents during normal conditions of filling, discharge and carriage;

*Portable tank* means a thermally insulated multimodal tank having a capacity of more than 450 litres fitted with service equipment and structural equipment necessary for the carriage of refrigerated liquefied gases. The portable tank shall be capable of being filled and discharged without the removal of its structural equipment. It shall possess stabilizing members external to the tank, and shall be capable of being lifted when full. It shall be designed primarily to be loaded onto a vehicle, wagon or sea-going or inland navigation vessel and shall be equipped with skids, mountings or accessories to facilitate mechanical handling. Tank-vehicles, tank-wagons, non-metallic tanks, intermediate bulk containers (IBCs), gas cylinders and large receptacles are not considered to fall within the definition for portable tanks;

*Reference steel* means a steel with a tensile strength of 370 N/mm<sup>2</sup> and an elongation at fracture of 27%;

*Service equipment* means measuring instruments and filling, discharge, venting, safety, pressurizing, cooling and thermal insulation devices;

*Shell* means the part of the portable tank which retains the refrigerated liquefied gas intended for carriage, including openings and their closures, but does not include service equipment or external structural equipment;

*Structural equipment* means the reinforcing, fastening, protective and stabilizing members external to the shell;

*Tank* means a construction which normally consists of either :

- (a) A jacket and one or more inner shells where the space between the shell(s) and the jacket is exhausted of air (vacuum insulation) and may incorporate a thermal insulation system; or
- (b) A jacket and an inner shell with an intermediate layer of solid thermally insulating material (e.g. solid foam);

*Test pressure* means the maximum gauge pressure at the top of the shell during the pressure test.

##### 6.7.4.2 General design and construction requirements

- 6.7.4.2.1 Shells shall be designed and constructed in accordance with the requirements of a pressure vessel code recognized by the competent authority. Shells and jackets shall be made of metallic materials suitable for forming. Jackets shall be made of steel. Non-metallic materials may be used for the attachments and supports between the shell and jacket, provided their material properties at the minimum design temperature are proven to be sufficient. The materials shall in principle conform to national or international material standards. For welded shells and jackets only materials whose weldability has been fully demonstrated shall be used. Welds shall be skilfully made and afford complete safety. When the manufacturing process or the materials make it necessary, the shell shall be suitably heat treated to guarantee adequate toughness in the weld and in the heat affected zones. In choosing the material, the minimum design temperature shall be taken into account with respect to risk of brittle fracture, to hydrogen embrittlement, to stress corro-



sion cracking and to resistance to impact. When fine grain steel is used, the guaranteed value of the yield strength shall be not more than 460 N/mm<sup>2</sup> and the guaranteed value of the upper limit of the tensile strength shall be not more than 725 N/mm<sup>2</sup> in accordance with the material specifications. Portable tank materials shall be suitable for the external environment in which they may be carried.

- 6.7.4.2.2** Any part of a portable tank, including fittings, gaskets and pipe-work, which can be expected normally to come into contact with the refrigerated liquefied gas carried shall be compatible with that refrigerated liquefied gas.
- 6.7.4.2.3** Contact between dissimilar metals which could result in damage by galvanic action shall be avoided.
- 6.7.4.2.4** The thermal insulation system shall include a complete covering of the shell(s) with effective insulating materials. External insulation shall be protected by a jacket so as to prevent the ingress of moisture and other damage under normal carriage conditions.
- 6.7.4.2.5** When a jacket is so closed as to be gas-tight, a device shall be provided to prevent any dangerous pressure from developing in the insulation space.
- 6.7.4.2.6** Portable tanks intended for the carriage of refrigerated liquefied gases having a boiling point below minus (–)182 °C at atmospheric pressure shall not include materials which may react with oxygen or oxygen enriched atmospheres in a dangerous manner, when located in parts of the thermal insulation when there is a risk of contact with oxygen or with oxygen enriched fluid.
- 6.7.4.2.7** Insulating materials shall not deteriorate unduly in service.
- 6.7.4.2.8** A reference holding time shall be determined for each refrigerated liquefied gas intended for carriage in a portable tank.
- 6.7.4.2.8.1** The reference holding time shall be determined by a method recognized by the competent authority on the basis of the following:
- (a) The effectiveness of the insulation system, determined in accordance with 6.7.4.2.8.2;
  - (b) The lowest set pressure of the pressure limiting device(s);
  - (c) The initial filling conditions;
  - (d) An assumed ambient temperature of 30 °C;
  - (e) The physical properties of the individual refrigerated liquefied gas intended to be carried.
- 6.7.4.2.8.2** The effectiveness of the insulation system (heat influx in watts) shall be determined by type testing the portable tank in accordance with a procedure recognized by the competent authority. This test shall consist of either:
- (a) A constant pressure test (for example at atmospheric pressure) when the loss of refrigerated liquefied gas is measured over a period of time; or
  - (b) A closed system test when the rise in pressure in the shell is measured over a period of time.
- When performing the constant pressure test, variations in atmospheric pressure shall be taken into account. When performing either tests corrections shall be made for any variation of the ambient temperature from the assumed ambient temperature reference value of 30 °C.
- NOTE:** For the determination of the actual holding time before each journey, refer to 4.2.3.7.
- 6.7.4.2.9** The jacket of a vacuum-insulated double-wall tank shall have either an external design pressure not less than 100 kPa (1 bar) (gauge pressure) calculated in accordance with a recognized technical code or a calculated critical collapsing pressure of not less than 200 kPa (2 bar) (gauge pressure). Internal and external reinforcements may be included in calculating the ability of the jacket to resist the external pressure.
- 6.7.4.2.10** Portable tanks shall be designed and constructed with supports to provide a secure base during carriage and with suitable lifting and tie-down attachments.
- 6.7.4.2.11** Portable tanks shall be designed to withstand, without loss of contents, at least the internal pressure due to the contents, and the static, dynamic and thermal loads during normal conditions of handling and carriage. The design shall demonstrate that the effects of fatigue, caused by repeated application of these loads through the expected life of the portable tank, have been taken into account.
- 6.7.4.2.12** Portable tanks and their fastenings under the maximum permissible load shall be capable of absorbing the following separately applied static forces:
- (a) In the direction of travel: twice the MPGM multiplied by the acceleration due to gravity (g)<sup>8</sup>;

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<sup>8</sup> For calculation purposes  $g = 9.81 \text{ m/s}^2$ .

- (b) Horizontally at right angles to the direction of travel: the MPGM (when the direction of travel is not clearly determined, the forces shall be equal to twice the MPGM) multiplied by the acceleration due to gravity ( $g$ )<sup>8</sup>;
- (c) Vertically upwards: the MPGM multiplied by the acceleration due to gravity ( $g$ )<sup>8</sup>; and
- (d) Vertically downwards: twice the MPGM (total loading including the effect of gravity) multiplied by the acceleration due to gravity ( $g$ )<sup>8</sup>.

**6.7.4.2.13** Under each of the forces in 6.7.4.2.12, the safety factor to be observed shall be as follows:

- (a) For materials having a clearly defined yield point, a safety factor of 1.5 in relation to the guaranteed yield strength; and
- (b) For materials with no clearly defined yield point, a safety factor of 1.5 in relation to the guaranteed 0.2% proof strength or, in case of austenitic steels, the 1% proof strength.

**6.7.4.2.14** The values of yield strength or proof strength shall be the values according to national or international material standards. When austenitic steels are used, the specified minimum values according to the material standards may be increased by up to 15% when greater values are attested in the material inspection certificate. When no material standard exists for the metal in question, or when non-metallic materials are used the values of yield strength or proof strength shall be approved by the competent authority.

**6.7.4.2.15** Portable tanks intended for the carriage of flammable refrigerated liquefied gases shall be capable of being electrically earthed.

#### **6.7.4.3 Design criteria**

**6.7.4.3.1** Shells shall be of a circular cross section.

**6.7.4.3.2** Shells shall be designed and constructed to withstand a test pressure not less than 1.3 times the MAWP. For shells with vacuum insulation the test pressure shall not be less than 1.3 times the sum of the MAWP and 100 kPa (1 bar). In no case shall the test pressure be less than 300 kPa (3 bar) (gauge pressure). Attention is drawn to the minimum shell thickness requirements, specified in 6.7.4.4.2 to 6.7.4.4.7.

**6.7.4.3.3** For metals exhibiting a clearly defined yield point or characterized by a guaranteed proof strength (0.2% proof strength, generally, or 1% proof strength for austenitic steels) the primary membrane stress  $\sigma$  (sigma) in the shell shall not exceed 0.75 Re or 0.50 Rm, whichever is lower, at the test pressure, where:

Re = yield strength in N/mm<sup>2</sup>, or 0.2% proof strength or, for austenitic steels, 1% proof strength;

Rm = minimum tensile strength in N/mm<sup>2</sup>.

**6.7.4.3.3.1** The values of Re and Rm to be used shall be the specified minimum values according to national or international material standards. When austenitic steels are used, the specified minimum values for Re and Rm according to the material standards may be increased by up to 15% when greater values are attested in the material inspection certificate. When no material standard exists for the metal in question, the values of Re and Rm used shall be approved by the competent authority or its authorized body.

**6.7.4.3.3.2** Steels which have a Re/Rm ratio of more than 0.85 are not allowed for the construction of welded shells. The values of Re and Rm to be used in determining this ratio shall be the values specified in the material inspection certificate.

**6.7.4.3.3.3** Steels used in the construction of shells shall have an elongation at fracture, in %, of not less than 10 000/Rm with an absolute minimum of 16% for fine grain steels and 20% for other steels. Aluminium and aluminium alloys used in the construction of shells shall have an elongation at fracture, in %, of not less than 10 000/6Rm with an absolute minimum of 12%.

**6.7.4.3.3.4** For the purpose of determining actual values for materials, it shall be noted that for sheet metal, the axis of the tensile test specimen shall be at right angles (transversely) to the direction of rolling. The permanent elongation at fracture shall be measured on test specimens of rectangular cross sections in accordance with ISO 6892:1988 using a 50 mm gauge length.

#### **6.7.4.4 Minimum shell thickness**

**6.7.4.4.1** The minimum shell thickness shall be the greater thickness based on:

- (a) The minimum thickness determined in accordance with the requirements in 6.7.4.4.2 to 6.7.4.4.7; or
- (b) The minimum thickness determined in accordance with the recognized pressure vessel code including the requirements in 6.7.4.3.

**6.7.4.4.2** Shells of not more than 1.80 m in diameter shall be not less than 5 mm thick in the reference steel or of equivalent thickness in the metal to be used. Shells of more than 1.80 m in diameter shall be not less than 6 mm thick in the reference steel or of equivalent thickness in the metal to be used.

- 6.7.4.4.3** Shells of vacuum-insulated tanks of not more than 1.80 m in diameter shall be not less than 3 mm thick in the reference steel or of equivalent thickness in the metal to be used. Such shells of more than 1.80 m in diameter shall be not less than 4 mm thick in the reference steel or of equivalent thickness in the metal to be used.
- 6.7.4.4.4** For vacuum-insulated tanks, the aggregate thickness of the jacket and the shell shall correspond to the minimum thickness prescribed in 6.7.4.4.2, the thickness of the shell itself being not less than the minimum thickness prescribed in 6.7.4.4.3.
- 6.7.4.4.5** Shells shall be not less than 3 mm thick regardless of the material of construction.
- 6.7.4.4.6** The equivalent thickness of a metal other than the thickness prescribed for the reference steel in 6.7.4.4.2 and 6.7.4.4.3 shall be determined using the following formula:

$$e_1 = \frac{21.4 e_0}{\sqrt[3]{Rm_1 A_1}}$$

where:

- $e_1$  = required equivalent thickness (in mm) of the metal to be used;  
 $e_0$  = minimum thickness (in mm) of the reference steel specified in 6.7.4.4.2 and 6.7.4.4.3;  
 $Rm_1$  = guaranteed minimum tensile strength (in N/mm<sup>2</sup>) of the metal to be used (see 6.7.4.3.3);  
 $A_1$  = guaranteed minimum elongation at fracture (in %) of the metal to be used according to national or international standards.

- 6.7.4.4.7** In no case shall the wall thickness be less than that prescribed in 6.7.4.4.1 to 6.7.4.4.5. All parts of the shell shall have a minimum thickness as determined by 6.7.4.4.1 to 6.7.4.4.6. This thickness shall be exclusive of any corrosion allowance.
- 6.7.4.4.8** There shall be no sudden change of plate thickness at the attachment of the ends (heads) to the cylindrical portion of the shell.
- 6.7.4.5 Service equipment**
- 6.7.4.5.1** Service equipment shall be so arranged as to be protected against the risk of being wrenched off or damaged during handling and carriage. When the connection between the frame and the tank or the jacket and the shell allows relative movement, the equipment shall be so fastened as to permit such movement without risk of damage to working parts. The external discharge fittings (pipe sockets, shut-off devices), the stop-valve and its seating shall be protected against the danger of being wrenched off by external forces (for example using shear sections). The filling and discharge devices (including flanges or threaded plugs) and any protective caps shall be capable of being secured against unintended opening.
- 6.7.4.5.2** Each filling and discharge opening in portable tanks used for the carriage of flammable refrigerated liquefied gases shall be fitted with at least three mutually independent shut-off devices in series, the first being a stop-valve situated as close as reasonably practicable to the jacket, the second being a stop-valve and the third being a blank flange or equivalent device. The shut-off device closest to the jacket shall be a quick closing device, which closes automatically in the event of unintended movement of the portable tank during filling or discharge or fire engulfment. This device shall also be possible to operate by remote control.
- 6.7.4.5.3** Each filling and discharge opening in portable tanks used for the carriage of non-flammable refrigerated liquefied gases shall be fitted with at least two mutually independent shut-off devices in series, the first being a stop-valve situated as close as reasonably practicable to the jacket, the second a blank flange or equivalent device.
- 6.7.4.5.4** For sections of piping which can be closed at both ends and where liquid product can be trapped, a method of automatic pressure relief shall be provided to prevent excess pressure build-up within the piping.
- 6.7.4.5.5** Vacuum insulated tanks need not have an opening for inspection.
- 6.7.4.5.6** External fittings shall be grouped together so far as reasonably practicable.
- 6.7.4.5.7** Each connection on a portable tank shall be clearly marked to indicate its function.
- 6.7.4.5.8** Each stop-valve or other means of closure shall be designed and constructed to a rated pressure not less than the MAWP of the shell taking into account the temperature expected during carriage. All stop-valves with a screwed spindle shall be closed by a clockwise motion of the handwheel. In the case of other stop-valves the position (open and closed) and direction of closure shall be clearly indicated. All stop-valves shall be designed to prevent unintentional opening.

- 6.7.4.5.9** When pressure-building units are used, the liquid and vapour connections to that unit shall be provided with a valve as close to the jacket as reasonably practicable to prevent the loss of contents in case of damage to the pressure-building unit.
- 6.7.4.5.10** Piping shall be designed, constructed and installed so as to avoid the risk of damage due to thermal expansion and contraction, mechanical shock and vibration. All piping shall be of a suitable material. To prevent leakage due to fire, only steel piping and welded joints shall be used between the jacket and the connection to the first closure of any outlet. The method of attaching the closure to this connection shall be to the satisfaction of the competent authority or its authorized body. Elsewhere pipe joints shall be welded when necessary.
- 6.7.4.5.11** Joints in copper tubing shall be brazed or have an equally strong metal union. The melting point of brazing materials shall be no lower than 525 °C. The joints shall not decrease the strength of the tubing as may happen when cutting threads.
- 6.7.4.5.12** The materials of construction of valves and accessories shall have satisfactory properties at the lowest operating temperature of the portable tank.
- 6.7.4.5.13** The burst pressure of all piping and pipe fittings shall be not less than the highest of four times the MAWP of the shell or four times the pressure to which it may be subjected in service by the action of a pump or other device (except pressure-relief devices).
- 6.7.4.6 Pressure-relief devices**
- 6.7.4.6.1** Every shell shall be provided with not less than two independent spring-loaded pressure-relief devices. The pressure-relief devices shall open automatically at a pressure not less than the MAWP and be fully open at a pressure equal to 110% of the MAWP. These devices shall, after discharge, close at a pressure not lower than 10% below the pressure at which discharge starts and shall remain closed at all lower pressures. The pressure-relief devices shall be of the type that will resist dynamic forces including surge.
- 6.7.4.6.2** Shells for non-flammable refrigerated liquefied gases and hydrogen may in addition have frangible discs in parallel with the spring-loaded devices as specified in 6.7.4.7.2 and 6.7.4.7.3.
- 6.7.4.6.3** Pressure-relief devices shall be designed to prevent the entry of foreign matter, the leakage of gas and the development of any dangerous excess pressure.
- 6.7.4.6.4** Pressure-relief devices shall be approved by the competent authority or its authorized body.
- 6.7.4.7 Capacity and setting of pressure-relief devices**
- 6.7.4.7.1** In the case of the loss of vacuum in a vacuum-insulated tank or of loss of 20% of the insulation of a tank insulated with solid materials, the combined capacity of all pressure-relief devices installed shall be sufficient so that the pressure (including accumulation) inside the shell does not exceed 120% of the MAWP.
- 6.7.4.7.2** For non-flammable refrigerated liquefied gases (except oxygen) and hydrogen, this capacity may be achieved by the use of frangible discs in parallel with the required safety-relief devices. Frangible discs shall rupture at nominal pressure equal to the test pressure of the shell.
- 6.7.4.7.3** Under the circumstances described in 6.7.4.7.1 and 6.7.4.7.2 together with complete fire engulfment the combined capacity of all pressure-relief devices installed shall be sufficient to limit the pressure in the shell to the test pressure.
- 6.7.4.7.4** The required capacity of the relief devices shall be calculated in accordance with a well-established technical code recognized by the competent authority<sup>9</sup>.
- 6.7.4.8 Marking of pressure-relief devices**
- 6.7.4.8.1** Every pressure-relief device shall be plainly and permanently marked with the following particulars:
- (a) The pressure (in bar or kPa) at which it is set to discharge;
  - (b) The allowable tolerance at the discharge pressure for spring-loaded devices;
  - (c) The reference temperature corresponding to the rated pressure for frangible discs; and
  - (d) The rated flow capacity of the device in standard cubic meters of air per second (m<sup>3</sup>/s).
- When practicable, the following information shall also be shown:
- (e) The manufacturer's name and relevant catalogue number of the device.

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<sup>9</sup> See for example CGA S-1.2-2003 "Pressure Relief Device Standards – Part 2 – Cargo and Portable Tanks for Compressed Gases".

**6.7.4.8.2** The rated flow capacity marked on the pressure-relief devices shall be determined according to ISO 4126-1:1991.

**6.7.4.9 Connections to pressure-relief devices**

**6.7.4.9.1** Connections to pressure-relief devices shall be of sufficient size to enable the required discharge to pass unrestricted to the safety device. No stop-valve shall be installed between the shell and the pressure-relief devices except when duplicate devices are provided for maintenance or other reasons and the stop-valves serving the devices actually in use are locked open or the stop-valves are interlocked so that the requirements of 6.7.4.7 are always fulfilled. There shall be no obstruction in an opening leading to a vent or pressure-relief device which might restrict or cut-off the flow from the shell to that device. Pipework to vent the vapour or liquid from the outlet of the pressure-relief devices, when used, shall deliver the relieved vapour or liquid to the atmosphere in conditions of minimum back-pressure on the relieving device.

**6.7.4.10 Siting of pressure-relief devices**

**6.7.4.10.1** Each pressure-relief device inlet shall be situated on top of the shell in a position as near the longitudinal and transverse centre of the shell as reasonably practicable. All pressure-relief device inlets shall under maximum filling conditions be situated in the vapour space of the shell and the devices shall be so arranged as to ensure that the escaping vapour is discharged unrestrictedly. For refrigerated liquefied gases, the escaping vapour shall be directed away from the tank and in such a manner that it cannot impinge upon the tank. Protective devices which deflect the flow of vapour are permissible provided the required relief-device capacity is not reduced.

**6.7.4.10.2** Arrangements shall be made to prevent access to the devices by unauthorized persons and to protect the devices from damage caused by the portable tank overturning.

**6.7.4.11 Gauging devices**

**6.7.4.11.1** Unless a portable tank is intended to be filled by weight, it shall be equipped with one or more gauging devices. Glass level-gauges and gauges made of other fragile material, which are in direct communication with the contents of the shell shall not be used.

**6.7.4.11.2** A connection for a vacuum gauge shall be provided in the jacket of a vacuum-insulated portable tank.

**6.7.4.12 Portable tank supports, frameworks, lifting and tie-down attachments**

**6.7.4.12.1** Portable tanks shall be designed and constructed with a support structure to provide a secure base during carriage. The forces specified in 6.7.4.2.12 and the safety factor specified in 6.7.4.2.13 shall be considered in this aspect of the design. Skids, frameworks, cradles or other similar structures are acceptable.

**6.7.4.12.2** The combined stresses caused by portable tank mountings (e.g. cradles, frameworks, etc.) and portable tank lifting and tie-down attachments shall not cause excessive stress in any portion of the tank. Permanent lifting and tie-down attachments shall be fitted to all portable tanks. Preferably they shall be fitted to the portable tank supports but may be secured to reinforcing plates located on the tank at the points of support.

**6.7.4.12.3** In the design of supports and frameworks the effects of environmental corrosion shall be taken into account.

**6.7.4.12.4** Forklift pockets shall be capable of being closed off. The means of closing forklift pockets shall be a permanent part of the framework or permanently attached to the framework. Single compartment portable tanks with a length less than 3.65 m need not have closed off forklift pockets provided that:

- (a) The tank and all the fittings are well protected from being hit by the forklift blades; and
- (b) The distance between the centres of the forklift pockets is at least half of the maximum length of the portable tank.

**6.7.4.12.5** When portable tanks are not protected during carriage, according to 4.2.3.3, the shells and service equipment shall be protected against damage to the shell and service equipment resulting from lateral or longitudinal impact or overturning. External fittings shall be protected so as to preclude the release of the shell contents upon impact or overturning of the portable tank on its fittings. Examples of protection include:

- (a) Protection against lateral impact which may consist of longitudinal bars protecting the shell on both sides at the level of the median line;
- (b) Protection of the portable tank against overturning which may consist of reinforcement rings or bars fixed across the frame;
- (c) Protection against rear impact which may consist of a bumper or frame;
- (d) Protection of the shell against damage from impact or overturning by use of an ISO frame in accordance with ISO 1496-3:1995;
- (e) Protection of the portable tank from impact or overturning by a vacuum insulation jacket.

**6.7.4.13 Design approval**

**6.7.4.13.1** The competent authority or its authorized body shall issue a design approval certificate for any new design of a portable tank. This certificate shall attest that a portable tank has been surveyed by that authority, is suitable for its intended purpose and meets the requirements of this Chapter. When a series of portable tanks are manufactured without change in the design, the certificate shall be valid for the entire series. The certificate shall refer to the prototype test report, the refrigerated liquefied gases allowed to be carried, the materials of construction of the shell and jacket and an approval number. The approval number shall consist of the distinguishing sign or mark of the State in whose territory the approval was granted, i.e. the distinguishing sign for use in international traffic, as prescribed by the Convention on Road Traffic, Vienna 1968, and a registration number. Any alternative arrangements according to 6.7.1.2 shall be indicated on the certificate. A design approval may serve for the approval of smaller portable tanks made of materials of the same kind and thickness, by the same fabrication techniques and with identical supports, equivalent closures and other appurtenances.

**6.7.4.13.2** The prototype test report for the design approval shall include at least the following:

- (a) The results of the applicable frame-work test specified in ISO 1496-3:1995;
- (b) The results of the initial inspection and test in 6.7.4.14.3; and
- (c) The results of the impact test in 6.7.4.14.1, when applicable.

**6.7.4.14 Inspection and testing**

**6.7.4.14.1** Portable tanks meeting the definition of container in the International Convention for Safe Containers (CSC), 1972, as amended, shall not be used unless they are successfully qualified by subjecting a representative prototype of each design to the Dynamic, Longitudinal Impact Test prescribed in the Manual of Tests and Criteria, Part IV, Section 41.

**6.7.4.14.2** The shell and items of equipment of each portable tank shall be inspected and tested before being put into service for the first time (initial inspection and test) and thereafter at not more than five-year intervals (5 year periodic inspection and test) with an intermediate periodic inspection and test (2.5 year periodic inspection and test) midway between the 5 year periodic inspections and tests. The 2.5 year inspection and test may be performed within 3 months of the specified date. An exceptional inspection and test shall be performed regardless of the last periodic inspection and test when necessary according to 6.7.4.14.7.

**6.7.4.14.3** The initial inspection and test of a portable tank shall include a check of the design characteristics, an internal and external examination of the portable tank shell and its fittings with due regard to the refrigerated liquefied gases to be carried, and a pressure test referring to the test pressures according to 6.7.4.3.2. The pressure test may be performed as a hydraulic test or by using another liquid or gas with the agreement of the competent authority or its authorized body. Before the portable tank is placed into service, a leakproofness test and a check of the satisfactory operation of all service equipment shall also be performed. When the shell and its fittings have been pressure-tested separately, they shall be subjected together after assembly to a leakproofness test. All welds subject to full stress level shall be inspected during the initial test by radiographic, ultrasonic, or another suitable non-destructive test method. This does not apply to the jacket.

**6.7.4.14.4** The 5 and 2.5 year periodic inspections and tests shall include an external examination of the portable tank and its fittings with due regard to the refrigerated liquefied gases carried, a leakproofness test, a check of the satisfactory operation of all service equipment and a vacuum reading, when applicable. In the case of non-vacuum insulated tanks, the jacket and insulation shall be removed during the 2.5 year and the 5 year periodic inspections and tests but only to the extent necessary for a reliable appraisal.

**6.7.4.14.5** (Deleted)

**6.7.4.14.6** A portable tank may not be filled and offered for carriage after the date of expiry of the last 5 year or 2.5 year periodic inspection and test as required by 6.7.4.14.2. However a portable tank filled prior to the date of expiry of the last periodic inspection and test may be carried for a period not to exceed three months beyond the date of expiry of the last periodic test or inspection. In addition, a portable tank may be carried after the date of expiry of the last periodic test and inspection:

- (a) After emptying but before cleaning, for purposes of performing the next required test or inspection prior to refilling; and
- (b) Unless otherwise approved by the competent authority, for a period not to exceed six months beyond the date of expiry of the last periodic test or inspection, in order to allow the return of dangerous goods for proper disposal or recycling. Reference to this exemption shall be mentioned in the transport document.



- 6.7.4.14.7** The exceptional inspection and test is necessary when the portable tank shows evidence of damaged or corroded areas, leakage, or any other conditions that indicate a deficiency that could affect the integrity of the portable tank. The extent of the exceptional inspection and test shall depend on the amount of damage or deterioration of the portable tank. It shall include at least the 2.5 year inspection and test according to 6.7.4.14.4.
- 6.7.4.14.8** The internal examination during the initial inspection and test shall ensure that the shell is inspected for pitting, corrosion, or abrasions, dents, distortions, defects in welds or any other conditions, that might render the portable tank unsafe for carriage.
- 6.7.4.14.9** The external examination shall ensure that:
- (a) The external piping, valves, pressurizing/cooling systems when applicable and gaskets are inspected for corroded areas, defects, or any other conditions, including leakage, that might render the portable tank unsafe for filling, discharge or carriage;
  - (b) There is no leakage at any manhole covers or gaskets;
  - (c) Missing or loose bolts or nuts on any flanged connection or blank flange are replaced or tightened;
  - (d) All emergency devices and valves are free from corrosion, distortion and any damage or defect that could prevent their normal operation. Remote closure devices and self-closing stop-valves shall be operated to demonstrate proper operation;
  - (e) Required markings on the portable tank are legible and in accordance with the applicable requirements; and
  - (f) The framework, the supports and the arrangements for lifting the portable tank are in satisfactory condition.
- 6.7.4.14.10** The inspections and tests in 6.7.4.14.1, 6.7.4.14.3, 6.7.4.14.4, 6.7.4.14.5 and 6.7.4.14.7 shall be performed or witnessed by an expert approved by the competent authority or its authorized body. When the pressure test is a part of the inspection and test, the test pressure shall be the one indicated on the data plate of the portable tank. While under pressure, the portable tank shall be inspected for any leaks in the shell, piping or equipment.
- 6.7.4.14.11** In all cases when cutting, burning or welding operations on the shell of a portable tank have been effected, that work shall be to the approval of the competent authority or its authorized body taking into account the pressure vessel code used for the construction of the shell. A pressure test to the original test pressure shall be performed after the work is completed.
- 6.7.4.14.12** When evidence of any unsafe condition is discovered, the portable tank shall not be returned to service until it has been corrected and the test is repeated and passed.
- 6.7.4.15 Marking**
- 6.7.4.15.1** Every portable tank shall be fitted with a corrosion resistant metal plate permanently attached to the portable tank in a conspicuous place readily accessible for inspection. When for reasons of portable tank arrangements, the plate cannot be permanently attached to the shell, the shell shall be marked with at least the information required by the pressure vessel code. As a minimum at least the following information shall be marked on the plate by stamping or by any other similar method:

Country of manufacture

U	Approval	Approval	For Alternative Arrangements (see 6.7.1.2)
N	country	number	

"AA"

Manufacturer's name or mark

Manufacturer's serial number

Authorized body for the design approval

Owner's registration number

Year of manufacture

Pressure vessel code to which the shell is designed

Test pressure \_\_\_\_\_ bar/kPa gauge<sup>10</sup>

MAWP \_\_\_\_\_ bar/kPa gauge<sup>10</sup>

<sup>10</sup> The unit used shall be marked.

Minimum design temperature \_\_\_\_\_ °C

Water capacity at 20 °C \_\_\_\_\_ litres

Initial pressure test date and witness identification

Shell material(s) and material standard reference(s)

Equivalent thickness in reference steel \_\_\_\_\_ mm

Date and type of most recent periodic test(s)

Month \_\_\_\_\_ Year \_\_\_\_\_ Test pressure \_\_\_\_\_ bar/kPa gauge<sup>10</sup>

Stamp of expert who performed or witnessed the most recent test

The name, in full, of the gas(es) for whose carriage the portable tank is approved

Either "thermally insulated" or "vacuum insulated" \_\_\_\_\_

Effectiveness of the insulation system (heat influx) \_\_\_\_\_ Watts (W)

Reference holding time \_\_\_\_\_ days (or hours) and initial pressure \_\_\_\_\_ bar/kPa gauge<sup>10</sup> and degree of filling \_\_\_\_\_ in kg for each refrigerated liquefied gas permitted for carriage.

- 6.7.4.15.2** The following particulars shall be durably marked either on the portable tank itself or on a metal plate firmly secured to the portable tank.

Name of the owner and the operator

Name of the refrigerated liquefied gas being carried (and minimum mean bulk temperature)

Maximum permissible gross mass (MPGM) \_\_\_\_\_ kg

Unladen (tare) mass \_\_\_\_\_ kg

Actual holding time for gas being carried \_\_\_\_\_ days (or hours)

**NOTE:** For the identification of the refrigerated liquefied gas(es) being carried, see also Part 5.

- 6.7.4.15.3** If a portable tank is designed and approved for handling in open seas, the words "OFFSHORE PORTABLE TANK" shall be marked on the identification plate.



## **6.7.5 Requirements for the design, construction, inspection and testing of UN multiple-element gas containers (MEGCs) intended for the carriage of non-refrigerated gases**

### **6.7.5.1 Definitions**

For the purposes of this section:

*Alternative arrangement* means an approval granted by the competent authority for a portable tank or MEGC that has been designed, constructed or tested to technical requirements or testing methods other than those specified in this Chapter;

*Elements* are cylinders, tubes or bundles of cylinders;

*Leakproofness test* means a test using gas subjecting the elements and the service equipment of the MEGC to an effective internal pressure of not less than 20% of the test pressure;

*Manifold* means an assembly of piping and valves connecting the filling and/or discharge openings of the elements;

*Maximum permissible gross mass (MPGM)* means the sum of the tare mass of the MEGC and the heaviest load authorized for carriage;

*Service equipment* means measuring instruments and filling, discharge, venting and safety devices;

*Structural equipment* means the reinforcing, fastening, protective and stabilizing members external to the elements;

*UN multiple-element gas containers (MEGCs)* are multimodal assemblies of cylinders, tubes and bundles of cylinders which are interconnected by a manifold and which are assembled within a framework. The MEGC includes service equipment and structural equipment necessary for the carriage of gases.

### **6.7.5.2 General design and construction requirements**

**6.7.5.2.1** The MEGC shall be capable of being filled and discharged without the removal of its structural equipment. It shall possess stabilizing members external to the elements to provide structural integrity for handling and carriage. MEGCs shall be designed and constructed with supports to provide a secure base during carriage and with lifting and tie-down attachments which are adequate for lifting the MEGC including when filled to its maximum permissible gross mass. The MEGC shall be designed to be loaded onto a **vehicle, wagon or sea-going or inland navigation vessel** and shall be equipped with skids, mountings or accessories to facilitate mechanical handling.

**6.7.5.2.2** MEGCs shall be designed, manufactured and equipped in such a way as to withstand all conditions to which they will be subjected during normal conditions of handling and carriage. The design shall take into account the effects of dynamic loading and fatigue.

**6.7.5.2.3** Elements of an MEGC shall be made of seamless steel and be constructed and tested according to **6.2.1 and 6.2.2**. All of the elements in an MEGC shall be of the same design type.

**6.7.5.2.4** Elements of MEGCs, fittings and pipework shall be:  
(a) compatible with the substances intended to be carried (see ISO 11114-1:1997 and ISO 11114-2:2000);  
or  
(b) properly passivated or neutralized by chemical reaction.

**6.7.5.2.5** Contact between dissimilar metals which could result in damage by galvanic action shall be avoided.

**6.7.5.2.6** The materials of the MEGC, including any devices, gaskets, and accessories, shall not adversely affect the gas(es) intended for carriage in the MEGC.

**6.7.5.2.7** MEGCs shall be designed to withstand, without loss of contents, at least the internal pressure due to the contents, and the static, dynamic and thermal loads during normal conditions of handling and carriage. The design shall demonstrate that the effects of fatigue, caused by repeated application of these loads through the expected life of the multiple-element gas container, have been taken into account.

**6.7.5.2.8** MEGCs and their fastenings shall, under the maximum permissible load, be capable of withstanding the following separately applied static forces:

(a) in the direction of travel: twice the MPGM multiplied by the acceleration due to gravity ( $g$ )<sup>11</sup>;

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<sup>11</sup> For calculation purposes  $g = 9.81 \text{ m/s}^2$ .

- (b) horizontally at right angles to the direction of travel: the MPGM (when the direction of travel is not clearly determined, the forces shall be equal to twice the MPGM) multiplied by the acceleration due to gravity ( $g$ )<sup>11</sup>;
- (c) vertically upwards: the MPGM multiplied by the acceleration due to gravity ( $g$ )<sup>11</sup>; and
- (d) vertically downwards: twice the MPGM (total loading including the effect of gravity) multiplied by the acceleration due to gravity ( $g$ )<sup>11</sup>.

**6.7.5.2.9** Under the forces defined in 6.7.5.2.8, the stress at the most severely stressed point of the elements shall not exceed the values given in either the relevant standards of 6.2.2.1 or, if the elements are not designed, constructed and tested according to those standards, in the technical code or standard recognised or approved by the competent authority of the country of use (see 6.2.5).

**6.7.5.2.10** Under each of the forces in 6.7.5.2.8, the safety factor for the framework and fastenings to be observed shall be as follows:

- (a) for steels having a clearly defined yield point, a safety factor of 1.5 in relation to the guaranteed yield strength; or
- (b) for steels with no clearly defined yield point, a safety factor of 1.5 in relation to the guaranteed 0.2% proof strength and, for austenitic steels, the 1% proof strength.

**6.7.5.2.11** MEGCs intended for the carriage of flammable gases shall be capable of being electrically earthed.

**6.7.5.2.12** The elements shall be secured in a manner that prevents undesired movement in relation to the structure and the concentration of harmful localized stresses.

#### **6.7.5.3 Service equipment**

**6.7.5.3.1** Service equipment shall be configured or designed to prevent damage that could result in the release of the pressure receptacle contents during normal conditions of handling and carriage. When the connection between the frame and the elements allows relative movement between the sub-assemblies, the equipment shall be so fastened as to permit such movement without damage to working parts. The manifolds, the discharge fittings (pipe sockets, shut-off devices), and the stop-valves shall be protected from being wrenched off by external forces. Manifold piping leading to shut-off valves shall be sufficiently flexible to protect the valves and the piping from shearing, or releasing the pressure receptacle contents. The filling and discharge devices (including flanges or threaded plugs) and any protective caps shall be capable of being secured against unintended opening.

**6.7.5.3.2** Each element intended for the carriage of toxic gases (gases of groups T, TF, TC, TO, TFC and TOC) shall be fitted with a valve. The manifold for liquefied toxic gases (gases of classification codes 2T, 2TF, 2TC, 2TO, 2TFC and 2TOC) shall be so designed that the elements can be filled separately and be kept isolated by a valve capable of being sealed. For the carriage of flammable gases (gases of group F), the elements shall be **divided into groups** of not more than 3 000 litres **each isolated by a valve**.

**6.7.5.3.3** For filling and discharge openings of the MEGC, two valves in series shall be placed in an accessible position on each discharge and filling pipe. One of the valves may be a non-return valve. The filling and discharge devices may be fitted to a manifold. For sections of piping which can be closed at both ends and where a liquid product can be trapped, a pressure-relief valve shall be provided to prevent excessive pressure build-up. The main isolation valves on an MEGC shall be clearly marked to indicate their directions of closure. Each stop-valve or other means of closure shall be designed and constructed to withstand a pressure equal to or greater than 1.5 times the test pressure of the MEGC. All stop-valves with screwed spindles shall close by a clockwise motion of the handwheel. For other stop-valves, the position (open and closed) and direction of closure shall be clearly indicated. All stop-valves shall be designed and positioned to prevent unintentional opening. Ductile metals shall be used in the construction of valves or accessories.

**6.7.5.3.4** Piping shall be designed, constructed and installed so as to avoid damage due to expansion and contraction, mechanical shock and vibration. Joints in tubing shall be brazed or have an equally strong metal union. The melting point of brazing materials shall be no lower than 525 °C. The rated pressure of the service equipment and of the manifold shall be not less than two thirds of the test pressure of the elements.

#### **6.7.5.4 Pressure-relief devices**

**6.7.5.4.1** The elements of MEGCs used for the carriage of UN No. 1013 carbon dioxide and UN No. 1070 nitrous oxide shall be **divided into groups** of not more than 3 000 litres **each isolated by a valve**. Each **group** shall be fitted with one or more pressure relief devices. MEGCs for other gases shall be fitted with pressure relief devices as specified by the competent authority for the country of use.

**6.7.5.4.2** When pressure relief devices are fitted, every element or group of elements of an MEGC that can be isolated shall then be fitted with one or more pressure relief devices. Pressure relief devices shall be of a type that will resist dynamic forces including liquid surge and shall be designed to prevent the entry of foreign matter, the leakage of gas and the development of any dangerous excess pressure.

- 6.7.5.4.3** MEGCs used for the carriage of certain non-refrigerated gases identified in portable tank instruction T50 in 4.2.5.2.6 may have a pressure-relief device as required by the competent authority of the country of use. Unless an MEGC in dedicated service is fitted with an approved pressure relief device constructed of materials compatible with the gas carried, such a device shall comprise a frangible disc preceding a spring-loaded device. The space between the frangible disc and the spring-loaded device may be equipped with a pressure gauge or a suitable telltale indicator. This arrangement permits the detection of disc rupture, pinholing or leakage which could cause a malfunction of the pressure relief device. The frangible disc shall rupture at a nominal pressure 10% above the start-to-discharge pressure of the spring-loaded device.
- 6.7.5.4.4** In the case of multi-purpose MEGCs used for the carriage of low-pressure liquefied gases, the pressure-relief devices shall open at a pressure as specified in 6.7.3.7.1 for the gas having the highest maximum allowable working pressure of the gases allowed to be carried in the MEGC.
- 6.7.5.5 Capacity of pressure relief devices**
- 6.7.5.5.1** The combined delivery capacity of the pressure relief devices when fitted shall be sufficient that, in the event of total fire engulfment of the MEGC, the pressure (including accumulation) inside the elements does not exceed 120% of the set pressure of the pressure relief device. The formula provided in CGA S-1.2-2003 "Pressure Relief Device Standards – Part 2 – Cargo and Portable Tanks for Compressed Gases" shall be used to determine the minimum total flow capacity for the system of pressure relief devices. CGA S-1.1-2003 "Pressure Relief Device Standards – Part 1 – Cylinders for Compressed Gases" may be used to determine the relief capacity of individual elements. Spring-loaded pressure relief devices may be used to achieve the full relief capacity prescribed in the case of low pressure liquefied gases. In the case of multi-purpose MEGCs, the combined delivery capacity of the pressure-relief devices shall be taken for the gas which requires the highest delivery capacity of the gases allowed to be carried in the MEGC.
- 6.7.5.5.2** To determine the total required capacity of the pressure relief devices installed on the elements for the carriage of liquefied gases, the thermodynamic properties of the gas shall be considered (see, for example, CGA S-1.2-2003 "Pressure Relief Device Standards – Part 2 – Cargo and Portable Tanks for Compressed Gases" for low pressure liquefied gases and CGA S-1.1-2003 "Pressure Relief Device Standards – Part 1 – Cylinders for Compressed Gases" for high pressure liquefied gases).
- 6.7.5.6 Marking of pressure-relief devices**
- 6.7.5.6.1** Pressure relief devices shall be clearly and permanently marked with the following:
- (a) the manufacturer's name and relevant catalogue number;
  - (b) the set pressure and/or the set temperature;
  - (c) the date of the last test.
- 6.7.5.6.2** The rated flow capacity marked on spring loaded pressure relief devices for low pressure liquefied gases shall be determined according to ISO 4126-1:1991.
- 6.7.5.7 Connections to pressure-relief devices**
- 6.7.5.7.1** Connections to pressure-relief devices shall be of sufficient size to enable the required discharge to pass unrestricted to the pressure relief device. No stop-valve shall be installed between the element and the pressure-relief devices, except when duplicate devices are provided for maintenance or other reasons, and the stop-valves serving the devices actually in use are locked open, or the stop-valves are interlocked so that at least one of the duplicate devices is always operable and capable of meeting the requirements of 6.7.5.5. There shall be no obstruction in an opening leading to or leaving from a vent or pressure-relief device which might restrict or cut-off the flow from the element to that device. The opening through all piping and fittings shall have at least the same flow area as the inlet of the pressure relief device to which it is connected. The nominal size of the discharge piping shall be at least as large as that of the pressure relief device outlet. Vents from the pressure-relief devices, when used, shall deliver the relieved vapour or liquid to the atmosphere in conditions of minimum back-pressure on the relieving device.
- 6.7.5.8 Siting of pressure-relief devices**
- 6.7.5.8.1** Each pressure relief device shall, under maximum filling conditions, be in communication with the vapour space of the elements for the carriage of liquefied gases. The devices, when fitted, shall be so arranged as to ensure that the escaping vapour is discharged upwards and unrestrictedly as to prevent any impingement of escaping gas or liquid upon the MEGC, its elements or personnel. For flammable, pyrophoric and oxidizing gases, the escaping gas shall be directed away from the element in such a manner that it cannot impinge upon the other elements. Heat resistant protective devices which deflect the flow of gas are permissible provided the required pressure relief device capacity is not reduced.
- 6.7.5.8.2** Arrangements shall be made to prevent access to the pressure-relief devices by unauthorized persons and to protect the devices from damage caused by the MEGC overturning.

**6.7.5.9 Gauging devices**

- 6.7.5.9.1** When an MEGC is intended to be filled by mass, it shall be equipped with one or more gauging devices. Level-gauges made of glass or other fragile material shall not be used.

**6.7.5.10 MEGC supports, frameworks, lifting and tie-down attachments**

- 6.7.5.10.1** MEGCs shall be designed and constructed with a support structure to provide a secure base during carriage. The forces specified in 6.7.5.2.8 and the safety factor specified in 6.7.5.2.10 shall be considered in this aspect of the design. Skids, frameworks, cradles or other similar structures are acceptable.
- 6.7.5.10.2** The combined stresses caused by element mountings (e.g. cradles, frameworks, etc.) and MEGC lifting and tie-down attachments shall not cause excessive stress in any element. Permanent lifting and tie-down attachments shall be fitted to all MEGCs. In no case shall mountings or attachments be welded onto the elements.
- 6.7.5.10.3** In the design of supports and frameworks, the effects of environmental corrosion shall be taken into account.
- 6.7.5.10.4** When MEGCs are not protected during carriage, according to 4.2.5.3, the elements and service equipment shall be protected against damage resulting from lateral or longitudinal impact or overturning. External fittings shall be protected so as to preclude the release of the elements' contents upon impact or overturning of the MEGC on its fittings. Particular attention shall be paid to the protection of the manifold. Examples of protection include:
- (a) protection against lateral impact which may consist of longitudinal bars;
  - (b) protection against overturning which may consist of reinforcement rings or bars fixed across the frame;
  - (c) protection against rear impact which may consist of a bumper or frame;
  - (d) protection of the elements and service equipment against damage from impact or overturning by use of an ISO frame in accordance with the relevant provisions of ISO 1496-3:1995.

**6.7.5.11 Design approval**

- 6.7.5.11.1** The competent authority or its authorized body shall issue a design approval certificate for any new design of an MEGC. This certificate shall attest that the MEGC has been surveyed by that authority, is suitable for its intended purpose and meets the requirements of this Chapter, the applicable provisions for gases of Chapter 4.1 and of packing instruction P200. When a series of MEGCs are manufactured without change in the design, the certificate shall be valid for the entire series. The certificate shall refer to the prototype test report, the materials of construction of the manifold, the standards to which the elements are made and an approval number. The approval number shall consist of the distinguishing sign or mark of the country granting the approval, i.e. the distinguishing sign for use in international traffic, as prescribed by the Convention on Road Traffic, Vienna 1968, and a registration number. Any alternative arrangements according to 6.7.1.2 shall be indicated on the certificate. A design approval may serve for the approval of smaller MEGCs made of materials of the same type and thickness, by the same fabrication techniques and with identical supports, equivalent closures and other appurtenances.
- 6.7.5.11.2** The prototype test report for the design approval shall include at least the following:
- (a) the results of the applicable framework test specified in ISO 1496-3:1995;
  - (b) the results of the initial inspection and test specified in 6.7.5.12.3;
  - (c) the results of the impact test specified in 6.7.5.12.1; and
  - (d) certification documents verifying that the cylinders and tubes comply with the applicable standards.

**6.7.5.12 Inspection and testing**

- 6.7.5.12.1** MEGCs meeting the definition of container in the International Convention for Safe Containers (CSC), 1972, as amended, shall not be used unless they are successfully qualified by subjecting a representative prototype of each design to the Dynamic, Longitudinal Impact Test prescribed in the Manual of Tests and Criteria, Part IV, Section 41.
- 6.7.5.12.2** The elements and items of equipment of each MEGC shall be inspected and tested before being put into service for the first time (initial inspection and test). Thereafter, MEGCs shall be inspected at no more than five-year intervals (5 year periodic inspection). An exceptional inspection and test shall be performed, regardless of the last periodic inspection and test, when necessary according to 6.7.5.12.5.

- 6.7.5.12.3** The initial inspection and test of an MEGC shall include a check of the design characteristics, an external examination of the MEGC and its fittings with due regard to the gases to be carried, and a pressure test performed at the test pressures according to packing instruction P200 of 4.1.4.1. The pressure test of the manifold may be performed as a hydraulic test or by using another liquid or gas with the agreement of the competent authority or its authorized body. Before the MEGC is placed into service, a leakproofness test and a test of the satisfactory operation of all service equipment shall also be performed. When the elements and their fittings have been pressure-tested separately, they shall be subjected together after assembly to a leakproofness test.
- 6.7.5.12.4** The 5-year periodic inspection and test shall include an external examination of the structure, the elements and the service equipment in accordance with 6.7.5.12.6. The elements and the piping shall be tested at the periodicity specified in packing instruction P200 and in accordance with the provisions described in 6.2.1.6. When the elements and equipment have been pressure-tested separately, they shall be subjected together after assembly to a leakproofness test.
- 6.7.5.12.5** An exceptional inspection and test is necessary when the MEGC shows evidence of damaged or corroded areas, leakage, or other conditions that indicate a deficiency that could affect the integrity of the MEGC. The extent of the exceptional inspection and test shall depend on the amount of damage or deterioration of the MEGC. It shall include at least the examinations required under 6.7.5.12.6.
- 6.7.5.12.6** The examinations shall ensure that:
- (a) the elements are inspected externally for pitting, corrosion, abrasions, dents, distortions, defects in welds or any other conditions, including leakage, that might render the MEGC unsafe for carriage;
  - (b) the piping, valves, and gaskets are inspected for corroded areas, defects, and other conditions, including leakage, that might render the MEGC unsafe for filling, discharge or carriage;
  - (c) missing or loose bolts or nuts on any flanged connection or blank flange are replaced or tightened;
  - (d) all emergency devices and valves are free from corrosion, distortion and any damage or defect that could prevent their normal operation. Remote closure devices and self-closing stop-valves shall be operated to demonstrate proper operation;
  - (e) required markings on the MEGC are legible and in accordance with the applicable requirements; and
  - (f) the framework, the supports and the arrangements for lifting the MEGC are in satisfactory condition.
- 6.7.5.12.7** The inspections and tests in 6.7.5.12.1, 6.7.5.12.3, 6.7.5.12.4 and 6.7.5.12.5 shall be performed or witnessed by a body authorized by the competent authority. When the pressure test is a part of the inspection and test, the test pressure shall be the one indicated on the data plate of the MEGC. While under pressure, the MEGC shall be inspected for any leaks in the elements, piping or equipment.
- 6.7.5.12.8** When evidence of any unsafe condition is discovered, the MEGC shall not be returned to service until it has been corrected and the applicable tests and verifications are passed.
- 6.7.5.13 Marking**
- 6.7.5.13.1** Every MEGC shall be fitted with a corrosion resistant metal plate permanently attached to the MEGC in a conspicuous place readily accessible for inspection. The elements shall be marked in accordance with Chapter 6.2. At least the following information shall be marked on the plate by stamping or by any other similar method:

Country of manufacture

U	Approval	Approval	For Alternative Arrangements (see 6.7.1.2)
N	country	number	"AA"

Manufacturer's name or mark

Manufacturer's serial number

Authorized body for the design approval

Year of manufacture

Test pressure: \_\_\_\_\_ bar gauge

Design temperature range \_\_\_\_\_ °C to \_\_\_\_\_ °C

Number of elements \_\_\_\_\_

Total water capacity \_\_\_\_\_ litres

Initial pressure test date and identification of the authorized body

Date and type of most recent periodic tests

Month \_\_\_\_\_ Year \_\_\_\_\_

Stamp of the authorized body which performed or witnessed the most recent test

**NOTE:** No metal plate may be fixed to the elements.

**6.7.5.13.2** The following information shall be marked on a metal plate firmly secured to the MEGC:

Name of the operator

Maximum permissible load mass \_\_\_\_\_ kg

Working pressure at 15 °C: \_\_\_\_\_ bar gauge

Maximum permissible gross mass (MPGM) \_\_\_\_\_ kg

Unladen (tare) mass \_\_\_\_\_ kg

## Chapter 6.8

### Requirements for the construction, equipment, type approval, inspections and tests, and marking of tank-wagons, demountable tanks and tank-containers and tank swap bodies, with shells made of metallic materials, and battery-wagons and multiple element gas containers (MEGCs)

**NOTE:** For portable tanks and UN multiple-element gas containers (MEGCs) see Chapter 6.7, for fibre-reinforced plastics tank-containers see Chapter 6.9, for vacuum-operated waste tanks see Chapter 6.10.

#### 6.8.1 Scope

**6.8.1.1** The requirements across the whole width of the page apply both to tank-wagons, to demountable tanks and battery-wagons, and to tank-containers, tank swap bodies and MEGCs. Those contained in a single column apply only:

- to tank-wagons, demountable tanks and battery-wagons (left hand column);
- to tank-containers, tank swap bodies and MEGCs (right hand column).

**6.8.1.2** These requirements shall apply to tank-wagons, demountable tanks and battery-wagons | tank-containers, tank swap bodies and MEGCs used for the carriage of gaseous, liquid, powdery or granular substances.

**6.8.1.3** Section 6.8.2 sets out the requirements applicable to tank-wagons, to demountable tanks, tank-containers, tank swap bodies intended for the carriage of substances of all classes and battery-wagons and MEGCs for gases of Class 2. Sections 6.8.3 to 6.8.5 contain special requirements supplementing or modifying the requirements of section 6.8.2.

**6.8.1.4** For provisions concerning use of these tanks, see Chapter 4.3.

#### 6.8.2 Requirements applicable to all classes

##### 6.8.2.1 Construction

##### *Basic principles*

**6.8.2.1.1** Shells, their service and structural equipment shall be designed to withstand without loss of contents (other than quantities of gas escaping through any degassing vents):

- static and dynamic stresses in normal conditions of carriage as defined in 6.8.2.1.2 and 6.8.2.1.13;
- prescribed minimum stresses as defined in 6.8.2.1.15.

**6.8.2.1.2** Tank-wagons shall be constructed as to be capable of withstanding, under the maximum permissible load, the stresses which occur during carriage by rail. As regards these stresses, reference should be made to the tests prescribed by the competent authority.

Tank-containers and their fastenings shall, under the maximum permissible load be capable of absorbing the forces equal to those exerted by:

- in the direction of travel: twice the total mass;
- horizontally at right angles to the direction of travel: the total mass; (where the direction of travel is not clearly determined, twice the total mass in each direction);
- vertically upwards: the total mass;
- vertically downwards: twice the total mass.

**6.8.2.1.3** The walls of the shells shall have at least the thickness specified in 6.8.2.1.17 and 6.8.2.1.18. | 6.8.2.1.17 to 6.8.2.1.20.

**6.8.2.1.4** Shells shall be designed and constructed in accordance with the requirements of standards listed in 6.8.2.6 or of a technical code recognized by the competent authority, in accordance with 6.8.2.7, in which the material is chosen and the shell thickness determined taking into account maximum and minimum filling and working temperatures, but the following minimum requirements of 6.8.2.1.6 to 6.8.2.1.26 shall be met.

**6.8.2.1.5** Tanks intended to contain certain dangerous substances shall be provided with additional protection. This may take the form of additional thickness of the shell (increased calculation pressure) determined in the light of the dangers inherent in the substances concerned or of a protective device (see the special provisions of 6.8.4).



**6.8.2.1.6** Welds shall be skilfully made and shall afford the fullest safety. The execution and checking of welds shall comply with the requirements of 6.8.2.1.23.

**6.8.2.1.7** Measures shall be taken to protect shells against the risk of deformation as a result of a negative internal pressure.

Shells, other than shells according to 6.8.2.2.6, designed to be equipped with vacuum valves shall be able to withstand, without permanent deformation, an external pressure of not less than 21 kPa (0.21 bar) above the internal pressure. Shells used for the carriage of solid substances (powdery or granular) of packing groups II or III only, which do not liquefy during carriage, may be designed for a lower external pressure but not less than 5 kPa (0.05 bar). The vacuum valves shall be set to relieve at a vacuum setting not greater than the tank's design vacuum pressure. Shells, which are not designed to be equipped with a vacuum valve shall be able to withstand, without permanent deformation an external pressure of not less than 40 kPa (0.4 bar) above the internal pressure.

**Materials for shells**

**6.8.2.1.8** Shells shall be made of suitable metallic materials which, unless other temperature ranges are prescribed in the various classes, shall be resistant to brittle fracture and to stress corrosion cracking between  $-20\text{ }^{\circ}\text{C}$  and  $+50\text{ }^{\circ}\text{C}$ .

**6.8.2.1.9** The materials of shells or of their protective linings which are in contact with the contents shall not contain substances liable to react dangerously (see "Dangerous reaction" in 1.2.1) with the contents, to form dangerous compounds, or substantially to weaken the material.

If contact between the substance carried and the material used for the construction of the shell entails a progressive decrease in the shell thickness, this thickness shall be increased at manufacture by an appropriate amount. This additional thickness to allow for corrosion shall not be taken into consideration in calculating the shell thickness.

**6.8.2.1.10** For welded shells only materials of faultless weldability whose adequate impact strength at an ambient temperature of  $-20\text{ }^{\circ}\text{C}$  can be guaranteed, particularly in the weld seams and the zones adjacent thereto, shall be used.

Water-quenched steel may not be used for welded steel shells. If fine-grained steel is used, the guaranteed value of the yield strength  $R_e$  shall not exceed  $460\text{ N/mm}^2$  and the guaranteed value of the upper limit of tensile strength  $R_m$  shall not exceed  $725\text{ N/mm}^2$ , in accordance with the specifications of the material.

**6.8.2.1.11** Ratios of  $R_e/R_m$  exceeding 0.85 are not allowed for steels used in the construction of welded tanks.

$R_e$  = apparent yield strength for steels having a clearly-defined yield point or  
guaranteed 0.2% proof strength for steels with no clearly-defined yield point (1% for austenitic steels)

$R_m$  = tensile strength.

The values specified in the inspection certificate for the material shall be taken as a basis in determining this ratio in each case.

**6.8.2.1.12** For steel, the elongation at fracture, in % shall be not less than

$$\frac{10\,000}{\text{determined tensile strength in N/mm}^2}$$
 but in any case for fine-grained steels it shall be not less than

16 % and not less than 20 % for other steels.

For aluminium alloys the elongation at fracture shall be not less than 12%<sup>1</sup>.

<sup>1</sup> In the case of sheet metal the axis of the tensile test-piece shall be at right angles to the direction of rolling. The permanent elongation at fracture shall be measured on test-pieces of circular cross-section in which the gauge length  $l$  is equal to five times the diameter  $d$  ( $l = 5d$ ); if test-pieces of rectangular section are used, the gauge length shall be calculated by the formula

$$l = 5.65 \sqrt{F_0}$$

where  $F_0$  indicates the initial cross-section area of the test-piece.



**Calculation of the shell thickness**

- 6.8.2.1.13** The pressure on which the shell thickness is based shall not be less than the calculation pressure, but the stresses referred to in 6.8.2.1.1 shall also be taken into account, and, if necessary, the following stresses:

In the case of wagons in which the tank constitutes a stressed self-supporting member, the shell shall be designed to withstand the stresses thus imposed in addition to stresses from other sources.

Under each of these stresses the safety factors to be observed shall be the following:

- for metals having a clearly-defined yield point: a safety factor of 1.5 in relation to the apparent yield strength; or
- for metals with no clearly-defined yield point: a safety factor of 1.5 in relation to the guaranteed 0.2% proof strength (1% maximum elongation for austenitic steels).

- 6.8.2.1.14** The calculation pressure is in the second part of the code (see 4.3.4.1) according to Column (12) of Table A of Chapter 3.2.

When "G" appears, the following requirements shall apply:

- (a) Gravity-discharge shells intended for the carriage of substances having a vapour pressure not exceeding 110 kPa (1.1 bar) (absolute pressure) at 50 °C shall be designed for a calculation pressure of twice the static pressure of the substance to be carried but not less than twice the static pressure of water.
- (b) Pressure-filled or pressure-discharge shells intended for the carriage of substances having a vapour pressure not exceeding 110 kPa (1.1 bar) (absolute pressure) at 50 °C shall be designed for a calculation pressure equal to 1.3 times the filling or discharge pressure.

When the numerical value of the minimum calculation pressure is given (gauge pressure) the shell shall be designed for this pressure which shall not be less than 1.3 times the filling or discharge pressure. The following minimum requirements shall apply in these cases:

- (c) Shells intended for the carriage of substances having a vapour pressure of more than 110 kPa (1.1 bar) at 50 °C and a boiling point of more than 35 °C shall, whatever their filling or discharge system, be designed for a calculation pressure of not less than 150 kPa (1.5 bar) gauge pressure or 1.3 times the filling or discharge pressure, whichever is the higher.
- (d) Shells intended for the carriage of substances having a boiling point of not more than 35 °C shall, whatever their filling or discharge system, be designed for a calculation pressure equal to 1.3 times the filling or discharge pressure but not less than 0.4 MPa (4 bar) (gauge pressure).

- 6.8.2.1.15** At the test pressure, the stress  $\sigma$  at the most severely stressed point of the shell shall not exceed the material-dependent limits prescribed below. Allowance shall be made for any weakening due to the welds.

- 6.8.2.1.16** For all metals and alloys, the stress  $\sigma$  at the test pressure shall be lower than the smaller of the values given by the following formulae:

$$\sigma \leq 0.75 R_e \text{ or } \sigma \leq 0.5 R_m$$

where

$R_e$  = apparent yield strength for steels having a clearly-defined yield point or  
0,2%-Dehngrenze für Stähle ohne ausgeprägter Streckgrenze (1%-Dehngrenze für austenitische Stähle)

$R_m$  = tensile strength.

The values of  $R_e$  and  $R_m$  to be used shall be specified minimum values according to material standards. If no material standard exists for the metal or alloy in question, the values of  $R_e$  and  $R_m$  used shall be approved by the competent authority or by a body designated by that authority.

When austenitic steels are used, the specified minimum values according to the material standards may be exceeded by up to 15% if these higher values are attested in the inspection certificate. The minimum values shall, however, not be exceeded when the formula given in 6.8.2.1.18 is applied.

**Minimum shell thickness**

**6.8.2.1.17** The shell thickness shall not be less than the greater of the values determined by the following formulae:

$$e = \frac{P_T D}{2 \sigma \lambda}$$

$$e = \frac{P_C D}{2 \sigma}$$

where:

$e$  = minimum shell thickness in mm

$P_T$  = test pressure in MPa

$P_C$  = calculation pressure in MPa as specified in 6.8.2.1.14

$D$  = internal diameter of shell in mm

$\sigma$  = permissible stress, as defined in 6.8.2.1.16, in N/mm<sup>2</sup>

$\lambda$  = a coefficient not exceeding 1, allowing for any weakening due to welds, and linked to the inspection methods defined in 6.8.2.1.23.

The thickness shall in no case be less than that defined in 6.8.2.1.18.

6.8.2.1.18 to 6.8.2.1.20.

**6.8.2.1.18** Shells shall be not less than 6 mm thick if of mild steel<sup>2</sup>, or of equivalent thickness if of another metal. For powdery or granular substances, this thickness may be reduced to 5 mm for mild steel or to an equivalent thickness for other metals.

Shells shall be not less than 5 mm thick if of mild steel<sup>2</sup> (in conformity with the requirements of 6.8.2.1.11 and 6.8.2.1.12) or of equivalent thickness if of another metal.

Whichever metal is used, the minimum wall thickness of the shell shall in no case be less than 4.5 mm.

Where the diameter is more than 1.80 m<sup>3</sup>, this thickness shall be increased to 6 mm except in the case of tanks intended for the carriage of powdery or granular substances, if the shell is of mild steel<sup>2</sup> or to an equivalent thickness if of another metal.

Whatever the metal used, the shell thickness shall in no case be less than 3 mm.

"Equivalent thickness" means the thickness obtained by the following formula<sup>4</sup>:

$$e_1 = \frac{464 e_0}{\sqrt[3]{(Rm_1 A_1)^2}}$$

<sup>2</sup> For the definitions of "mild steel" and "reference steel" see 1.2.1.

<sup>3</sup> For shells not of a circular cross-section, for example box-shaped or elliptical shells, the indicated diameters shall correspond to those calculated on the basis of a circular cross-section of the same area. For such shapes of cross-section the radius of convexity of the shell wall shall not exceed 2 000 mm at the sides or 3 000 mm at the top and bottom.

<sup>4</sup> This formula is derived from the general formula:

$$e_1 = e_0 \sqrt[3]{\left( \frac{Rm_0 A_0}{Rm_1 A_1} \right)^2}$$

where

$e_1$  = minimum shell thickness for the metal chosen, in mm;

$e_0$  = minimum shell thickness for mild steel, in mm, according to 6.8.2.1.18 and 6.8.2.1.19;

$Rm_0$  = 370 (tensile strength for reference steel, see definition 1.2.1, in N/mm<sup>2</sup>);

$A_0$  = 27 (elongation at fracture for reference steel, in %);

$Rm_1$  = minimum tensile strength of the metal chosen, in N/mm<sup>2</sup>; and

**6.8.2.1.19** (Reserved)

Where protection of the tank against damage is provided according to 6.8.2.1.20, the competent authority may allow the aforesaid minimum thicknesses to be reduced in proportion to the protection provided; however, the said thicknesses shall be not less than 3 mm in the case of mild steel<sup>2</sup>, or than an equivalent thickness in the case of other materials, for shells not more than 1.80 m<sup>3</sup> in diameter. For shells of a diameter exceeding 1.80 m<sup>3</sup> this minimum thickness shall be increased to 4 mm in the case of mild steel<sup>2</sup>, and to an equivalent thickness in the case of other metals.

Equivalent thickness means the thickness given by the formula in 6.8.2.1.18.

The thickness of shells with protection against damage in accordance with 6.8.2.1.20 shall not be less than the values given in the table below:

Minimum thickness of shells	Diameter of shell	≤ 1.80 m	> 1.80 m
	Stainless austenitic steels	2.5 mm	3 mm
	Other steels	3 mm	4 mm
	Aluminium alloys	4 mm	5 mm
	Pure aluminium of 99.80%	6 mm	8 mm

**6.8.2.1.20** (Reserved)

The protection referred to in 6.8.2.1.19 may consist of:

- overall external structural protection as in "sandwich" construction where the sheathing is secured to the shell; or
- a structure in which the shell is supported by a complete skeleton including longitudinal and transverse structural members; or
- double-wall construction.

Where the tanks are made with double walls, the space between being evacuated of air, the aggregate thickness of the outer metal wall and the shell wall shall correspond to the minimum wall thickness prescribed in 6.8.2.1.18, the thickness of the wall of the shell itself being not less than the minimum thickness prescribed in 6.8.2.1.19.

Where tanks are made with double walls with an intermediate layer of solid materials at least 50 mm thick, the outer wall shall have a thickness of not less than 0.5 mm if it is made of mild steel<sup>2</sup> or at least 2 mm if it is made of a plastics material reinforced with glass fibre. Solid foam with an impact absorption capacity such as that, for example, of polyurethane foam, may be used as the intermediate layer of solid material.

**6.8.2.1.21** (Reserved)**6.8.2.1.22** (Reserved)

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A<sub>1</sub> = minimum elongation at fracture of the metal chosen under tensile stress, in %.

***Welding and inspection of welds***

- 6.8.2.1.23** The manufacturer's qualification for performing welding operations shall be one recognized by the competent authority. Welding shall be performed by skilled welders using a welding process whose effectiveness (including any heat treatments required) has been demonstrated by test. Non-destructive tests shall be carried out by radiography or by ultrasound and must confirm that the quality of the welding is appropriate to the stresses.

The following checks shall be carried out in accordance with the value of the coefficient  $\lambda$  used in determining the thickness of the shell in 6.8.2.1.17:

- $\lambda = 0.8$ : the weld beads shall so far as possible be inspected visually on both faces and shall be subjected to a non-destructive spot check. All weld "Tee" junctions with the total length of weld examined to be not less than 10% of the sum of the length of all longitudinal, circumferential and radial (in the tank ends) welds shall be tested;
- $\lambda = 0.9$ : all longitudinal beads throughout their length, all connections, 25% of circular beads, and welds for the assembly of large-diameter items of equipment shall be subjected to non-destructive checks. Beads shall be checked visually on both sides as far as possible;
- $\lambda = 1$ : all beads shall be subjected to non-destructive checks and are so far as possible inspected visually on both sides. A weld test-piece shall be taken.

Where the competent authority has doubts regarding the quality of weld beads, it may require additional checks.

***Other construction requirements***

- 6.8.2.1.24** The protective lining shall be so designed that its leakproofness remains intact, whatever the deformation liable to occur in normal conditions of carriage (see 6.8.2.1.2).
- 6.8.2.1.25** The thermal insulation shall be so designed as not to hinder access to, or the operation of, filling and discharge devices and safety valves.
- 6.8.2.1.26** If shells intended for the carriage of flammable liquids having a flash-point of not more than 60 °C are fitted with non-metallic protective linings (inner layers), the shells and the protective linings shall be so designed that no danger of ignition from electrostatic charges can occur.
- |                   |  |  |
|-------------------|--|--|
| <b>6.8.2.1.27</b> | All parts of tank-wagons intended for the carriage of liquids having a flash-point of not more than 60 °C and for the carriage of flammable gases, or of UN No. 1361 carbon or UN No. 1361 carbon black, Packing Group II, shall be linked to the chassis by means of electrical connection and shall be capable of being electrically earthed. Any metal contact capable of causing electrochemical corrosion shall be avoided. | All parts of a tank-container intended for the carriage of liquids having a flash-point of not more than 60 °C, flammable gases, or UN No. 1361 carbon or UN No. 1361 carbon black, packing group II, shall be capable of being electrically earthed. Any metal contact capable of causing electrochemical corrosion shall be avoided. |
|-------------------|--|--|
- 6.8.2.1.28** (Reserved)

**6.8.2.2 Items of equipment**

- 6.8.2.2.1** Suitable non-metallic materials may be used to manufacture service and structural equipment.

The attachments of equipment which is welded on shall be made in such a way that the shell is prevented from being ruptured as a result of stresses caused by an accident. These requirements shall be deemed to be met if point 1.1.10 of UIC leaflet 573<sup>5</sup> (Technical conditions for the construction of tank-wagons) is applied.

The items of equipment shall be so arranged as to be protected against the risk of being wrenched off or damaged during carriage or handling. They shall exhibit a suitable degree of safety comparable to that of the shells themselves, and shall in particular:

- be compatible with the substances carried; and
- meet the requirements of 6.8.2.1.1.

<sup>5</sup> 7<sup>th</sup> edition of the UIC leaflet applicable from 1 October 2008.

Piping shall be designed, constructed and installed so as to avoid the risk of damage due to thermal expansion and contraction, mechanical shock and vibration.

The leakproofness of the service equipment shall be ensured even in the event of the overturning of the tank-wagon or tank-container.

The gaskets shall be made of a material compatible with the substance carried and shall be replaced as soon as their effectiveness is impaired, for example as a result of ageing.

Gaskets ensuring the leakproofness of fittings requiring manipulation during normal use of tanks shall be so designed and arranged that manipulation of the fittings incorporating them does not damage them.

#### 6.8.2.2.2

Each bottom-filling or bottom-discharge opening in tanks which are referred to, in Column (12) of Table A of Chapter 3.2, with a tank code including the letter "A" in its third part (see 4.3.4.1.1) shall be equipped with at least two mutually independent closures, mounted in series, comprising

- an external stop-valve with piping made of a malleable metal material and
- a closing device at the end of each pipe which may be a screw-threaded plug, a blank flange or an equivalent device. This closing device shall be sufficiently tight so that the substance is contained without loss. Measures shall be taken to enable the safe release of pressure in the discharge pipe before the closing device is completely removed.

Each bottom-filling or bottom-discharge opening in tanks which are referred to, in Column (12) of Table A of Chapter 3.2, with a tank code including the letter "B" in its third part (see 4.3.3.1.1 or 4.3.4.1.1) shall be equipped with at least three mutually independent closures, mounted in series, comprising

- an internal stop-valve, i.e. a stop-valve mounted inside the shell or in a welded flange or companion flange;
- an external stop-valve or an equivalent device<sup>6</sup>, | as near as possible to the shell and one at the end of each pipe and
- a closing device at the end of each pipe which may be a screw-threaded plug, a blank flange or an equivalent device. This closing device shall be sufficiently tight so that the substance is contained without loss. Measures shall be taken to enable the safe release of pressure in the discharge pipe before the closing device is completely removed.

However, in the case of tanks intended for the carriage of certain crystallizable or highly viscous substances and shells fitted with an ebonite or thermoplastic coating, the internal stop-valve may be replaced by an external stop-valve provided with additional protection.

The internal stop-valve shall be operable either from above or from below. Its setting – open or closed – shall so far as possible in each case be capable of being verified from the ground. Internal stop-valve control devices shall be so designed as to prevent any unintended opening through impact or an inadvertent act.

The internal shut-off device shall continue to be effective in the event of damage to the external control device.

In order to avoid any loss of contents in the event of damage to the external fittings (pipes, lateral shut-off devices), the internal stop-valve and its seating shall be protected against the danger of being wrenched off by external stresses or shall be so designed as to resist them. The filling and discharge devices (including flanges or threaded plugs) and protective caps (if any) shall be capable of being secured against any unintended opening.

The position and/or direction of closure of shut-off devices shall be clearly apparent.

All openings of tanks which are referred to in Column (12) of Table A of Chapter 3.2, by a tank code including letter "C" or "D" in its third part (see 4.3.3.1.1 and 4.3.4.1.1) shall be situated above the surface level of the liquid. These tanks shall have no pipes or pipe connections below the surface level of the liquid. The cleaning openings (fist-holes) are, however, permitted in the lower part of the shell for tanks referred to by a tank code including letter "C" in its third part. This opening shall be capable of being sealed by a flange so closed as to be leakproof and whose design shall be approved by the competent authority or by a body designated by that authority.

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<sup>6</sup> In the case of tank-containers of less than 1 m<sup>3</sup> capacity, the external stop-valve or other equivalent device may be replaced by a blank flange.

- 6.8.2.2.3** Tanks that are not hermetically closed may be fitted with vacuum valves or with self-operating ventilation valves to avoid an unacceptable negative internal pressure; these valves shall be set to relieve at a vacuum setting not greater than the vacuum pressure for which the tank has been designed (see 6.8.2.1.7). Hermetically closed tanks shall not be fitted with vacuum valves or with self-operating ventilation valves. However, tanks of the tank code SGAH, S4AH or L4BH, fitted with these valves which open at a negative pressure of not less than 21 kPa (0.21 bar) shall be considered as being hermetically closed. For tanks intended for the carriage of solid substances (powdery or granular) of packing group II or III only, which do not liquefy during transport, the negative pressure may be reduced to not less than 5 kPa (0.05 bar).
- Vacuum valves and self-operating ventilation valves used on tanks intended for the carriage of substances meeting the flash-point criteria of Class 3, shall prevent the immediate passage of flame into the tank, or the shell of the tank shall be capable of withstanding, without leakage, an explosion resulting from the passage of the flame.
- For tanks with self-operating ventilation valves, the connection between the self-operating ventilation valve and the bottom valve shall be so arranged that the valves do not open in the event of deformation of the tank or the contents cannot escape in the event of their opening.
- 6.8.2.2.4** The shell or each of its compartments shall be provided with an opening large enough to permit inspection.
- These openings shall be provided with closures designed for a test pressure of at least 0.4 MPa (4 bar). Hinged dome covers for tanks with a test pressure of more than 0.6 MPa (6 bar) shall not be permitted.
- 6.8.2.2.5** (Reserved)
- 6.8.2.2.6** Tanks intended for the carriage of liquids having a vapour pressure of not more than 110 kPa (1.1 bar) (absolute) at 50 °C shall have a venting system and a safety device to prevent the contents from spilling out if the tank overturns; otherwise they shall conform to 6.8.2.2.7 or 6.8.2.2.8.
- 6.8.2.2.7** Tanks intended for the carriage of liquids having a vapour pressure of more than 110 kPa (1.1 bar) at 50 °C and a boiling point of more than 35 °C shall have a safety valve set at not less than 150 kPa (1.5 bar) (gauge pressure) and which shall be fully open at a pressure not exceeding the test pressure; otherwise they shall conform to 6.8.2.2.8.
- 6.8.2.2.8** Tanks intended for the carriage of liquids having a boiling point of not more than 35 °C shall have a safety valve set at not less than 300 kPa (3 bar) gauge pressure and which shall be fully open at a pressure not exceeding the test pressure; otherwise they shall be hermetically closed<sup>7</sup>.
- 6.8.2.2.9** Movable parts such as covers, closures, etc., which are liable to come into frictional or percussive contact with aluminium shells intended for the carriage of flammable liquids having a flash-point of not more than 60 °C or for the carriage of flammable gases shall not be made of unprotected corrodible steel.
- 6.8.2.2.10** If tanks required to be hermetically closed are equipped with safety valves, these shall be preceded by a bursting disc, and the following conditions shall be observed:
- The arrangement of the bursting disc and the safety valve shall be such as to satisfy the competent authority. A pressure gauge or another suitable indicator shall be provided in the space between the bursting disc and the safety valve, to enable detection of any rupture, perforation or leakage of the disc which may disrupt the action of the safety valve.

<sup>7</sup> For the definition of "hermetically closed tank" see 1.2.1.

**6.8.2.3 Type approval**

**6.8.2.3.1** The competent authority or a body designated by that authority shall issue in respect of each new type of tank-wagon, demountable tank, tank-container, tank swap body, battery-wagon or MEGC a certificate attesting that the type, including fastenings, which it has inspected is suitable for the purpose for which it is intended and meets the construction requirements of 6.8.2.1, the equipment requirements of 6.8.2.2 and the special conditions for the classes of substances carried.

The certificate shall show:

- the results of the test;
- an approval number for the type;

The approval number shall consist of the distinguishing sign<sup>8</sup> of the State in whose territory the approval was granted and a registration number.

- the tank code in accordance with 4.3.3.1.1 or 4.3.4.1.1;
- the alphanumeric codes of special provisions of construction (TC), equipment (TE) and type approval (TA) of 6.8.4 which are shown in column (13) of Table A of Chapter 3.2 for those substances for the carriage of which the tank has been approved;
- if required, the substances and/or group of substances for the carriage of which the tank has been approved.

These shall be shown with their chemical name or the corresponding collective entry (see 2.1.1.2), together with their classification (class, classification code and packing group).

With the exception of substances of Class 2 and those listed in 4.3.4.1.3, the listing of approved substances may be dispensed with. In such cases, groups of substances permitted on the basis of the tank code shown in the rationalised approach in 4.3.4.1.2 shall be accepted for carriage taking into account any relevant special provision.

The substances referred to in the certificate or the groups of substances approved according to the rationalised approach shall, in general, be compatible with the characteristics of the tank. A reservation shall be included in the certificate if it was not possible to investigate this compatibility exhaustively when the type approval was issued.

A copy of the certificate shall be attached to the tank record of each tank, battery-wagon or MEGC constructed (see 4.3.2.1.7).

**6.8.2.3.2** If the tanks, battery-wagons or MEGCs are manufactured in series without modification this approval shall be valid for the tanks, battery-wagons or MEGCs manufactured in series or according to the prototype.

A type approval may however serve for the approval of tanks with limited variations of the design that either reduce the loads and stresses on the tanks (e.g. reduced pressure, reduced mass, reduced volume) or increase the safety of the structure (e.g. increased shell thickness, more surge-plates, decreased diameter of openings). The limited variations shall be clearly described in the type approval certificate.

**6.8.2.4 Inspections and tests**

**6.8.2.4.1** Shells and their equipment shall either together or separately undergo an initial inspection before being put into service. This inspection shall include:

- a check of conformity to the approved type;
- a check of the design characteristics<sup>9</sup>;
- an examination of the internal and external conditions;
- a hydraulic pressure test<sup>10</sup> at the test pressure indicated on the plate prescribed in 6.8.2.5.1; and
- a leakproofness test and a check of satisfactory operation of the equipment.

Except in the case of Class 2, the test pressure for the hydraulic pressure test depends on the calculation pressure and shall be at least equal to the pressure indicated below:

<sup>8</sup> Distinguishing sign for use in international traffic prescribed by the Convention on Road Traffic (Vienna, 1968).

<sup>9</sup> The check of the design characteristics shall also include, for shells requiring a test pressure of 1 MPa (10 bar) or higher, the taking of weld test-pieces (work samples) in accordance with 6.8.2.1.23 and the tests prescribed in 6.8.5.

Calculation pressure (bar)	Test pressure (bar)
G <sup>11</sup>	G <sup>11</sup>
1.5	1.5
2.65	2.65
4	4
10	4
15	4
21	10 (4 <sup>12</sup> )

The minimum test pressures for Class 2 are given in the table of gases and gas mixtures in 4.3.3.2.5.

The hydraulic pressure test shall be carried out on the shell as a whole and separately on each compartment of compartmented shells.

The hydraulic pressure test shall be carried out before the installation of a thermal insulation as may be necessary.

If the shells and their equipment are tested separately, they shall be jointly subjected to a leakproofness test after assembly in accordance with 6.8.2.4.3.

The leakproofness test shall be carried out separately on each compartment of compartmented shells.

**6.8.2.4.2** Shells and their equipment shall undergo periodic inspections **no later than every eight years** **five years**.

These periodic inspections shall include:

- An external and internal examination;
- A leakproofness test in accordance with 6.8.2.4.3 of the shell with its equipment and check of the satisfactory operation of all the equipment;
- As a general rule, a hydraulic pressure test<sup>10</sup> (for the test pressure for the shells and compartments if applicable, see 6.8.2.4.1).

Sheathing for thermal or other insulation shall be removed only to the extent required for reliable appraisal of the characteristics of the shell.

In the case of tanks intended for the carriage of powdery or granular substances, and with the agreement of the expert approved by the competent authority, the periodic hydraulic pressure tests may be omitted and replaced by leakproofness tests in accordance with 6.8.2.4.3, at an effective internal pressure at least equal to the maximum working pressure.

**6.8.2.4.3** Shells and their equipment shall undergo intermediate inspections at least every four years **two and a half years** after the initial inspection and each periodic inspection. These intermediate inspections may be performed within three months before or after the specified date.

However, the intermediate inspection may be performed at any time before the specified date.

If an intermediate inspection is performed more than three months before the due date, another intermediate inspection shall be performed at the latest **four years** **two and a half years** after this date.

These intermediate inspections shall include a leakproofness test of the shell with its equipment and check of the satisfactory operation of all the equipment. For this purpose the tank shall be subjected to an effective internal pressure at least equal to the maximum working pressure. For tanks intended for the carriage of liquids or solids in the granular or powdery state, when a gas is used for the leakproofness test it shall be carried out at a pressure at least equal to 25% of the maximum working pressure. In all cases, it shall not be less than 20 kPa (0.2 bar) (gauge pressure).

For tanks equipped with venting systems and a safety device to prevent the contents spilling out if the tank overturns, the pressure test shall be equal to the static pressure of the filling substance.

<sup>10</sup> In special cases and with the agreement of the expert approved by the competent authority, the hydraulic pressure test may be replaced by a pressure test using another liquid or gas, where such an operation does not present any danger.

<sup>11</sup> G = minimum calculation pressure according to the general requirements of 6.8.2.1.14 (see 4.3.4.1).

<sup>12</sup> Minimum test pressure for UN No. 1744 bromine or UN No. 1744 bromine solution.



The leakproofness test shall be carried out separately on each compartment of compartmented shells.

**6.8.2.4.4** When the safety of the tank or of its equipment may have been impaired as a result of repairs, alterations or accident, an exceptional check shall be carried out. If an exceptional check fulfilling the requirements of 6.8.2.4.2 has been performed, then the exceptional check may be considered to be a periodic inspection. If an exceptional check fulfilling the requirements of 6.8.2.4.3 has been performed then the exceptional check may be considered to be an intermediate inspection.

**6.8.2.4.5** The tests, inspections and checks in accordance with 6.8.2.4.1 to 6.8.2.4.4 shall be carried out by the expert approved by the competent authority. Certificates shall be issued showing the results of these operations, even in the case of negative results. These certificates shall refer to the list of the substances permitted for carriage in this tank or to the tank code and the alphanumeric codes of special provisions in accordance with 6.8.2.3.

A copy of these certificates shall be attached to the tank record of each tank, battery-wagon or MEGC tested (see 4.3.2.1.7).

***Expert for performing tests and inspections on the tanks of tank-wagons***

**6.8.2.4.6** In order to be considered as an expert within the meaning of 6.8.2.4.5, one shall be approved by the competent authority and meet the following requirements. However, this mutual recognition shall not apply to activities in connection with an amendment of the design type approval. (Reserved)

1. The expert shall be independent of the parties involved. He may neither be identical with the originator of the design, the manufacturer, the supplier, the purchaser, the owner, the holder or the user of the tanks of tank-wagons to be inspected, nor may he be an authorized representative of the aforementioned parties.
2. The expert may not engage in any activities that might conflict with his independence of judgement and integrity in relation to the inspection activities. The expert shall, in particular, be free from any commercial, financial or other pressures which might affect his judgement, particularly from persons or undertakings external to the inspection body with an interest in the results of the inspections carried out. The impartiality of the inspection staff shall be ensured.
3. The expert shall have at his disposal the necessary facilities to enable him to perform properly the technical and administrative tasks connected with the examinations and inspection operations. He shall also have access to the equipment required to carry out special inspections.
4. The expert shall have appropriate qualifications, sound technical and vocational training, satisfactory knowledge of the provisions applicable to the inspections to be carried out and adequate practical experience of such operations. In order to ensure a high level of safety, he shall provide expertise in the field of safety of tanks of tank-wagons. He shall be capable of drawing up the necessary certificates, records and reports to demonstrate that the inspections have been carried out.
5. The expert shall be adequately familiar with the technology used for the construction of the tanks to be inspected, including their accessories, the use or intended use of the equipment submitted for inspection, and with the defects which may occur during use or in service.
6. The expert shall carry out the assessments and inspections with the highest degree of profes-

sional reliability and technical competence. He shall ensure the confidentiality of information obtained in the course of the inspection activities. Proprietary rights shall be protected.

7. The amount of remuneration of the expert engaged in inspection activities shall not directly depend on the number of inspections carried out and in no case on the results of such inspections.
8. The expert shall have adequate liability insurance unless, in accordance with national laws and regulations, the liability is assumed by the state or the undertaking of which he forms a part.

These requirements shall be met for:

- the staff of a "notified body" certified in accordance with Directive 1999/36/EC,
- persons who are approved on the basis of an accrediting procedure in accordance with standard EN ISO/IEC 17020:2004 ("General criteria for the operation of various types of bodies performing inspection").

The Member States shall communicate to the secretariat of OTIF the experts who have been approved with respect to the particular inspections. The information shall include the stamp and the marking stamp. The secretariat of OTIF shall publish a list of approved experts and shall ensure that this list is kept up to date.

In order to introduce and to continue to develop harmonised inspection procedures, and in order to ensure a uniform level of inspections, the secretariat of OTIF shall arrange an exchange of experiences at least once every year.

#### 6.8.2.5 Marking

##### 6.8.2.5.1

Every tank shall be fitted with a corrosion-resistant metal plate permanently attached to the tank in a place readily accessible for inspection. The following particulars at least shall be marked on the plate by stamping or by any other similar method. These particulars may be engraved directly on the walls of the shell itself, if the walls are so reinforced that the strength of the shell is not impaired:

- approval number;
- manufacturer's name or mark;
- manufacturer's serial number;
- year of manufacture;
- test pressure (gauge pressure)<sup>13</sup>;
- external design pressure (see 6.8.2.1.7)<sup>13</sup>;
- capacity of the shell<sup>13</sup> – in the case of multiple-compartment shells, the capacity of each compartment<sup>13</sup> – followed by the symbol "S" when the shells or the compartments are divided by surge plates into sections of not more than 7 500 litres capacity;
- design temperature (only if above +50 °C or below –20 °C)<sup>13</sup>;
- date and type of the most recent test: "month, year" followed by a "P" when the test is the initial test or a periodic test in accordance with 6.8.2.4.1 and 6.8.2.4.2, or "month, year" followed by an "L" when the test is an intermediate leakproofness test in accordance with 6.8.2.4.3;
- stamp of the expert who carried out the tests;
- material of the shell and reference to materials standards, if available and, where appropriate, the protective lining.

<sup>13</sup> Add the units of measurement after the numerical values.

In addition, the maximum working pressure<sup>13</sup> allowed shall be inscribed on pressure-filled or pressure-discharge tanks.

**6.8.2.5.2**

The following particulars shall be inscribed on both sides of the tank-wagon itself or on plate:

- name of operator;
- capacity<sup>13</sup>;
- unladen mass of tank-wagon<sup>13</sup>;
- load limits according to the characteristics of the wagon and the nature of the lines used;
- for the substances according to 4.3.4.1.3, the proper shipping name of the substance(s) accepted for carriage;
- tank code according to 4.3.4.1.1;
- for substances other than those according to 4.3.4.1.3, the alphanumeric codes of all special provisions TC and TE which are shown in column (13) of Table A of Chapter 3.2 for the substances to be carried in the tank;
- date (month, year) of the next inspection in accordance with 6.8.2.4.2 and 6.8.2.4.3 or with the TT special provisions of 6.8.4 for the substance(s) accepted for carriage. If the next inspection is an inspection in accordance with 6.8.2.4.3, the date shall be followed by the letter "L".

The following particulars shall be inscribed either on the tank-container itself or on a plate:

- names of owner and of operator;
- capacity of the shell<sup>13</sup>;
- tare<sup>13</sup>;
- maximum permissible laden mass<sup>13</sup>;
- for the substances according to 4.3.4.1.3, the proper shipping name of the substance(s) accepted for carriage;
- tank code according to 4.3.4.1.1;
- for substances other than those according to 4.3.4.1.3, the alphanumeric codes of all special provisions TC and TE which are shown in column (13) of Table A of Chapter 3.2 for the substances to be carried in the tank.

**6.8.2.6****Requirements for tanks which are designed, constructed and tested according to standards**

**NOTE:** Persons or bodies identified in standards as having responsibilities in accordance with RID shall meet the requirements of RID.

Depending on the date of construction of the tank, the standards listed in the Table below shall be applied as indicated in column (4) to meet the requirements of Chapter 6.8 referred to in column (1) or may be applied as indicated in column (5). The requirements of Chapter 6.8 referred to in column (1) shall prevail in all cases.

If more than one standard is listed as mandatory for the application of the same requirements, only one of them shall be applied, but in full unless otherwise specified in the Table below.

Applicable sub-sections and paragraphs	Reference	Title of document	Mandatory application for tanks constructed	Application authorized for tanks constructed
(1)	(2)	(3)	(4)	(5)
<b>For all tanks</b>				
6.8.2.1	EN 14025:2003 + AC:2005	Tanks for the transport of dangerous goods – Metallic pressure tanks – Design and construction		Between 1 January 2005 and 30 June 2009
6.8.2.1	EN 14025:2008	Tanks for the transport of dangerous goods – Metallic pressure tanks – Design and construction	As from 1 July 2009	Before 1 July 2009
6.8.2.2.1	EN 14432:2006	Tanks for the transport of dangerous goods – Tank equipment for the transport of liquid chemicals – Product discharge and air inlet valves	As from 1 January 2011	Before 1 January 2011
6.8.2.2.1	EN 14433:2006	Tanks for transport of dangerous goods – Tank equipment for the transport of liquid chemicals – Foot valves	As from 1 January 2011	Before 1 January 2011

<b>For testing and inspection</b>				
6.8.2.4 6.8.3.4	EN 12972:2001 (with the exception of annexes D and E)	Tanks for transport of dangerous goods – Testing, inspection and marking of metallic tanks	Between 1 January 2009 and 31 December 2010 <sup>(a)</sup>	Between 1 January 2003 and 31 December 2008
6.8.2.4 6.8.3.4	EN 12972:2007	Tanks for transport of dangerous goods – Testing, inspection and marking of metallic tanks	As from 1 January 2011	Before 1 January 2011
<b>For tanks with a maximum working pressure not exceeding 50 kPa and intended for the carriage of substances for which a tank code with the letter "G" is given in column (12) of Table A of Chapter 3.2</b>				
6.8.2.1	EN 13094:2004	Tanks for the transport of dangerous goods – Metallic tanks with a working pressure not exceeding 0.5 bar – Design and construction		As from 1 January 2005
<b>For tanks intended for the carriage of liquid petroleum products and other dangerous substances of Class 3 which have a vapour pressure not exceeding 110 kPa at 50 °C and petrol, and which have no toxic or corrosive subsidiary hazard</b>				
6.8.2.1	EN 13094:2004	Tanks for the transport of dangerous goods – Metallic tanks with a working pressure not exceeding 0.5 bar – Design and construction		As from 1 January 2005

<sup>(a)</sup> Unless the application of another standard is authorized in column (5) for the same purposes for tanks constructed at the same date.

#### 6.8.2.7 Requirements for tanks which are not designed, constructed and tested according to standards

To reflect scientific and technical progress or where no standard is listed in 6.8.2.6 or to deal with specific aspects not addressed in a standard listed in 6.8.2.6, the competent authority may recognize the use of a technical code providing the same level of safety. Tanks shall, however, comply with the minimum requirements of 6.8.2.

The competent authority shall transmit to the secretariat of OTIF a list of the technical codes that it recognises. The list should include the following details: name and date of the code, purpose of the code and details of where it may be obtained. The secretariat shall make this information publicly available on its website.

For testing, inspection and marking, the applicable standard as referred to in 6.8.2.6 may also be used.

#### 6.8.3 Special requirements applicable to Class 2

##### 6.8.3.1 Construction of shells

##### 6.8.3.1.1 Shells intended for the carriage of compressed or liquefied gases or dissolved gases shall be made of steel.

In the case of weldless shells, by derogation from 6.8.2.1.12 a minimum elongation at fracture of 14% and also a stress  $\sigma$  lower than or equal to limits hereafter given according to the material may be accepted:

- (a) When the ratio  $Re/R_m$  (of the minimum guaranteed characteristics after heat treatment) is higher than 0.66 without exceeding 0.85:  $\sigma \leq 0.75 Re$ .
- (b) When the ratio  $Re/R_m$  (of the minimum guaranteed characteristics after heat treatment) is higher than 0.85:  $\sigma \leq 0.5 R_m$ .

##### 6.8.3.1.2 The requirements of 6.8.5 apply to the materials and construction of welded shells.

##### 6.8.3.1.3 For double-walled shells, the wall thickness of the inner receptacle may, notwithstanding the requirements of 6.8.2.1.18, be 3 mm if a metal is used which has good low-temperature performance corresponding to a minimum tensile strength $R_m = 490 \text{ N/mm}^2$ and a minimum coefficient of elongation $A = 30\%$ .

If other metals are used, an equivalent minimum wall thickness shall be maintained; this thickness is to be calculated according to the formula in foot-

(Reserved)

note 4 to 6.8.2.1.18, where  $R_{m0} = 490 \text{ N/mm}^2$  and  $A_0 = 30\%$ .

The outer shell shall in this case have a minimum wall thickness of 6 mm where mild steel is concerned. If other materials are used, an equivalent minimum wall thickness shall be maintained, which shall be calculated according to the formula given in 6.8.2.1.18.

#### Construction of battery-wagons and MEGCs

**6.8.3.1.4** Cylinders, tubes, pressure drums and bundles of cylinders, as elements of a battery-wagon or MEGC, shall be constructed in accordance with Chapter 6.2.

**NOTE 1:** Bundles of cylinders which are not elements of a battery-wagon or of a MEGC shall be subject to the requirements of Chapter 6.2.

**2:** Tanks as elements of battery-wagons and MEGCs shall be constructed in accordance with 6.8.2.1 and 6.8.3.1.

**3:** Demountable tanks<sup>14</sup> are not to be considered elements of battery-vehicles or MEGCs.

**6.8.3.1.5** Elements and their fastenings shall be capable of absorbing under the maximum permissible load the forces defined in 6.8.2.1.2. Under each force the stress at the most severely stressed point of the element and its fastenings shall not exceed the value defined in 6.2.5.3 for cylinders, tubes, pressure drums and bundles of cylinders and for tanks the value of  $\sigma$  defined in 6.8.2.1.16.

#### Other provisions for the construction of tank-wagons and battery-wagons

**6.8.3.1.6** Tank-wagons and battery-wagons shall be fitted with buffers with a minimum energy absorption capacity of 70 kJ. This provision does not apply to tank-wagons and battery-wagons fitted with energy absorption elements in accordance with the definition in 6.8.4, special provision TE 22. (Reserved)

#### 6.8.3.2 Items of equipment

**6.8.3.2.1** The discharge pipes of tanks shall be capable of being closed by blank flanges or some other equally reliable device. For tanks intended for the carriage of refrigerated liquefied gases, these blank flanges or other equally reliable devices may be fitted with pressure-release openings of a maximum diameter of 1.5 mm.

**6.8.3.2.2** Shells intended for the carriage of liquefied gases may be provided with, in addition to the openings prescribed in 6.8.2.2.2 and 6.8.2.2.4, openings for the fitting of gauges, thermometers, manometers and with bleed holes, as required for their operation and safety.

**6.8.3.2.3** All filling and all discharge openings of tanks intended for the carriage of liquefied flammable and/or toxic gases shall be equipped with an instant-closing internal safety device which closes automatically in the event of an unintended movement of the shell or of fire. It shall also be possible to operate the closing device by remote control. with a capacity greater than  $1 \text{ m}^3$

The device which keeps the internal closure open, e.g. a rail hook, is not a component of the wagon.

**6.8.3.2.4** All openings, other than those accommodating safety valves and closed bleed holes, of tanks intended for the carriage of liquefied flammable and/or toxic gases shall, if their nominal diameter is more than 1.5 mm, shall be equipped with an internal shut-off device.

**6.8.3.2.5** Notwithstanding the requirements of 6.8.2.2.2, 6.8.3.2.3 and 6.8.3.2.4, tanks intended for the carriage of refrigerated liquefied gases may be equipped with external devices in place of internal devices if the external devices afford protection against external damage at least equivalent to that afforded by the wall of the shell.

<sup>14</sup> For the definition of "demountable tank" see 1.2.1.

- 6.8.3.2.6** If the tanks are equipped with gauges in direct contact with the substance carried, the gauges shall not be made of a transparent material. If there are thermometers, they shall not project directly into the gas or liquid through the shell.
- 6.8.3.2.7** Filling and discharge openings situated in the upper part of tanks shall be equipped with, in addition to what is prescribed in 6.8.3.2.3, a second, external, closing device. This device shall be capable of being closed by a blank flange or some other equally reliable device.
- 6.8.3.2.8** Safety valves shall meet the requirements of 6.8.3.2.9 to 6.8.3.2.12 below:
- 6.8.3.2.9** Tanks intended for the carriage of compressed or liquefied gases or dissolved gases, may be fitted with spring-loaded safety valves. These valves shall be capable of opening automatically under a pressure between 0.9 and 1.0 times the test pressure of the tank to which they are fitted. They shall be of such a type as to resist dynamic stresses, including liquid surge. The use of dead weight or counter weight valves is prohibited. The required capacity of the safety valves shall be calculated in accordance with the formula contained in 6.7.3.8.1.1.
- 6.8.3.2.10** Where tanks are intended for carriage by sea, the requirements of 6.8.3.2.9 shall not prohibit the fitting of safety valves conforming to the IMDG Code.
- 6.8.3.2.11** Tanks intended for the carriage of refrigerated liquefied gases shall be equipped with two or more independent safety valves capable of opening at the maximum working pressure indicated on the tank. Two of these safety valves shall be individually sized to allow the gases formed by evaporation during normal operation to escape from the tank in such a way that the pressure does not at any time exceed by more than 10% the working pressure indicated on the tank.

One of the safety valves may be replaced by a bursting disc which shall be such as to burst at the test pressure.

In the event of loss of the vacuum in a double-walled tank, or of destruction of 20% of the insulation of a single-walled tank, the combination of the pressure relief devices shall permit an outflow such that the pressure in the shell cannot exceed the test pressure. **The provisions of 6.8.2.1.7 shall not apply to vacuum-insulated tanks.**

- 6.8.3.2.12** These pressure relief devices of tanks intended for the carriage of refrigerated liquefied gases shall be so designed as to function faultlessly even at their lowest working temperature. The reliability of their operation at that temperature shall be established and checked either by testing each device or by testing a specimen device of each design-type.
- 6.8.3.2.13** For demountable elements<sup>14</sup> the following requirements shall apply:
- |   |            |
|---|------------|
| <ul style="list-style-type: none"> <li>(a) if they can be rolled, the valves shall be provided with protective caps;</li> <li>(b) they shall be so fixed on the underframe of the wagon that they cannot move.</li> </ul> | (Reserved) |
|---|------------|

#### Thermal insulation

- 6.8.3.2.14** If tanks intended for the carriage of liquefied gases are equipped with thermal insulation, such insulation shall consist of either:
- a sun shield covering not less than the upper third but not more than the upper half of the tank surface and separated from the shell by an air space at least 4 cm across; or
  - a complete cladding, of adequate thickness, of insulating materials.
- 6.8.3.2.15** Tanks intended for the carriage of refrigerated liquefied gases shall be thermally insulated. Thermal insulation shall be ensured by means of a continuous sheathing. If the space between the shell and the sheathing is under vacuum (vacuum insulation), the protective sheathing shall be so designed as to withstand without deformation an external pressure of at least 100 kPa (1 bar) (gauge pressure). By derogation from the definition of "calculation pressure" in 1.2.1, external and internal reinforcing devices may be taken into account in the calculations. If the sheathing is so closed as to be gas-tight, a device shall be provided to prevent any dangerous pressure from developing in the insulating layer in the event of inadequate gas-tightness of the shell or of its items of equipment. The device shall prevent the infiltration of moisture into the heat-insulating sheath.
- 6.8.3.2.16** Tanks intended for the carriage of liquefied gases having a boiling point below –182 °C at atmospheric pressure shall not include any combustible material either in the thermal insulation or in the means of attachment.

The means of attachment for vacuum insulated tanks may, with the approval of the competent authority, contain plastics substances between the shell and the sheathing.

- 6.8.3.2.17** By derogation from the requirements of 6.8.2.2.4 shells intended for the carriage of refrigerated liquefied gases need not have an inspection opening.

**Items of equipment for battery-wagons and MEGCs**

- 6.8.3.2.18** Service and structural equipment shall be configured or designed to prevent damage that could result in the release of the pressure receptacle contents during normal conditions of handling and carriage. When the connection between the frame of the battery-wagon or MEGC and the elements allows relative movement between the sub-assemblies, the equipment shall be so fastened as to permit such movement without damage to working parts. Manifold piping leading to shut-off valves shall be sufficiently flexible to protect the valves and the piping from shearing, or releasing the pressure receptacle contents. The filling and discharge devices (including flanges or threaded plugs) and any protective caps shall be capable of being secured against unintended opening.

- 6.8.3.2.19** In order to avoid any loss of content in the event of damage, the manifolds, the discharge fittings (pipe sockets, shut-off devices), and the stop-valves shall be protected or arranged from being wrenched off by external forces or designed to withstand them.

- 6.8.3.2.20** The manifold shall be designed for service in a temperature range of  $-20\text{ }^{\circ}\text{C}$  to  $+50\text{ }^{\circ}\text{C}$ .

The manifold shall be designed, constructed and installed so as to avoid the risk of damage due to thermal expansion and contraction, mechanical shock and vibration. All piping shall be of suitable metallic material. Welded pipe joints shall be used wherever possible.

Joints in copper tubing shall be brazed or have an equally strong metal union. The melting point of brazing materials shall be no lower than  $525\text{ }^{\circ}\text{C}$ . The joints shall not decrease the strength of tubing as may happen when cutting threads.

- 6.8.3.2.21** Except for UN No. 1001 acetylene, dissolved, the permissible maximum stress  $\sigma$  of the manifolding arrangement at the test pressure of the receptacles shall not exceed 75% of the guaranteed yield strength of the material.

The necessary wall thickness of the manifolding arrangement for the carriage of UN No. 1001 acetylene, dissolved shall be calculated according to an approved code of practice.

**NOTE:** For the yield strength, see 6.8.2.1.11.

The basic requirements of this paragraph shall be deemed to have been complied with if the following standards are applied:

(Reserved)

- 6.8.3.2.22** By derogation from the requirements of 6.8.3.2.3, 6.8.3.2.4 and 6.8.3.2.7, for cylinders, tubes, pressure drums and bundles of cylinders (frames) forming a battery-wagon or MEGC, the required closing devices may be provided for within the manifolding arrangement.

- 6.8.3.2.23** If one of the elements is equipped with a safety valve and shut-off devices are provided between the elements, every element shall be so equipped.

- 6.8.3.2.24** The filling and discharge devices may be affixed to a manifold.

- 6.8.3.2.25** Each element, including each individual cylinder of a bundle, intended for the carriage of toxic gases, shall be capable of being isolated by a shut-off valve.

- 6.8.3.2.26** Battery-wagons or MEGCs intended for the carriage of toxic gases shall not have safety valves, unless the safety valves are preceded by a bursting disc. In the latter case, the arrangement of the bursting disc and safety valve shall be satisfactory to the competent authority.

- 6.8.3.2.27** When battery-wagons or MEGCs are intended for carriage by sea, the requirements of 6.8.3.2.26 shall not prohibit the fitting of safety valves conforming to the IMDG Code.

- 6.8.3.2.28** Receptacles which are elements of a battery-wagon or MEGC intended for the carriage of flammable gases shall be combined in groups of not more than 5 000 litres which are capable of being isolated by a shut-off valve.

Each element of a battery-wagon or MEGC intended for the carriage of flammable gases, when consisting of tanks conforming to this Chapter, shall be capable of being isolated by a shut-off valve.

**6.8.3.3 Type approval**

No special requirements.



**6.8.3.4 Inspections and tests**

**6.8.3.4.1** The materials of every welded shell with the exception of cylinders, tubes, pressure drums and cylinders as part of bundles of cylinders which are elements of a battery-wagon or of a MEGC shall be tested according to the method described in 6.8.5.

**6.8.3.4.2** The basic requirements for the test pressure are given in 4.3.3.2.1 to 4.3.3.2.4 and the minimum test pressures are given in the table of gases and gas mixtures in 4.3.3.2.5.

**6.8.3.4.3** The first hydraulic pressure test shall be carried out before thermal insulation is placed in position. When the shell, its fittings, piping and items of equipment have been tested separately, the tank shall be subjected to a leakproofness test after assembly.

**6.8.3.4.4** The capacity of each shell intended for the carriage of compressed gases filled by mass, liquefied gases or dissolved gases shall be determined, under the supervision of an expert approved by the competent authority, by weighing or volumetric measurement of the quantity of water which fills the shell; the measurement of shell capacity shall be accurate to within 1%. Determination by a calculation based on the dimensions of the shell is not permitted. The maximum filling masses allowed in accordance with packing instruction P200 or P203 in 4.1.4.1 as well as 4.3.3.2.2 and 4.3.3.2.3 shall be prescribed by an approved expert.

**6.8.3.4.5** Checking of the welds shall be carried out in accordance with the  $\lambda=1$  requirements of 6.8.2.1.23.

**6.8.3.4.6** By derogation from the requirements of 6.8.2.4, the periodic inspections according to 6.8.2.4.2, shall take place:

- (a) at least every four years in the case of tanks intended for the carriage of UN No. 1008 boron trifluoride, UN No. 1017 chlorine, UN No. 1048 hydrogen bromide, anhydrous, UN No. 1050 hydrogen chloride, anhydrous, UN No. 1053 hydrogen sulphide or UN No. 1079 sulphur dioxide; at least every two and a half years
- (b) at least after eight years of service and thereafter at least every 12 years in the case of tanks intended for the carriage of refrigerated liquefied gases.

The intermediate inspections according to 6.8.2.4.3 shall be carried out at least six years after each periodic inspection. A leakproofness test or an intermediate inspection according to 6.8.2.4.3 may be performed, at the request of the competent authority, between any two successive periodic inspections.

When the shell, its fittings, piping and items of equipment have been tested separately, the tank shall be subjected to a leakproofness test after assembly.

**6.8.3.4.7** In the case of vacuum-insulated tanks, the hydraulic-pressure test and the check of the internal condition may, with the consent of the approved expert, be replaced by a leakproofness test and measurement of the vacuum.

**6.8.3.4.8** If, at the time of periodic inspections, openings have been made in shells intended for the carriage of refrigerated liquefied gases, the method by which they are hermetically closed before the shells are returned to service shall be approved by the approved expert and shall ensure the integrity of the shell.

**6.8.3.4.9** Leakproofness tests of tanks intended for the carriage of gases shall be performed at a pressure of not less than:

- For compressed gases, liquefied gases and dissolved gases: 20% of the test pressure;
- For refrigerated liquefied gases: 90% of the maximum working pressure.

**Inspections and tests for battery-wagons and MEGCs**

**6.8.3.4.10** The elements and items of equipment of each battery-wagon or MEGC shall be inspected and tested either together or separately before being put into service for the first time (initial inspection and test). Thereafter battery-wagons or MEGCs the elements of which are receptacles shall be inspected at not more than five-year intervals. Battery-wagons and MEGCs the elements of which are tanks shall be inspected according to 6.8.3.4.6. An exceptional inspection and test shall be performed regardless of the last periodic inspection and test when necessary according to 6.8.3.4.14.

**6.8.3.4.11** The initial inspection shall include:

- a check of conformity to the approved type;
- a check of the design characteristics;
- an examination of the internal and external conditions;



- a hydraulic pressure test<sup>15</sup> at the test pressure indicated on the plate prescribed in 6.8.3.5.10;
- a leakproofness test at the maximum working pressure; and
- a check of satisfactory operation of the equipment.

When the elements and their fittings have been pressure-tested separately, they shall be subjected together after assembly to a leakproofness test.

- 6.8.3.4.12** Cylinders, tubes and pressure drums and cylinders as part of bundles of cylinders shall be tested according to packing instruction P200 or P203 in 4.1.4.1.

The test pressure of the manifold of the battery-wagon or MEGC shall be the same as that of the elements of the battery-wagon or MEGC. The pressure test of the manifold may be performed as a hydraulic test or by using another liquid or gas with the agreement of the competent authority or its authorised body. By derogation from this requirement, the test pressure for the manifold of battery-wagon or MEGC shall not be less than 300 bar for UN No. 1001 acetylene, dissolved.

- 6.8.3.4.13** The periodic inspection shall include a leakproofness test at the maximum working pressure and an external examination of the structure, the elements and the service equipment without disassembling. The elements and the piping shall be tested at the periodicity defined in packing instruction P200 of 4.1.4.1 and in accordance with the requirements of 6.2.1.6 and 6.2.3.5 respectively. When the elements and equipment have been pressure-tested separately, they shall be subjected together after assembly to a leakproofness test.

- 6.8.3.4.14** An exceptional inspection and test is necessary when the battery-wagon or MEGC shows evidence of damaged or corroded areas, or leakage, or any other conditions, that indicate a deficiency that could affect the integrity of the battery-wagon or MEGC. The extent of the exceptional inspection and test and, if deemed necessary, the disassembling of elements shall depend on the amount of damage or deterioration of the battery-wagon or MEGC. It shall include at least the examinations required under 6.8.3.4.15.

- 6.8.3.4.15** The examinations shall ensure that:

- (a) the elements are inspected externally for pitting, corrosion, or abrasions, dents, distortions, defects in welds or any other conditions, including leakage, that might render the battery-wagons or MEGCs unsafe for transport;
- (b) the piping, valves, and gaskets are inspected for corroded areas, defects, and other conditions, including leakage, that might render battery-wagons or MEGCs unsafe for filling, discharge or transport;
- (c) missing or loose bolts or nuts on any flanged connection or blank flange are replaced or tightened;
- (d) all emergency devices and valves are free from corrosion, distortion and any damage or defect that could prevent their normal operation. Remote closure devices and self-closing stop-valves shall be operated to demonstrate proper operation;
- (e) required markings on the battery-wagons or MEGCs are legible and in accordance with the applicable requirements; and
- (f) any framework, supports and arrangements for lifting the battery-wagons or MEGCs are in satisfactory condition.

- 6.8.3.4.16** The tests, inspections and checks in accordance with 6.8.3.4.10 to 6.8.3.4.15 shall be carried out by the expert approved by the competent authority. Certificates shall be issued showing the results of these operations, even in the case of negative results. These certificates shall refer to the list of the substances permitted for carriage in this battery-wagon or MEGC in accordance with 6.8.2.3.1.

A copy of these certificates shall be attached to the tank record of each tank, battery-wagon or MEGC tested (see 4.3.2.1.7).

### **6.8.3.5 Marking**

- 6.8.3.5.1** The following additional particulars shall be marked by stamping or by any other similar method on the plate prescribed in 6.8.2.5.1, or directly on the walls of the shell itself if the walls are so reinforced that the strength of the tank is not impaired.

- 6.8.3.5.2** On tanks intended for the carriage of only one substance:

- the proper shipping name of the gas and, in addition for gases classified under an n.o.s. entry, the technical name<sup>16</sup>.

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<sup>15</sup> In special cases and with the agreement of the expert approved by the competent authority, the hydraulic pressure test may be replaced by a pressure test using another liquid or gas, where such an operation does not present any danger.

This indication shall be supplemented:

- in the case of tanks intended for the carriage of compressed gases filled by volume (pressure), by an indication of the maximum filling pressure at 15 °C permitted for the tank; and
- in the case of tanks intended for the carriage of compressed gases filled by mass, and of liquefied gases, refrigerated liquefied gases or dissolved gases by an indication of the maximum permissible load mass in kg and of the filling temperature if below –20 °C.

**6.8.3.5.3** On multipurpose tanks:

- the proper shipping names of the gases and, in addition for gases classified under an n.o.s. entry, the technical name of the gases<sup>16</sup> for whose carriage the tank is approved.

These particulars shall be supplemented by an indication of the maximum permissible load mass in kg for each gas.

**6.8.3.5.4** On tanks intended for the carriage of refrigerated liquefied gases:

- the maximum working pressure allowed.

**6.8.3.5.5** On tanks equipped with thermal insulation:

- the inscription "thermally insulated" or "thermally insulated by vacuum".

**6.8.3.5.6** In addition to the particulars prescribed in 6.8.2.5.2, the following shall be inscribed on both sides of the tank-wagon or on plates: | the tank-container itself or on a plate:

- (a) – the tank code according to the certificate (see 6.8.2.3.1) with the actual test pressure of the tank;
  - the inscription: "minimum filling temperature allowed :...";
- (b) where the tank is intended for the carriage of one substance only:
  - the proper shipping name of the gas and, in addition for gases classified under an n.o.s. entry, the technical name<sup>16</sup>;

– for compressed gases which are filled by mass, and for liquefied gases, refrigerated liquefied gases or dissolved gases, the maximum permissible load mass in kg;

(c) where the tank is a multipurpose tank:

- the proper shipping name of the gas and, for gases classified under an n.o.s. entry, the technical name<sup>16</sup> of all gases to whose carriage the tank is assigned

with an indication of the maximum permissible load mass in kg for each of them;

(d) where the shell is equipped with thermal insulation:

- the inscription "thermally insulated" (or "thermally insulated by vacuum"), in an official language of the country of registration and also, if that language is not English, French, German or Italian, in English, French, German or Italian, unless any agreements concluded between the countries concerned in the transport operation provide otherwise

**6.8.3.5.7** The load limits in accordance with 6.8.2.5.2

(Reserved)

- for compressed gases filled by mass,
- for liquefied or refrigerated, liquefied gases and
- for dissolved gases,

shall be determined in the light of the maximum permissible load mass of the shell, depending on the substance carried; in the case of multi-purpose

<sup>16</sup> Instead of the proper shipping name or, if applicable, of the proper shipping name of the n.o.s. entry followed by the technical name, the use of the following names is permitted:

- for UN No. 1078 refrigerant gas, n.o.s: mixture F1, mixture F2, mixture F3;
- for UN No. 1060 methylacetylene and propadiene mixtures, stabilized: mixture P1, mixture P2;
- for UN No. 1965 hydrocarbon gas mixture, liquefied, n.o.s: mixture A, mixture A01, mixture A02, mixture A0, mixture A1, mixture B1, mixture B2, mixture B, mixture C. The names customary in the trade and mentioned in 2.2.2.3, Classification code 2F, UN No. 1965, Note 1 may be used only as a complement;
- for UN No. 1010 Butadienes, stabilized: 1,2-Butadiene, stabilized, 1,3-Butadiene, stabilized.

shells, the name in full of the particular gas being carried shall be stated together with the load limit on the same moveable panel. The folding panels shall be designed and be capable of being secured so that they cannot unfold or become loose from the frame during carriage (especially as a result of impacts or unintentional actions).

**6.8.3.5.8** The panels on wagons carrying demountable tanks as referred to in 6.8.3.2.13 need not bear the particulars prescribed in 6.8.2.5.2 and 6.8.3.5.6. (Reserved)

**6.8.3.5.9** (Reserved)

#### Marking of battery-wagons and MEGCs

**6.8.3.5.10** Every battery-wagon and every MEGC shall be fitted with a corrosion-resistant metal plate permanently attached in a place readily accessible for inspection. The following particulars at least shall be marked on the plate by stamping or by any other similar method:

- approval number;
- manufacturer's name or mark;
- manufacturer's serial number;
- year of manufacture;
- test pressure (gauge pressure)<sup>17</sup>;
- design temperature (only if above +50 °C or below –20 °C)<sup>17</sup>;
- date (month and year) of initial test and most recent periodic test in accordance with 6.8.3.4.10 to 6.8.3.4.13;
- stamp of the expert who carried out the tests.

**6.8.3.5.11** The following particulars shall be inscribed on both sides of the battery-wagon on a plate:

- name of operator;
- number of elements;
- total capacity of the elements<sup>17</sup>;
- load limits according to the characteristics of the wagon and the nature of the lines used;
- tank code according to the certificate (see 6.8.2.3.1) with the relevant test pressure for the battery-wagon;
- proper shipping name and, in addition, for gases covered by an n.o.s. entry, the technical name<sup>16</sup> of the gas the transport of which the battery-wagon is used;
- the date (month, year) of the next test in accordance with 6.8.2.4.3 and 6.8.3.4.13.

The following particulars shall be inscribed either on the MEGC itself or on a plate:

- names of owner and of operator;
- number of elements;
- total capacity of the elements<sup>17</sup>;
- maximum permissible laden mass<sup>17</sup>;
- tank code according to the certificate (see 6.8.2.3.1) with the relevant test pressure for the MEGC;
- proper shipping name and, in addition, for gases covered by an n.o.s. entry, the technical name<sup>16</sup> of the gas the transport of which the MEGC is used;

and for MEGCs filled by mass:

- tare<sup>17</sup>.

**6.8.3.5.12** The frame of a battery-wagon or MEGC shall bear near the filling point a plate specifying:

- the maximum filling pressure<sup>17</sup> at 15 °C allowed for elements intended for compressed gases;
- the proper shipping name of the gas in accordance with Chapter 3.2 and, in addition for gases classified under an n.o.s. entry, the technical name<sup>16</sup>;

and, in addition, in the case of liquefied gases:

- the permissible maximum load per element<sup>17</sup>.

**6.8.3.5.13** Cylinders, tubes and pressure drums, and cylinders as part of bundles of cylinders, shall be marked according to 6.2.2.7. These receptacles need not be labelled individually with the danger labels as required in Chapter 5.2.

Battery-wagons and MEGCs shall be placarded and marked according to Chapter 5.3.

<sup>17</sup> Add the units of measurements after the numerical values.

**6.8.3.6 Requirements for battery-wagons and MEGCs which are designed, constructed and tested according to standards**

(Reserved)

**6.8.3.7 Requirements for battery-wagons and MEGCs which are not designed, constructed and tested according to standards**

Battery-wagons and MEGCs which are not designed, constructed and tested in accordance with the standards set out in 6.8.3.6 shall be designed, constructed and tested in accordance with the requirements of a technical code recognized by the competent authority. They shall, however, comply with the minimum requirements of 6.8.3.

**6.8.4 Special provisions**

**NOTE 1:** For liquids having a flash-point of not more than 60 °C and for flammable gases, see also 6.8.2.1.26, 6.8.2.1.27 and 6.8.2.2.9.

**2:** For requirements for tanks subjected to a pressure test of not less than 1 MPa (10 bar) or for tanks intended for the carriage of refrigerated liquefied gases, see 6.8.5.

When they are shown under an entry in Column (13) of Table A of Chapter 3.2, the following special provisions apply:

**(a) Construction (TC)**

**TC 1** The requirements of 6.8.5 are applicable to the materials and construction of these shells.

**TC 2** Shells, and their items of equipment, shall be made of aluminium not less than 99.5% pure or of suitable steel not liable to cause hydrogen peroxide to decompose. Where shells are made of aluminium not less than 99.5% pure, the wall thickness need not exceed 15 mm, even where calculation in accordance with 6.8.2.1.17 gives a higher value.

**TC 3** The shells shall be made of austenitic steel.

**TC 4** Shells shall be provided with an enamel or equivalent protective lining if the material of the shell is attacked by UN No. 3250 chloroacetic acid.

**TC 5** Shells shall be provided with a lead lining not less than 5 mm thick or an equivalent lining.

**TC 6** Where the use of aluminium is necessary for tanks, such tanks shall be made of aluminium not less than 99.5% pure; the wall thickness need not exceed 15 mm even where calculation in accordance with 6.8.2.1.17 gives a higher value.

**TC 7** (Reserved)

**(b) Items of equipment (TE)**

**TE 1** (Deleted)

**TE 2** (Deleted)

**TE 3** Tanks shall in addition meet the following requirements.

The heating device shall not penetrate into, but shall be exterior to the shell. However, a pipe used for extracting the phosphorus may be equipped with a heating jacket. The device heating the jacket shall be so regulated as to prevent the temperature of the phosphorus from exceeding the filling temperature of the shell. Other piping shall enter the shell in its upper part; openings shall be situated above the highest permissible level of the phosphorus and be capable of being completely enclosed under lockable caps.

The tank shall be equipped with a gauging system for verifying the level of the phosphorus and, if water is used as a protective agent, with a fixed gauge mark showing the highest permissible level of the water.

**TE 4** Shells shall be equipped with thermal insulation made of materials which are not readily flammable.

**TE 5** If shells are equipped with thermal insulation, such insulation shall be made of materials which are not readily flammable.

**TE 6** Tanks may be equipped with a device of a design which precludes its obstruction by the substance carried and which prevents leakage and the build-up of excess overpressure or underpressure inside the shell.

- TE 7** The shell-discharge system shall be equipped with two mutually independent shut-off devices mounted in series, the first taking the form of a quick-closing internal stop-valve of an approved type and the second that of an external stop-valve, one at each end of the discharge pipe. A blank flange, or another device providing the same measure of security, shall also be fitted at the outlet of each external stop-valve. The internal stop-valve shall be such that if the pipe is wrenched off the stop-valve will remain integral with the shell and in the closed position.
- TE 8** The connections to the external pipe-sockets of tanks shall be made of materials not liable to cause decomposition of hydrogen peroxide.
- TE 9** Tanks shall be fitted in their upper part with a shut-off device preventing any build-up of excess pressure inside the shell due to the decomposition of the substances carried, any leakage of liquid, and any entry of foreign matter into the shell.
- TE 10** The shut-off devices of tanks shall be so designed as to preclude obstruction of the devices by solidified substance during carriage.
- Where tanks are sheathed in thermally-insulating material, the material shall be of an inorganic nature and entirely free from combustible matter.
- TE 11** Shells and their service equipment shall be so designed as to prevent the entry of foreign matter, leakage of liquid or any building up of dangerous excess pressure inside the shell due to the decomposition of the substances carried. A safety valve preventing the entry of foreign matter also fulfils this provision.
- TE 12** Tanks shall be equipped with thermal insulation complying with the requirements of 6.8.3.2.14. The sun shield and any part of the tank not covered by it, or the outer sheathing of a complete lagging, shall be painted white or finished in bright metal. The paint shall be cleaned before each transport journey and renewed in case of yellowing or deterioration. The thermal insulation shall be free from combustible matter.

Tanks shall be fitted with temperature sensing devices.

Tanks shall be fitted with safety valves and emergency pressure-relief devices. Vacuum-relief devices may also be used. Emergency pressure-relief devices shall operate at pressures determined according to both the properties of the organic peroxide and the construction characteristics of the tank. Fusible elements shall not be permitted in the body of the shell.

Tanks shall be fitted with spring-loaded safety valves to prevent significant pressure build-up within the shell of the decomposition products and vapours released at a temperature of 50 °C. The capacity and start-to-discharge pressure of the safety-valve(s) shall be based on the results of the tests specified in special provision TA2. The start-to-discharge pressure shall however in no case be such that liquid could escape from the valve(s) if the tank were overturned.

The emergency-relief devices may be of the spring-loaded or frangible types designed to vent all the decomposition products and vapours evolved during a period of not less than one hour of complete fire-engulfment as calculated by the following formula:

$$q = 70961 \cdot F \cdot A^{0.82}$$

where:

q = heat absorption [W]

A = wetted area [m<sup>2</sup>]

F = insulation factor [-]

F = 1 for non-insulated tanks, or

$$F = \frac{U (923 - T_{PO})}{47032} \text{ for insulated tanks}$$

where:

K = heat conductivity of insulation layer [W·m<sup>-1</sup>·K<sup>-1</sup>]

L = thickness of insulation layer [m]

U = K/L = heat transfer coefficient of the insulation [W·m<sup>-2</sup>·K<sup>-1</sup>]

T<sub>PO</sub> = temperature of peroxide at relieving conditions [K].

The start-to-discharge pressure of the emergency-relief device(s) shall be higher than that above specified and based on the results of the tests referred to in special provision TA2. The emergency-relief devices shall be dimensioned in such a way that the maximum pressure in the tank never exceeds the test pressure of the tank.

**NOTE:** An example of a method to determine the size of emergency-relief devices is given in Appendix 5 of the Manual of Tests and Criteria.

For tanks equipped with thermal insulation consisting of a complete cladding, the capacity and setting of the emergency-relief device(s) shall be determined assuming a loss of insulation from 1% of the surface area.

Vacuum-relief devices and spring-loaded safety valves of tanks shall be provided with flame arresters unless the substances to be carried and their decomposition products are non-combustible. Due attention shall be paid to the reduction of the relief capacity caused by the flame arrester.

TE 13	Tanks shall be thermally insulated and fitted with a heating device on the outside.	
TE 14	Tanks shall be equipped with thermal insulation. The thermal insulation directly in contact with the shell shall have an ignition temperature at least 50 °C higher than the maximum temperature for which the tank was designed.	
TE 15	(Deleted)	
TE 16	No part of the tank-wagon may be of wood, unless this is protected by a suitable coating.	(Reserved)
TE 17	For demountable tanks <sup>18</sup> , the following requirements apply: (a) they shall be so fixed on the underframe of the wagon that they cannot move; (b) they shall not be interconnected by a manifold; (c) if they can be rolled, the valves shall be provided with protective caps.	(Reserved)
TE 18	(Reserved)	
TE 19	(Reserved)	
TE 20	Notwithstanding the other tank-codes which are permitted in the hierarchy of tanks of the rationalized approach in 4.3.4.1.2, tanks shall be equipped with a safety valve.	
TE 21	The closures shall be protected with lockable caps.	
TE 22	<p>In order to reduce the extent of damage in the event of a collision shock or accident, each end of tank-wagons for substances carried in the liquid state and gases or battery-wagons shall be capable of absorbing at least 800 kJ of energy by means of elastic or plastic deformation of defined components of the subframe or by means of a similar procedure (e.g. crash elements). The energy absorption shall be determined in relation to a collision on a straight track.</p> <p>Energy absorption by means of plastic deformation shall only occur in conditions other than those encountered during normal conditions of rail transport (impact speed higher than 12 km/h or individual buffer force greater than 1500 kN).</p> <p>Energy absorption of not more than 800 kJ at each end of the wagon shall not lead to transfer of energy to the shell which could cause visible, permanent deformation of the shell.</p> <p>The requirements of this special provision are considered to have been complied with if Sections 1.4 and 1.1.6 of UIC leaflet 573<sup>19</sup> (Technical conditions for the construction of tank wagons) are applied.</p>	(Reserved)

<sup>18</sup> For the definition of "demountable tank", see 1.2.1.

<sup>19</sup> 7<sup>th</sup> Edition of the UIC leaflet applicable from 1 October 2008.

**TE 23** Tanks shall be equipped with a device of a design which precludes its obstruction by the substance carried and which prevents leakage and the build-up of excess overpressure or underpressure inside the shell.

**TE 24** (Deleted)

**TE 25** Shells of tank-wagons shall also be protected against the overriding of buffers and derailment or, failing that, to limit damage when buffers override by at least one of the following measures. (Reserved)

Measures to avoid overriding

(a) Device to protect against the overriding of buffers

The device to protect against the overriding of buffers shall ensure that the sub-frames of the wagons remain on the same horizontal level. The following requirements shall be fulfilled:

- The device to protect against the overriding of buffers shall not interfere with the normal operation of the wagons (for example negotiating curves, Berne rectangle, shunter's handle). The device to protect against the overriding of buffers shall permit the free taking of curves by another wagon fitted with a device to protect against the overriding of buffers in a curve of 75 m radius).
- The device to protect against the overriding of buffers shall not interfere with the normal functioning of the buffers (elastic or plastic deformation) (see also special provision TE22 in 6.8.4 (b)).
- The device to protect against the overriding of buffers shall function independently of the condition of the load and the wear and tear of the wagons concerned.
- The device to protect against the overriding of buffers shall withstand a vertical force (upwards or downwards) of 150 kN.
- The device to protect against the overriding of buffers shall be effective irrespective of whether the other wagon concerned is fitted with a device to protect against the overriding of buffers. It shall not be possible for devices to protect against the overriding of buffers to obstruct each other.
- The increase in the overhang for fixing the device to protect against the overriding of buffers shall be less than 20 mm.
- The width of the device to protect against the overriding of buffers shall be at least as big as the width of the buffer head (with the exception of the device to protect against the overriding of buffers located above the left-hand footboard, which shall be tangent to the free space for the shunter, although the maximum width of the buffer must be covered).
- A device to protect against the overriding of buffers shall be located above every buffer.
- The device to protect against the overriding of buffers shall permit the attachment of buffers prescribed in UIC leaflet 573<sup>19</sup> (Technical conditions for the construction of tank-wagons) and shall not present an obstacle to maintenance work.

- The device to protect against the overriding of buffers shall be built in such a way that the risk of penetration of the tank end is not increased in the event of a shock.

Measures to limit damage when buffers override

- (b) Increasing the wall thickness of the tank ends or using other materials with a greater energy absorption capacity

In this case, the wall thickness of the tank ends shall be at least 12 mm.

However, the wall thickness of the ends of tanks for the carriage of gases UN 1017 chlorine, UN 1749 chlorine trifluoride, UN 2189 dichlorosilane, UN 2901 bromine chloride and UN 3057 trifluoroacetyl chloride shall in this case be at least 18 mm.

- (c) Sandwich cover for tank ends

If protection is provided by a sandwich cover, it shall cover the entire area of the tank ends and shall have a specific energy absorption capacity of at least 22 kJ (corresponding to a wall thickness of 6 mm), which shall be measured in accordance with the method described in Annex B to EN standard 13094 "Tanks for the transport of dangerous goods – Metallic tanks with a working pressure not exceeding 0.5 bar – Design and construction". If the risk of corrosion cannot be eliminated by structural measures, it shall be made possible to undertake an inspection of the external wall of the tank end, e.g. by providing a removable cover.

- (d) Protective shield at each end of the wagon

If a protective shield is used at each end of the wagon, the following requirements shall apply:

- the protective shield shall cover the width of the tank in each case, up to the respective height. In addition, the width of the protective shield shall, over the entire height of the shield, be at least as wide as the distance defined by the outside edge of the buffer heads;
- the height of the protective shield, measured from the top edge of the headstock, shall cover
  - either two thirds of the tank diameter
  - or at least 900 mm and shall in addition be equipped at the top edge with an arresting device for climbing buffers;
- the protective shield shall have a minimum wall thickness of 6 mm;
- the protective shield and its attachment points shall be such that the possibility of the tank ends being penetrated by the protective shield itself is minimized.

The wall thicknesses specified in (b), (c) and (d) above relate to reference steel. If other materials are used, except if mild steel is used, the equivalent thickness shall be calculated in accordance with the formula in 6.8.2.1.18. The values of  $R_m$  and  $A$  to be used shall be specified minimum values according to material standards.



**(c) Type approval (TA)**

- TA 1** Tanks shall not be approved for the carriage of organic substances.
- TA 2** This substance may be carried in tank-wagons or tank-containers under the conditions laid down by the competent authority of the country of origin, if, on the basis of the tests mentioned below, the competent authority is satisfied that such a transport operation can be carried out safely.
- If the country of origin is not a COTIF Member State, these conditions shall be recognized by the competent authority of the first COTIF Member State reached by the consignment.
- For the type approval tests shall be undertaken:
- to prove the compatibility of all materials normally in contact with the substance during carriage;
  - to provide data to facilitate the design of the emergency pressure-relief devices and safety valves taking into account the design characteristics of the tank; and
  - to establish any special requirements necessary for the safe carriage of the substance.
- The test results shall be included in the report for the type approval.
- TA 3** This substance may be carried only in tanks with the tank code LGAV or SGAV; the hierarchy in 4.3.4.1.2 is not applicable.
- TA 4** The conformity assessment procedures of section 1.8.7 shall be applied by the competent authority, its delegate or inspection body conforming to 1.8.6.4 and accredited to EN ISO/IEC 17020:2004 type A.

**(d) Tests (TT)**

- TT 1** Tanks of pure aluminium need to be subjected to the initial and periodic hydraulic pressure tests at a pressure of only 250 kPa (2.5 bar) (gauge pressure).
- TT 2** The condition of the lining of shells shall be inspected every year by an expert approved by the competent authority, who shall inspect the inside of the shell.
- TT 3** (Reserved) By derogation from the requirements of 6.8.2.4.2, periodic inspections shall take place at least every eight years and shall include a thickness check using suitable instruments. For such tanks, the leakproofness test and check for which provision is made in 6.8.2.4.3 shall be carried out at least every four years.
- TT 4** Shells shall be inspected every 4 years | 2½ years for resistance to corrosion, by means of suitable instruments (e.g. by ultrasound).
- TT 5** The hydraulic pressure tests shall take place at least every 4 years | 2½ years.
- TT 6** The periodic tests, including the hydraulic pressure test, shall be carried out at least every 4 years. | (Reserved)
- TT 7** Notwithstanding the requirements of 6.8.2.4.2, the periodic internal inspection may be replaced by a programme approved by the competent authority.
- TT 8** Tanks approved for the carriage of UN 1005 AMMONIA ANHYDROUS and constructed of fine-grained steel with a yield strength of more than 400 N/mm<sup>2</sup> in accordance with the material standard, shall be subjected at each periodic test according to 6.8.2.4.2, to magnetic particle inspections to detect surface cracking.
- For the lower part of each shell at least 20% of the length of each circumferential and longitudinal weld shall, together with all nozzle welds and any repair or ground areas, be inspected.
- TT 9** For inspections and tests (including supervision of the manufacture) the procedures of section 1.8.7 shall be applied by the competent authority, its delegate or inspection body conforming to 1.8.6.4 and accredited according to EN ISO/IEC 17020:2004 type A.

**(e) Marking (TM)**

**NOTE:** These particulars shall be in an official language of the country of approval, and also, if that language is not English, French, German or Italian, in English, French, German or Italian, unless any agreements concluded between the countries concerned in the transport operation provide otherwise.

**TM 1** Tanks shall bear in addition to the particulars prescribed in 6.8.2.5.2, the words: "DO NOT OPEN DURING CARRIAGE. LIABLE TO SPONTANEOUS COMBUSTION." (see also the Note above).

**TM 2** Tanks shall bear in addition to the particulars prescribed in 6.8.2.5.2, the words: "DO NOT OPEN DURING CARRIAGE. GIVES OFF FLAMMABLE GASES ON CONTACT WITH WATER." (see also the Note above).

**TM 3** Tanks shall also bear, on the plate prescribed in 6.8.2.5.1, the proper shipping names of the approved substances and the maximum permissible load of the tank in kg.

The load limits in accordance with 6.8.2.5.2 shall be determined in the light of the maximum permissible load mass of the shell, depending on the substance carried.

**TM 4** For tanks the following additional particulars shall be marked by stamping or by any other similar method on the plate prescribed in 6.8.2.5.2 or directly on the shell itself, if the walls are so reinforced that the strength of the tank is not impaired:

the chemical name with the approved concentration of the substance concerned.

**TM 5** Tanks shall bear, in addition to the particulars referred to in 6.8.2.5.1 the date (month, year) of the most recent inspection of the internal condition of the shell.

**TM 6** Tank-wagons shall bear an orange band in accordance with 5.3.5. (Reserved)

**TM 7** The trefoil symbol, as described in 5.2.1.7.6, shall be marked by stamping or any other equivalent method on the plate described in 6.8.2.5.1. This trefoil may be engraved directly on the walls of the shell itself, if the walls are so reinforced that the strength of the shell is not impaired.

**6.8.5 Requirements concerning the materials and construction of shells of tank-wagons and tank-containers for which a test pressure of not less than 1 MPa (10 bar) is required, and of shells of tank-wagons and tank-containers intended for the carriage of refrigerated liquefied gases of Class 2**

**6.8.5.1 Materials and shells**

**6.8.5.1.1** (a) Shells intended for the carriage of :

- compressed, liquefied gases or dissolved gases of Class 2;
  - UN Nos. 1380, 2845, 2870, 3194 and 3391 to 3394 of Class 4.2; and
  - UN No. 1052 hydrogen fluoride, anhydrous and UN No.1790 hydrofluoric acid with more than 85% hydrogen fluoride of Class 8
- shall be made of steel.

(b) Shells constructed of fine-grained steels for the carriage of:

- corrosive gases of Class 2 and UN No. 2073 ammonia solution; and
- UN No. 1052 hydrogen fluoride, anhydrous and UN No.1790 hydrofluoric acid with more than 85% hydrogen fluoride of Class 8

shall be heat-treated for thermal stress relief.

Thermal stress relief shall not be required if:

1. there is no risk of corrosion due to stress cracking; and
2. the mean notch bar impact value in the welding metal, the transition area and the base material, determined in each case by means of three samples, is an average of 45 J. ISO-V shall be used as a sample. For the base material, the sample shall be tested "crosswise". For the welding material and the transition area, notch position S in the middle of the welding metal or the middle of the transitional area shall be selected. Testing shall be carried out at the lowest operating temperature.

(c) Shells intended for the carriage of refrigerated liquefied gases of Class 2, shall be made of steel, aluminium, aluminium alloy, copper or copper alloy (e.g. brass). However, shells made of copper or copper alloy shall be allowed only for gases containing no acetylene; ethylene, however, may contain not more than 0.005% acetylene.

- (d) Only materials appropriate to the lowest and highest working temperatures of the shells and of their fittings and accessories may be used.

**6.8.5.1.2** The following materials shall be allowed for the manufacture of shells:

- (a) steels not subject to brittle fracture at the lowest working temperature (see 6.8.5.2.1):

- mild steels (except for refrigerated liquefied gases of Class 2);
- fine-grained steels, down to a temperature of  $-60\text{ }^{\circ}\text{C}$ ;
- nickel steels (with a nickel content of 0.5 to 9%), down to a temperature of  $-196\text{ }^{\circ}\text{C}$ , depending on the nickel content;
- austenitic chrome-nickel steels, down to a temperature of  $-270\text{ }^{\circ}\text{C}$ ;

- (b) aluminium not less than 99.5% pure or aluminium alloys (see 6.8.5.2.2);

- (c) deoxidized copper not less than 99.9% pure, or copper alloys having a copper content of over 56% (see 6.8.5.2.3).

**6.8.5.1.3** (a) Shells made of steel, aluminium or aluminium alloys shall be either seamless or welded.

- (b) Shells made of austenitic steel, copper or copper alloy may be hard-soldered.

**6.8.5.1.4** The fittings and accessories may either be screwed to the shells or be secured thereto as follows:

- (a) shells made of steel, aluminium or aluminium alloy: by welding;

- (b) shells made of austenitic steel, of copper or of copper alloy: by welding or hard-soldering.

**6.8.5.1.5** The construction of shells and their attachment to the underframe of the wagon or in the container frame shall be such as to preclude with certainty any such reduction in the temperature of the load-bearing components as would be likely to render them brittle. The means of attachment of shells shall themselves be so designed that even when the shell is at its lowest working temperature they still possess the necessary mechanical properties.

**6.8.5.2 Test requirements**

**6.8.5.2.1 Steel shells**

The materials used for the manufacture of shells and the weld beads shall, at their lowest working temperature, but at least at  $-20\text{ }^{\circ}\text{C}$ , meet at least the following requirements as to impact strength:

- The tests shall be carried out with test-pieces having a V-shaped notch;
- The minimum impact strength (see 6.8.5.3.1 to 6.8.5.3.3) for test-pieces with the longitudinal axis at right angles to the direction of rolling and a V-shaped notch (conforming to ISO R 148) perpendicular to the plate surface, shall be  $34\text{ J/cm}^2$  for mild steel (which, because of existing ISO standards, may be tested with test-pieces having the longitudinal axis in the direction of rolling); fine-grained steel; ferritic alloy steel  $\text{Ni} < 5\%$ , ferritic alloy steel  $5\% \leq \text{Ni} \leq 9\%$ ; or austenitic Cr-Ni steel;
- In the case of austenitic steels, only the weld bead need be subjected to an impact-strength test;
- For working temperatures below  $-196\text{ }^{\circ}\text{C}$  the impact-strength test is not performed at the lowest working temperature, but at  $-196\text{ }^{\circ}\text{C}$ .

**6.8.5.2.2 Shells made of aluminium or aluminium alloy**

The seams of shells shall meet the requirements laid down by the competent authority.

**6.8.5.2.3 Shells made of copper or copper alloy**

It is not necessary to carry out tests to determine whether the impact strength is adequate.

**6.8.5.3 Impact-strength tests**

**6.8.5.3.1** For sheets less than 10 mm but not less than 5 mm thick, test-pieces having a cross-section of 10 mm x e mm, where "e" represents the thickness of the sheet, shall be used. Machining to 7.5 mm or 5 mm is permitted if it is necessary. The minimum value of  $34\text{ J/cm}^2$  shall be required in every case.

**NOTE:** No impact-strength test shall be carried out on sheets less than 5 mm thick, or on their weld seams.

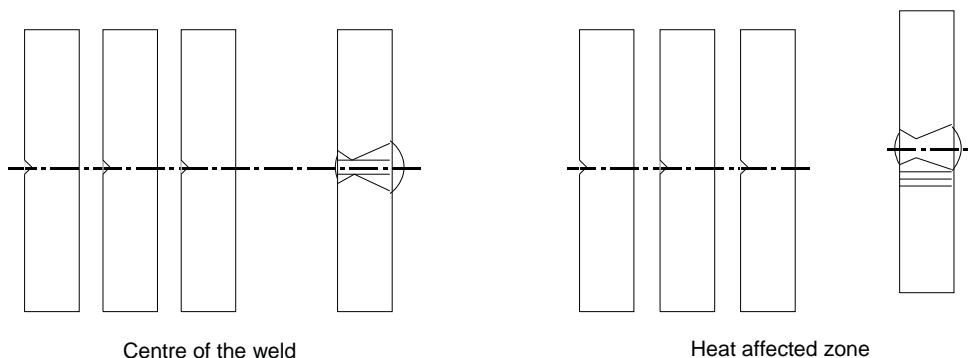
**6.8.5.3.2** (a) For the purpose of testing sheets, the impact strength shall be determined on three test-pieces. Test-pieces shall be taken at right angles to the direction of rolling; however, for mild steel they may be taken in the direction of rolling.

- (b) For testing weld seams the test-pieces shall be taken as follows:

**when  $e \leq 10\text{ mm}$ :**

three test-pieces with the notch at the centre of the weld;

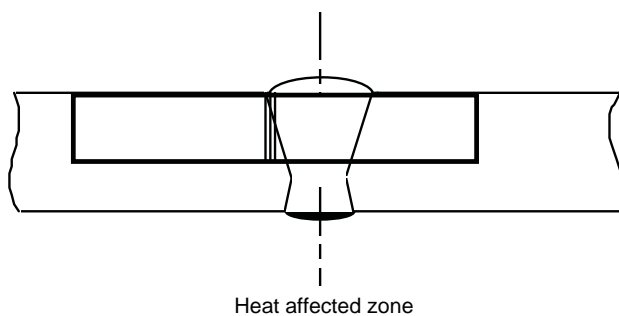
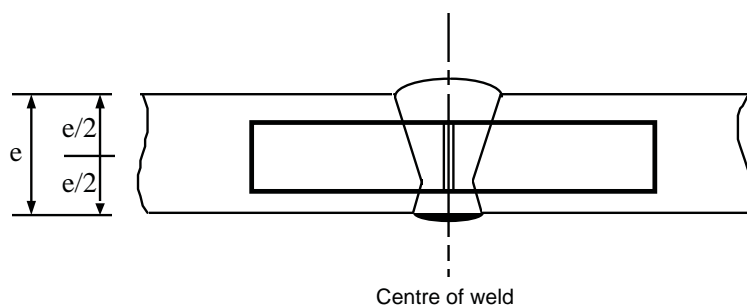
three test-pieces with the notch in the centre of the heat affected zone (the V-notch to cross the fusion boundary at the centre of the specimen);



**when  $10 \text{ mm} < e \leq 20 \text{ mm}$ :**

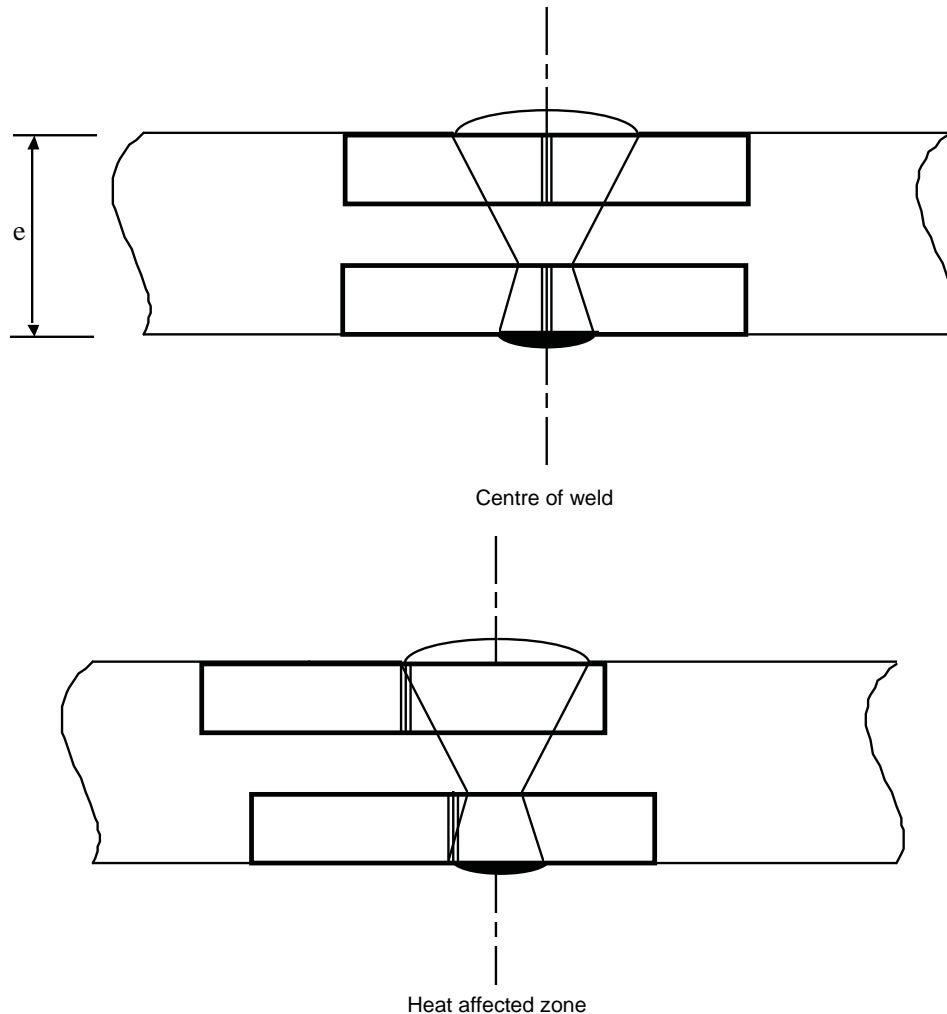
three test-pieces from the centre of the weld;

three test-pieces from the heat affected zone (the V-notch to cross the fusion boundary at the centre of the specimen);



**when  $e > 20 \text{ mm}$**

two sets of three test-pieces, one set on the upper face, one set on the lower face at each of the points indicated below (the V-notch to cross the fusion boundary at the centre of the specimen for those taken from the heat affected zone)



- 6.8.5.3.3** (a) For sheets, the average of the three tests shall meet the minimum value of  $34 \text{ J/cm}^2$  indicated in 6.8.5.2.1; not more than one of the individual values may be below the minimum value and then not below  $24 \text{ J/cm}^2$ .
- (b) For welds, the average value obtained from the three test-pieces taken at the centre of the weld shall not be below the minimum value of  $34 \text{ J/cm}^2$ ; not more than one of the individual values may be below the minimum value and then not below  $24 \text{ J/cm}^2$ .
- (c) For the heat affected zone (the V-notch to cross the fusion boundary at the centre of the specimen) the value obtained from not more than one of the three test-pieces may be below the minimum value of  $34 \text{ J/cm}^2$ , though not below  $24 \text{ J/cm}^2$ .
- 6.8.5.3.4** If the requirements prescribed in 6.8.5.3.3 are not met, one retest only may be done if:
- (a) the average value of the first three tests is below the minimum value of  $34 \text{ J/cm}^2$ , or
- (b) more than one of the individual values is less than the minimum value of  $34 \text{ J/cm}^2$  but not below  $24 \text{ J/cm}^2$ .
- 6.8.5.3.5** In a repeated impact test on sheets or welds, none of the individual values may be below  $34 \text{ J/cm}^2$ . The average value of all the results of the original test and of the retest should be equal to or more than the minimum of  $34 \text{ J/cm}^2$ .

On a repeated impact strength test on the heat-affected zone, none of the individual values may be below  $34 \text{ J/cm}^2$ .

**6.8.5.4 Reference to standards**

The requirements of 6.8.5.2 and 6.8.5.3 shall be deemed to have been complied with if the following relevant standards have been applied:

EN 1252-1:1998 Cryogenic vessels – Materials – Part 1: Toughness requirements for temperature below –80 °C.

EN 1252-2: 2001 Cryogenic vessels – Materials – Part 2: Toughness requirements for temperature between –80 °C and –20 °C.

## Chapter 6.9

### Requirements for the design, construction, equipment, type approval, testing and marking of fibre-reinforced plastics (FRP) tank-containers including tank swap bodies

**NOTE:** For portable tanks and UN multiple-element gas containers (MEGCs) see Chapter 6.7; for tank-wagons, demountable tanks and tank-containers and tank swap bodies, with shells made of metallic materials, and battery-wagons and multiple element gas containers (MEGCs) other than UN MEGCs see Chapter 6.8; for vacuum-operated waste tanks see Chapter 6.10.

#### 6.9.1 General

**6.9.1.1** FRP tank-containers including tank swap bodies shall be designed, manufactured and tested in accordance with a quality assurance programme recognized by the competent authority; in particular, lamination work and welding of thermoplastic liners shall only be carried out by qualified personnel in accordance with a procedure recognized by the competent authority.

**6.9.1.2** For the design and testing of FRP tank-containers including tank swap bodies, the provisions of 6.8.2.1.1, 6.8.2.1.7, 6.8.2.1.13, 6.8.2.1.14 (a) and (b), 6.8.2.1.25, 6.8.2.1.27 and 6.8.2.2.3 shall also apply.

**6.9.1.3** Heating elements shall not be used for FRP tank-containers including tank swap bodies.

**6.9.1.4** (Reserved)

#### 6.9.2 Construction

**6.9.2.1** Shells shall be made of suitable materials, which shall be compatible with the substances to be carried in a service temperature range of between  $-40^{\circ}\text{C}$  and  $+50^{\circ}\text{C}$ , unless temperature ranges are specified for specific climatic conditions by the competent authority of the country where the transport operation is performed.

**6.9.2.2** Shells shall consist of the following three elements :

- internal liner,
- structural layer,
- external layer.

**6.9.2.2.1** The internal liner is the inner shell wall zone designed as the primary barrier to provide for the long-term chemical resistance in relation to the substances to be carried, to prevent any dangerous reaction with the contents or the formation of dangerous compounds and any substantial weakening of the structural layer owing to the diffusion of products through the internal liner.

The internal liner may either be a FRP liner or a thermoplastic liner.

**6.9.2.2.2** FRP liners shall consist of:

- (a) surface layer ("gel-coat"): adequate resin rich surface layer, reinforced with a veil, compatible with the resin and contents. This layer shall have a fibre mass content of not more than 30% and have a thickness between 0.25 and 0.60 mm;
- (b) strengthening layer(s): layer or several layers with a minimum thickness of 2 mm, containing a minimum of 900 g/m<sup>2</sup> of glass mat or chopped fibres with a mass content in glass of not less than 30% unless equivalent safety is demonstrated for a lower glass content.

**6.9.2.2.3** Thermoplastic liners shall consist of thermoplastic sheet material as referred to in 6.9.2.3.4, welded together in the required shape, to which the structural layers are bonded. Durable bonding between liners and the structural layer shall be achieved by the use of an appropriate adhesive.

**NOTE:** For the carriage of flammable liquids the internal layer may require additional measures in accordance with 6.9.2.14, in order to prevent the accumulation of electrical charges.

**6.9.2.2.4** The structural layer of the shell is the zone specially designed according to 6.9.2.4 to 6.9.2.6 to withstand the mechanical stresses. This part normally consists of several fibre reinforced layers in determined orientations.

**6.9.2.2.5** The external layer is the part of the shell which is directly exposed to the atmosphere. It shall consist of a resin rich layer with a thickness of at least 0.2 mm. For a thickness larger than 0.5 mm, a mat shall be used. This layer shall have a mass content in glass of less than 30% and shall be capable of withstanding exterior conditions, in particular the occasional contact with the substance to be carried. The resin shall contain fillers or additives to provide protection against deterioration of the structural layer of the shell by ultra-violet radiation.

**6.9.2.3 Raw materials**

**6.9.2.3.1** All materials used for the manufacture of FRP tank-containers including tank swap bodies shall be of known origin and specifications.

**6.9.2.3.2 Resins**

The processing of the resin mixture shall be carried out in strict compliance with the recommendations of the supplier. This concerns mainly the use of hardeners, initiators and accelerators. These resins can be:

- unsaturated polyester resins;
- vinyl ester resins;
- epoxy resins;
- phenolic resins.

The heat distortion temperature (HDT) of the resin, determined in accordance with ISO 75-1:1993 shall be at least 20 °C higher than the maximum service temperature of the tank-container including tank swap bodies, but shall in any case not be lower than 70 °C.

**6.9.2.3.3 Reinforcement fibres**

The reinforcement material of the structural layers shall be a suitable grade of fibres such as glass fibres of type E or ECR according to ISO 2078:1993. For the internal surface liner, glass fibres of type C according to ISO 2078:1993 may be used. Thermoplastic veils may only be used for the internal liner when their compatibility with the intended contents has been demonstrated.

**6.9.2.3.4 Thermoplastic liner material**

Thermoplastic liners, such as unplasticized polyvinyl chloride (PVC-U), polypropylene (PP), polyvinylidene fluoride (PVDF), polytetrafluoroethylene (PTFE), etc. may be used as lining materials.

**6.9.2.3.5 Additives**

Additives necessary for the treatment of the resin, such as catalysts, accelerators, hardeners and thixotropic substances as well as materials used to improve the tank, such as fillers, colours, pigments etc. shall not cause weakening of the material, taking into account lifetime and temperature expectancy of the design.

**6.9.2.4** Shells, their attachments and their service and structural equipment shall be designed to withstand without loss of contents (other than quantities of gas escaping through any degassing vents) during the design lifetime:

- the static and dynamic loads in normal conditions of carriage;
- the prescribed minimum loads as defined in 6.9.2.5 to 6.9.2.10.

**6.9.2.5** At the pressures as indicated in 6.8.2.1.14 (a) and (b), and under the static gravity forces caused by the contents with maximum density specified for the design and at maximum filling degree, the design stress  $\sigma$  in longitudinal and circumferential direction of any layer of the shell shall not exceed the following value:

$$\sigma \leq \frac{R_m}{K}$$

where:

$R_m$  = the value of tensile strength given by taking the mean value of the test results minus twice the standard deviation of the test results. The tests shall be carried out, in accordance with the requirements of EN 61:1977, on not less than six samples representative of the design type and construction method;

$K = S \times K_0 \times K_1 \times K_2 \times K_3$

where

$K$  shall have a minimum value of 4, and

$S$  = the safety coefficient. For the general design, if the tanks are referred to in Column (12) of Table A of Chapter 3.2 by a tank code including the letter "G" in its second part (see 4.3.4.1.1), the value for  $S$  shall be equal to or more than 1.5. For tanks intended for the carriage of substances which require an increased safety level, i.e. if the tanks are referred to in Column (12) of Table A of Chapter 3.2 by a tank code including the number "4" in its second part (see 4.3.4.1.1), the value of  $S$  shall be multiplied by a factor of two, unless the shell is provided with protection against damage consisting of a complete metal skeleton including longitudinal and transverse structural members;

$K_0$  = a factor related to the deterioration in the material properties due to creep and ageing and as a result of the chemical action of the substances to be carried. It shall be determined by the formula:



$$K_0 = \frac{1}{\alpha \cdot \beta}$$

where " $\alpha$ " is the creep factor and " $\beta$ " is the ageing factor determined in accordance with EN 978:1997 after performance of the test according to EN 977:1997. Alternatively, a conservative value of  $K_0 = 2$  may be applied. In order to determine  $\alpha$  and  $\beta$  the initial deflection shall correspond to  $2\sigma$ ;

$K_1$  = a factor related to the service temperature and the thermal properties of the resin, determined by the following equation, with a minimum value of 1:

$$K_1 = 1.25 - 0.0125 (\text{HDT} - 70)$$

where HDT is the heat distortion temperature of the resin, in °C;

$K_2$  = a factor related to the fatigue of the material; the value of  $K_2 = 1.75$  shall be used unless otherwise agreed with the competent authority. For the dynamic design as outlined in 6.9.2.6 the value of  $K_2 = 1.1$  shall be used;

$K_3$  = a factor related to curing and has the following values:

- 1.1 where curing is carried out in accordance with an approved and documented process;
- 1.5 in other cases.

**6.9.2.6** At the dynamic stresses, as indicated in 6.8.2.1.2 the design stress shall not exceed the value specified in 6.9.2.5, divided by the factor  $\alpha$ .

**6.9.2.7** At any of the stresses as defined in 6.9.2.5 and 6.9.2.6, the resulting elongation in any direction shall not exceed 0.2% or one tenth of the elongation at fracture of the resin, whichever is lower.

**6.9.2.8** At the specified test pressure, which shall not be less than the relevant calculation pressure as specified in 6.8.2.1.14 (a) and (b) the maximum strain in the shell shall not be greater than the elongation at fracture of the resin.

**6.9.2.9** The shell shall be capable of withstanding the ball drop test according to 6.9.4.3.3 without any visible internal or external defects.

**6.9.2.10** The overlay laminates used in the joints, including the end joints, the joints of the surge plates and the partitions with the shell shall be capable of withstanding the static and dynamic stresses mentioned above. In order to avoid concentrations of stresses in the overlay lamination, the applied taper shall not be steeper than 1:6.

The shear strength between the overlay laminate and the tank components to which it is bonded shall not be less than:

$$\tau = \frac{Q}{l} \leq \frac{\tau_R}{K}$$

where:

$\tau_R$  is the bending shear strength according to EN ISO 14125:1998 (three points method) with a minimum of  $\tau_R = 10 \text{ N/mm}^2$ , if no measured values are available;

$Q$  is the load per unit width that the joint shall carry under the static and dynamic loads;

$K$  is the factor calculated in accordance with 6.9.2.5 for the static and dynamic stresses;

$l$  is the length of the overlay laminate.

**6.9.2.11** Openings in the shell shall be reinforced to provide at least the same safety factors against the static and dynamic stresses as specified in 6.9.2.5 and 6.9.2.6 as that for the shell itself. The number of openings shall be minimized. The axis ratio of oval-shaped openings shall be not more than 2.

**6.9.2.12** For the design of flanges and pipework attached to the shell, handling forces and the fastening of bolts shall also be taken into account.

**6.9.2.13** The tank-container including tank swap bodies shall be designed to withstand, without significant leakage, the effects of a full engulfment in fire for 30 minutes as specified by the test requirements in 6.9.4.3.4. Testing may be waived with the agreement of the competent authority, where sufficient proof can be provided by tests with comparable tank designs.

**6.9.2.14 Special requirements for the carriage of substances with a flash-point of not more than 60 °C**

FRP tank-container including tank swap bodies used for the carriage of substances with a flash-point of not more than 60 °C shall be constructed so as to ensure the elimination of static electricity from the various component parts so as to avoid the accumulation of dangerous charges.

**6.9.2.14.1** The electrical surface resistance of the inside and outside of the shell as established by measurements shall not be higher than  $10^9$  ohms. This may be achieved by the use of additives in the resin or interlaminar conducting sheets, such as metal or carbon network.

**6.9.2.14.2** The discharge resistance to earth as established by measurements shall not be higher than  $10^7$  ohms.

**6.9.2.14.3** All components of the shell shall be electrically connected to each other and to the metal parts of the service and structural equipment of the tank-container including tank swap bodies. The electrical resistance between components and equipment in contact with each other shall not exceed 10 ohms.

**6.9.2.14.4** The electrical surface-resistance and discharge resistance shall be measured initially on each manufactured tank-container including tank swap bodies or a specimen of the shell in accordance with a procedure recognized by the competent authority.

**6.9.2.14.5** The discharge resistance to earth of each tank-container including tank swap bodies shall be measured as part of the periodic inspection in accordance with a procedure recognized by the competent authority.

**6.9.3 Items of equipment**

**6.9.3.1** The requirements of 6.8.2.2.1, 6.8.2.2.2 and 6.8.2.2.4 to 6.8.2.2.8 shall apply.

**6.9.3.2** In addition, when they are shown under an entry in Column (13) of Table A of Chapter 3.2, the special provisions of 6.8.4 (b) (TE) shall also apply.

**6.9.4 Type testing and approval**

**6.9.4.1** For any design of a FRP tank-container type, including tank swap bodies, its materials and a representative prototype shall be subjected to the design type testing as outlined below.

**6.9.4.2 Material testing**

**6.9.4.2.1** The elongation at fracture according to EN ISO 527-5:1997 and the heat distortion temperature according to ISO 75-1:1993 shall be determined for the resins to be used.

**6.9.4.2.2** The following characteristics shall be determined for samples cut out of the shell. Samples manufactured in parallel may only be used, if it is not possible to use cutouts from the shell. Prior to testing, any liner shall be removed.

The tests shall cover:

- Thickness of the laminates of the central shell wall and the ends;
- Mass content and composition of glass, orientation and arrangement of reinforcement layers;
- Tensile strength, elongation at fracture and modulus of elasticity according to EN ISO 527-5:1997 in the direction of stresses. In addition, the elongation at fracture of the resin shall be established by means of ultrasound;
- Bending strength and deflection established by the bending creep test according to EN ISO 14125:1998 for a period of 1000 hours using a sample with a minimum width of 50 mm and a support distance of at least 20 times the wall thickness. In addition, the creep factor  $\alpha$  and the ageing factor  $\beta$  shall be determined by this test and according to EN 978:1997.

**6.9.4.2.3** The interlaminar shear strength of the joints shall be measured by testing representative samples in the tensile test according to EN ISO 14130:1997.

**6.9.4.2.4** The chemical compatibility of the shell with the substances to be carried shall be demonstrated by one of the following methods with the agreement of the competent authority. This demonstration shall account for all aspects of the compatibility of the materials of the shell and its equipment with the substances to be carried, including chemical deterioration of the shell, initiation of critical reactions of the contents and dangerous reactions between both.

- In order to establish any deterioration of the shell, representative samples taken from the shell, including any internal liners with welds, shall be subjected to the chemical compatibility test according to EN 977:1997 for a period of 1 000 hours at 50 °C. Compared with a virgin sample, the loss of strength and elasticity modulus measured by the bending test according to EN 978:1997 shall not exceed 25%. Cracks, bubbles, pitting effects as well as separation of layers and liners and roughness shall not be acceptable.

- Certified and documented data of positive experiences on the compatibility of the filling substances in question with the materials of the shell with which they come into contact at given temperatures, times and any other relevant service conditions.
- Technical data published in relevant literature, standards or other sources, acceptable to the competent authority.

#### **6.9.4.3 Type testing**

A representative prototype tank shall be subjected to tests as specified below. For this purpose service equipment may be replaced by other items if necessary.

**6.9.4.3.1** The prototype shall be inspected for compliance with the design type specification. This shall include an internal and external visual inspection and measurement of the main dimensions.

**6.9.4.3.2** The prototype, equipped with strain gauges at all locations where a comparison with the design calculation is required, shall be subjected to the following loads and the strains shall be recorded:

- Filled with water to the maximum filling degree. The measuring results shall be used to calibrate the design calculation according to 6.9.2.5;
- Filled with water to the maximum filling degree and subjected to accelerations in all three directions by means of driving and braking exercises with the prototype attached to a wagon. For comparison with the design calculation according to 6.9.2.6 the strains recorded shall be extrapolated in relation to the quotient of the accelerations required in 6.8.2.1.2 and measured;
- Filled with water and subjected to the specified test pressure. Under this load, the shell shall exhibit no visual damage or leakage.

**6.9.4.3.3** The prototype shall be subjected to the ball drop test according to EN 976-1:1997, No. 6.6. No visible damage inside or outside the tank shall occur.

**6.9.4.3.4** The prototype with its service and structural equipment in place and filled to 80% of its maximum capacity with water, shall be exposed to a full engulfment in fire for 30 minutes, caused by an open heating oil pool fire or any other type of fire with the same effect. The dimensions of the pool shall exceed those of the tank by at least 50 cm to each side and the distance between fuel level and tank shall be between 50 cm and 80 cm. The rest of the tank below liquid level, including openings and closures, shall remain leakproof except for drips.

#### **6.9.4.4 Type approval**

**6.9.4.4.1** The competent authority or a body designated by that authority shall issue in respect of each new type of tank-container including tank swap bodies an approval attesting that the design is suitable for the purpose for which it is intended and meets the construction and equipment requirements of this chapter as well as the special provisions applicable to the substances to be carried.

**6.9.4.4.2** The approval shall be based on the calculation and the test report, including all material and prototype test results and its comparison with the design calculation, and shall refer to the design type specification and the quality assurance programme.

**6.9.4.4.3** The approval shall include the substances or group of substances for which compatibility with the tank-container including tank swap bodies is provided. Their chemical names or the corresponding collective entry (see 2.1.1.2), and their class and classification code shall be indicated.

**6.9.4.4.4** In addition, it shall include design and threshold values (such as life-time, service temperature range, working and test pressures, material data) specified and all precautions to be taken for the manufacture, testing, type approval, marking and use of any tank-container including tank swap bodies, manufactured in accordance with the approved design type.

#### **6.9.5 Inspections**

**6.9.5.1** For every tank-container including tank swap bodies, manufactured in conformity with the approved design, material tests and inspections shall be performed as specified below.

**6.9.5.1.1** The material tests according to 6.9.4.2.2, except for the tensile test and for a reduction of the testing time for the bending creep test to 100 hours shall be performed with samples taken from the shell. Samples manufactured in parallel may only be used, if no cutouts from the shell are possible. The approved design values shall be met.

**6.9.5.1.2** Shells and their equipment shall either together or separately undergo an initial inspection before being put into service. This inspection shall include:

- a check of conformity to the approved design;
- a check of the design characteristics;
- an internal and external examination;

- a hydraulic pressure test at the test pressure indicated on the plate prescribed in 6.8.2.5.1;
- a check of operation of the equipment;
- a leakproofness test, if the shell and its equipment have been pressure tested separately.

**6.9.5.2** For the periodic inspection of tank-containers including tank swap bodies the requirements of 6.8.2.4.2 to 6.8.2.4.4 shall apply. In addition, the inspection in accordance with 6.8.2.4.3 shall include an examination of the internal condition of the shell.

**6.9.5.3** The inspections and tests in accordance with 6.9.5.1 and 6.9.5.2 shall be carried out by the expert approved by the competent authority. Certificates shall be issued showing the results of these operations. These certificates shall refer to the list of the substances permitted for carriage in this tank-container including tank swap bodies in accordance with 6.9.4.4.

**6.9.6 Marking**

**6.9.6.1** The requirements of 6.8.2.5 shall apply to the marking of FRP tank-containers including tank swap bodies, with the following amendments:

- the tank plate may also be laminated to the shell or be made of suitable plastics materials;
- the design temperature range shall always be marked.

**6.9.6.2** In addition, when they are shown under an entry in Column (13) of Table A of Chapter 3.2, the special provisions of 6.8.4 (e) (TM) shall also apply.

## Chapter 6.10

### Requirements for the construction, equipment, type approval, inspection and marking of vacuum-operated waste tanks

**NOTE** 1: For portable tanks and UN multiple element gas containers (MEGCs), see Chapter 6.7; for tank-wagons, demountable tanks, tank-containers and tank swap bodies, with shells made of metallic materials, and battery-wagons and multiple element gas containers (MEGCs) other than UN MEGCs see Chapter 6.8; for fibre reinforced plastic tank-containers, see Chapter 6.9.

2: This Chapter applies to tank-containers and tank swap bodies.

#### 6.10.1 General

##### 6.10.1.1 Definitions

**NOTE:** A tank which fully complies with the requirements of Chapter 6.8 is not considered to be a "vacuum-operated waste tank".

6.10.1.1.1 The term "protected area" means the areas located as follows:

- (a) The lower part of the tank in a zone which extends over a 60 ° angle on either side of the lower generating line;
- (b) The top part of a tank in a zone which extends over a 30 ° angle on either side of the top generating line.

##### 6.10.1.2 Scope

6.10.1.2.1 The special requirements of 6.10.2 to 6.10.4 complete or modify Chapter 6.8 and are applied to vacuum-operated waste tanks.

Vacuum-operated waste tanks may be equipped with openable ends, if the requirements of Chapter 4.3 allow bottom discharge of the substances to be carried (indicated by the letters "A" or "B" in the tank code given in Column (12) of Table A of Chapter 3.2, in accordance with 4.3.4.1.1).

Vacuum-operated waste tanks shall comply with all the requirements of Chapter 6.8, with the exception of requirements overtaken by a special provision in this Chapter. However, the requirements of 6.8.2.1.19 and 6.8.2.1.20 shall not apply.

#### 6.10.2 Construction

6.10.2.1 Tanks shall be designed for a calculation pressure equal to 1.3 times the filling or discharge pressure but not less than 400 kPa (4 bar) (gauge pressure). For the carriage of substances for which a higher calculation pressure of the tank is specified in Chapter 6.8, this higher pressure shall apply.

6.10.2.2 Tanks shall be designed to withstand a negative internal pressure of 100 kPa (1 bar).

#### 6.10.3 Items of equipment

6.10.3.1 The items of equipment shall be so arranged as to be protected against the risk of being wrenched off or damaged during carriage or handling. This requirement can be fulfilled by placing items of equipment in a so-called "protected area" (see 6.10.1.1.1).

6.10.3.2 The bottom discharge of shells may be constituted by external piping with a stop-valve fitted as close to the shell as practicable and a second closure which may be a blank flange or other equivalent device.

6.10.3.3 The position and closing direction of the stop-valve(s) connected to the shell, or to any compartment in the case of compartmented shells, shall be unambiguous, and be able to be checked from the ground.

6.10.3.4 In order to avoid any loss of contents in the event of damage to the external filling and discharge fittings (pipes, lateral shut-off devices), the internal stop-valve, or the first external stop-valve (where applicable), and its seatings shall be protected against the danger of being wrenched off by external stresses or shall be so designed as to withstand them. The filling and discharge devices (including flanges or threaded plugs) and protective caps (if any) shall be capable of being secured against any unintended opening.

6.10.3.5 The tanks may be equipped with openable ends. Openable ends shall comply with the following conditions:

- (a) The ends shall be designed to be secured leaktight when closed;
- (b) Unintentional opening shall not be possible;
- (c) Where the opening mechanism is power operated the end shall remain securely closed in the event of a power failure;

- (d) A safety or breakseal device shall be incorporated to ensure that the openable end cannot be opened when there is still a residual over pressure in the tank. This requirement does not apply to openable ends which are power-operated, where the movement is positively controlled. In this case the controls shall be of the dead-man type and be so positioned that the operator can observe the movement of the openable end at all times and is not endangered during opening and closing of the openable end; and
- (e) Provisions shall be made to protect the openable end and prevent it from being forced open during a roll-over of the tank-container or tank swap body.

**6.10.3.6** Vacuum-operated waste tanks which are fitted with an internal piston to assist in the cleaning of the tank or discharging shall be provided with stop-devices to prevent the piston in every operational position being ejected from the tank when a force equivalent to the maximum working pressure of the tank is applied to the piston. The maximum working pressure for tanks or compartments with pneumatic operated piston shall not exceed 100 kPa (1.0 bar). The internal piston shall be constructed in a manner and of materials which will not cause an ignition source when the piston is moved.

The internal piston may be used as a compartment provided it is secured in position. Where any of the means by which the internal piston is secured is external to the tank, it shall be placed in a position not liable to accidental damage.

**6.10.3.7** The tanks may be equipped with suction booms if:

- (a) the boom is fitted with an internal or external stop-valve fixed directly to the shell, or directly to a bend that is welded to the shell; a rotation crown wheel can be fitted between the shell or the bend and the external stop valve, if this rotation crown wheel is located in the protected area and the stop-valve control device is protected with a housing or cover against the danger of being wrenched off by external loads;
- (b) the stop-valve mentioned in (a) is so arranged that carriage with the valve in an open position is prevented; and
- (c) the boom is constructed in such a way that the tank will not leak as a result of accidental impact on the boom.

**6.10.3.8** The tanks shall be fitted with the following additional service equipment:

- (a) The outlet of a pump/exhauster unit shall be so arranged as to ensure that any flammable or toxic vapours are diverted to a place where they will not cause a danger;
- (b) A device to prevent immediate passage of flame shall be fitted to both the inlet and outlet of a vacuum pump/exhauster unit which may create sparks and which is fitted on a tank used for the carriage of flammable wastes;
- (c) Pumps which can deliver a positive pressure shall have a safety device fitted in the pipework which can be pressurised. The safety device shall be set to discharge at a pressure not exceeding the maximum working pressure of the tank;
- (d) A stop-valve shall be fitted between the shell, or the outlet of the overfill prevention device fitted to the shell, and the pipework connecting the shell to the pump/exhauster unit;
- (e) The tank shall be fitted with a suitable pressure/vacuum manometer which shall be mounted in a position where it can be easily read by the person operating the pump/exhauster unit. A distinguishing line shall be marked on the scale to indicate the maximum working pressure of the tank;
- (f) The tank, or in case of compartmented tanks, every compartment, shall be equipped with a level indicating device. Sight glasses may be used as level indicating devices, provided:
  - (i) they form a part of the tank wall and have a resistance to pressure comparable to that of the tank; or they must be fitted external to the tank;
  - (ii) the top and bottom connections to the tank are equipped with shut-off valves fixed directly to the shell and so arranged that carriage with the valves in an open position is prevented;
  - (iii) they are suitable for operation at the maximum working pressure of the tank; and
  - (iv) they are placed in a position where they will not be liable to accidental damage.

**6.10.3.9** The shells of vacuum-operated waste tanks shall be fitted with a safety valve preceded by a bursting disc.

The valve shall be capable of opening automatically at a pressure between 0.9 and 1.0 times the test pressure of the tank to which it is fitted. The use of dead weight or counterweight valves is prohibited.

The bursting disc shall burst at the earliest when the initial opening pressure of the valve is reached and at the latest when this pressure reaches the test pressure of the tank to which it is fitted.

Safety devices shall be of such a type as to resist dynamic stresses, including liquid surge.

The space between the bursting disc and the safety valve shall be provided with a pressure gauge or suitable tell-tale indicator for the detection of disc rupture, pinholing or leakage which could cause a malfunction of the safety valve.

**6.10.4      Inspection**

Vacuum-operated waste tanks shall be subject at least every two and a half years to an examination of the internal condition, in addition to the tests according to 6.8.2.4.3.

## Chapter 6.11

### Requirements for the design, construction, inspection and testing of bulk containers

#### 6.11.1 Definitions

For the purposes of this Chapter:

*Closed bulk container* means a totally closed bulk container having a rigid roof, sidewalls, end walls and floor (including hopper-type bottoms). The term includes bulk containers with an opening roof, side or end wall that can be closed during carriage. Closed bulk containers may be equipped with openings to allow for the exchange of vapours and gases with air and which under normal conditions of carriage prevent the release of solid contents as well as the penetration of rain and splash water;

*Sheeted bulk container* means an open top bulk container with rigid bottom (including hopper-type bottom), side and end walls and a non-rigid covering.

#### 6.11.2 Application and general requirements

**6.11.2.1** Bulk containers and their service and structural equipment shall be designed and constructed to withstand, without loss of contents, the internal pressure of the contents and the stresses of normal handling and carriage.

**6.11.2.2** Where a discharge valve is fitted, it shall be capable of being made secure in the closed position and the whole discharge system shall be suitably protected from damage. Valves having lever closures shall be able to be secured against unintended opening and the open or closed position shall be readily apparent.

#### 6.11.2.3 Code for designating types of bulk container

The following table indicates the codes to be used for designating types of bulk containers:

Types of bulk containers	Code
Sheeted bulk container	BK1
Closed bulk container	BK2

**6.11.2.4** In order to take account of progress in science and technology, the use of alternative arrangements which offer at least equivalent safety as provided by the requirements of this chapter may be considered by the competent authority.

#### 6.11.3 Requirements for the design, construction, inspection and testing of containers conforming to the CSC used as bulk containers

##### 6.11.3.1 Design and construction requirements

**6.11.3.1.1** The general design and construction requirements of this sub-section are deemed to be met if the bulk container complies with the requirements of ISO 1496-4:1991 "Series 1 Freight containers – Specification and testing – Part 4: Non pressurized containers for dry bulk" and the container is siftproof.

**6.11.3.1.2** Containers designed and tested in accordance with ISO 1496-1:1990 "Series 1 Freight containers – Specification and testing – Part 1: General cargo containers for general purposes" shall be equipped with operational equipment which, including its connection to the container, is designed to strengthen the end walls and to improve the longitudinal restraint as necessary to comply with the test requirements of ISO 1496-4:1991 as relevant.

**6.11.3.1.3** Bulk containers shall be siftproof. Where a liner is used to make the container siftproof it shall be made of a suitable material. The strength of material used for, and the construction of, the liner shall be appropriate to the capacity of the container and its intended use. Joins and closures of the liner shall withstand pressures and impacts liable to occur under normal conditions of handling and carriage. For ventilated bulk containers any liner shall not impair the operation of ventilating devices.

**6.11.3.1.4** The operational equipment of bulk containers designed to be emptied by tilting shall be capable of withstanding the total filling mass in the tilted orientation.

**6.11.3.1.5** Any movable roof or side or end wall or roof section shall be fitted with locking devices with securing devices designed to show the locked state to an observer at ground level.



**6.11.3.2 Service equipment**

**6.11.3.2.1** Filling and discharge devices shall be so constructed and arranged as to be protected against the risk of being wrenched off or damaged during carriage and handling. The filling and discharge devices shall be capable of being secured against unintended opening. The open and closed position and direction of closure shall be clearly indicated.

**6.11.3.2.2** Seals of openings shall be so arranged as to avoid any damage by the operation, filling and emptying of the bulk container.

**6.11.3.2.3** Where ventilation is required bulk containers shall be equipped with means of air exchange, either by natural convection, e.g. by openings, or active elements, e.g. fans. The ventilation shall be designed to prevent negative pressures in the container at all times. Ventilating elements of bulk containers for the carriage of flammable substances or substances emitting flammable gases or vapours shall be designed so as not to be a source of ignition.

**6.11.3.3 Inspection and testing**

**6.11.3.3.1** Containers used, maintained and qualified as bulk containers in accordance with the requirements of this section shall be tested and approved in accordance with the CSC.

**6.11.3.3.2** Containers used and qualified as bulk containers shall be inspected periodically according to the CSC.

**6.11.3.4 Marking**

**6.11.3.4.1** Containers used as bulk containers shall be marked with a Safety Approval Plate in accordance with the CSC.

**6.11.4 Requirements for the design, construction and approval of bulk containers other than containers conforming to the CSC**

**NOTE:** When containers conforming to the provisions of this section are used for the carriage of solids in bulk, the following statement shall be shown on the transport document:

"BULK CONTAINER BK(X) APPROVED BY THE COMPETENT AUTHORITY OF ..." (see 5.4.1.1.17).

**6.11.4.1** Bulk containers covered in this section include skips, offshore bulk containers, bulk bins, swap bodies, trough shaped containers, roller containers, and load compartments of wagons.

**NOTE:** These bulk containers also include containers conforming to the UIC leaflets 591 and 592-2 to 592-4 as mentioned in 7.1.3 which do not conform to the CSC.

**6.11.4.2** These bulk containers shall be designed and constructed so as to be strong enough to withstand the shocks and loadings normally encountered during carriage including, as applicable, transshipment between modes of transport.

**6.11.4.3** (Reserved)

**6.11.4.4** These bulk containers shall be approved by the competent authority and the approval shall include the code for designating types of bulk containers in accordance with 6.11.2.3 and the requirements for inspection and testing as appropriate.

**6.11.4.5** Where it is necessary to use a liner in order to retain the dangerous goods it shall meet the provisions of 6.11.3.1.3.

**Part 7**

**Provisions concerning the conditions of carriage, loading, unloading and handling**

## Chapter 7.1

### General provisions

- 7.1.1** The carriage of dangerous goods is subject to the mandatory use of a particular type of transport equipment in accordance with the provisions of this Chapter and Chapter 7.2 for carriage in packages and Chapter 7.3 for carriage in bulk. In addition, the provisions of Chapter 7.5 concerning loading, unloading and handling shall be observed.
- Columns (16), (17) and (18) of Table A of Chapter 3.2 show the particular provisions of this Part that apply to specific dangerous goods.
- 7.1.2** Road vehicles handed over for carriage by piggyback transport, as well as their contents, shall comply with the provisions of the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)<sup>1</sup>.
- 7.1.3** Large containers, portable tanks and tank-containers which meet the definition of "container" given in the CSC (1972), as amended, or in UIC leaflets 591 (status at 01.01.1998, 2<sup>nd</sup> edition), 592-2 (status at 01.10.2004, 6<sup>th</sup> edition), 592-3 (status at 01.01.1998, 2<sup>nd</sup> edition) and 592-4 (status at 01.09.2004, 2<sup>nd</sup> edition) may not be used to carry dangerous goods unless the large container or the frame of the portable tank or tank-container satisfies the provisions of the CSC or of UIC leaflets 591 and 592-2 to 592-4.
- 7.1.4** A large container may be presented for carriage only if it is structurally serviceable.
- "Structurally serviceable" means that the container is free from major defects in its structural components, e.g. top and bottom side rails, doorsill and header, floor cross members, corner posts, and corner fittings. "Major defects" are dents or bends in structural members greater than 19 mm in depth, regardless of length; cracks or breaks in structural members; more than one splice or an improper splice (e.g. a lapped splice) in top or bottom end rails or door headers or more than two splices in any one top or bottom side rail or any splice in a door sill or corner post; door hinges and hardware that are seized, twisted, broken, missing or otherwise inoperative; non-closing gaskets and seals; any distortion of the overall configuration sufficient to prevent proper alignment of handling equipment, mounting and securing on a chassis or wagon.
- In addition, deterioration in any component of the container, such as rusted metal in side walls or disintegrated fibreglass is unacceptable, regardless of the material of construction. Normal wear, including oxidation (rust), slight dents and scratches and other damage that do not affect serviceability or weather-tightness are, however, acceptable.
- Prior to loading the container shall also be checked to ensure that it is free from any residue of a previous load and that the interior floor and walls are free from protrusions.
- 7.1.5** (Reserved)
- 7.1.6** (Reserved)
- 7.1.7** Substances and articles of RID, except those which are handed over for carriage as colis express, may only be forwarded in freight trains.

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<sup>1</sup> This Agreement also includes the special agreements which have been signed by all the countries involved in the transport operation.

## Chapter 7.2

### Provisions concerning carriage in packages

- 7.2.1** Unless otherwise provided in 7.2.2 to 7.2.4, packages may be loaded:
- (a) into closed wagons or into closed containers; or
  - (b) into sheeted wagons or into sheeted containers; or
  - (c) into open wagons (unsheeted) or into open containers (unsheeted).
- 7.2.2** Packages comprising packagings made of materials sensitive to moisture shall be loaded into closed or sheeted wagons or into closed or sheeted containers.
- 7.2.3** (Reserved)
- 7.2.4** When an alphanumeric code beginning with the letter "W" is shown in column (16) of Table A of Chapter 3.2, the following special provisions apply:
- W 1** Packages shall be loaded into closed or sheeted wagons or into closed or sheeted containers.
- W 2** Substances and articles of Class 1 shall be loaded into closed wagons or closed containers. Articles which, because of their dimensions or their mass, cannot be loaded into closed wagons or closed containers may equally be carried in open wagons or open containers. They shall be covered by sheets. Only wagons fitted with regulation sheet steel spark-guards shall be used for the carriage of substances and articles of divisions 1.1, 1.2, 1.3, 1.5 and 1.6, even when these substances and articles are loaded into large containers. For wagons fitted with a combustible floor, the sheet steel spark-guards shall not be fixed directly to the floor of the wagon.
- Military consignments of substances and articles of Class 1 which form part of military equipment and of the structure of military material, may also be loaded into open wagons under the following conditions:
- consignments shall be accompanied by the competent military authority or, by order of this authority,
  - means of initiation not having at least two effective protective devices shall be removed, unless the substances and articles are placed in locked military vehicles.
- W 3** For free-flowing powdery substances and for fireworks the floor of a wagon or container shall have a non-metallic surface or covering.
- W 4** (Reserved)
- W 5** Packages may not be carried in small containers.
- W 6** (Reserved)
- W 7** Packages shall be carried in a closed wagon or in a closed container provided with adequate ventilation.
- W 8** For the carriage of packages bearing an additional label in accordance with Model No. 1, only wagons fitted with regulation sheet steel spark-guards shall be used, even when these substances are loaded in large containers. For wagons fitted with a combustible floor, the sheet steel spark-guards shall not be fixed directly to the floor of the wagon.
- W 9** Packages shall be carried in closed wagons or in movable-roof wagons or in closed containers.
- W 10** IBCs shall be carried in closed or sheeted wagons or closed or sheeted containers.
- W 11** IBCs other than metal or rigid plastics IBCs shall be carried in closed or sheeted wagons or closed or sheeted containers.
- W 12** IBCs of type 31HZ2 shall be carried in closed wagons or containers.
- W 13** When packed in 5H1, 5L1 or 5 M1 bags, shall be carried in closed wagons or containers.
- W 14** Aerosols carried for the purposes of reprocessing or disposal under special provision 327 in Chapter 3.3 shall only be carried in ventilated or open wagons or containers.

## Chapter 7.3

### Provisions concerning carriage in bulk

#### 7.3.1 General provisions

##### 7.3.1.1 Goods may not be carried in bulk in bulk containers, containers or wagons unless:

- (a) either a special provision, identified by the code "BK", explicitly authorizing this mode of carriage is indicated in column (10) of Table A of Chapter 3.2 and the relevant conditions of 7.3.2 are satisfied in addition to those of this section; or
- (b) a special provision, identified by the code "VW", explicitly authorizing this mode of carriage is indicated in column (17) of Table A of Chapter 3.2 and the conditions of this special provision, as laid down in 7.3.3 are satisfied in addition to those of this section.

Nevertheless, empty packagings, uncleaned, may be carried in bulk if this mode of carriage is not explicitly prohibited by other provisions of RID.

Unless otherwise provided in the special provisions in 7.3.3, the receptacle requirements for packages shall apply to small containers intended for the carriage of substances in bulk.

**NOTE:** For carriage in tanks, see Chapters 4.2 and 4.3.

##### 7.3.1.2 Substances which may become liquid at temperatures likely to be encountered during carriage, are not permitted for carriage in bulk.

##### 7.3.1.3 Bulk containers, containers or bodies of wagons shall be siftproof and shall be so closed that none of the contents can escape under normal conditions of carriage including the effect of vibration, or by changes of temperature, humidity or pressure.

##### 7.3.1.4 Bulk solids shall be loaded and evenly distributed in a manner that minimises movement that could result in damage to the bulk container, container or wagon or leakage of the dangerous goods.

##### 7.3.1.5 Where venting devices are fitted they shall be kept clear and operable.

##### 7.3.1.6 Bulk solids shall not react dangerously with the material of the bulk container, container, wagon, gaskets, equipment including lids and tarpaulins and with protective coatings which are in contact with the contents or significantly weaken them. Bulk containers, containers or wagons shall be so constructed or adapted that the goods cannot penetrate between wooden floor coverings or come into contact with those parts of the bulk container, container or wagon that may be affected by the materials or residues thereof.

##### 7.3.1.7 Before being filled and handed over for carriage, each bulk container, container or wagon shall be inspected and cleaned to ensure that it does not contain any residue on the interior or exterior of the bulk container, container or wagon that could:

- cause a dangerous reaction with the substance intended for carriage;
- detrimentally affect the structural integrity of the bulk container, container or wagon; or
- affect the dangerous goods retention capabilities of the bulk container, container or wagon.

##### 7.3.1.8 During carriage, no dangerous residues shall adhere to the outer surfaces of bulk containers, containers or of the bodies of wagons.

##### 7.3.1.9 If several closure systems are fitted in series, the system which is located nearest to the substance to be carried shall be closed first before filling.

##### 7.3.1.10 Empty bulk containers, containers or wagons which have carried a dangerous solid substance in bulk shall be treated in the same manner as is required by RID for a filled bulk container, container or wagon, unless adequate measures have been taken to nullify any hazard.

##### 7.3.1.11 If bulk containers, containers or wagons are used for the carriage in bulk of goods liable to cause a dust explosion, or evolve flammable vapours (e.g. for certain wastes) measures shall be taken to exclude sources of ignition and prevent dangerous electrostatic discharge during carriage, filling or discharge of the substance.

##### 7.3.1.12 Substances, for example wastes, which may react dangerously with one another and substances of different classes and goods not subject to RID, which are liable to react dangerously with one another shall not be mixed together in the same bulk container, container or wagon. Dangerous reactions are:

- (a) combustion and/or evolution of considerable heat;
- (b) emission of flammable and/or toxic gases;
- (c) formation of corrosive liquids; or
- (d) formation of unstable substances.

- 7.3.1.13** Before a bulk container, container or wagon is filled it shall be visually examined to ensure it is structurally serviceable, its interior walls, ceiling and floors are free from protrusions or damage and that any inner liners or substance retaining equipment are free from rips, tears or any damage that would compromise its cargo retention capabilities. Structurally serviceable, where relevant to the means of transport concerned, means the bulk container, container or wagon does not have major defects in its structural components, such as top and bottom side rails, top and bottom end rails, door sill and header, floor cross members, corner posts, and corner fittings of a bulk container or container. Major defects, where relevant to the means of transport concerned, include:
- (a) bends, cracks or breaks in the structural or supporting members that affect the integrity of the bulk container, container or of the body of the wagon;
  - (b) more than one splice or an improper splice (such as a lapped splice) in top or bottom end rails or door headers;
  - (c) more than two splices in any one top or bottom side rail;
  - (d) any splice in a door sill or corner post;
  - (e) door hinges and hardware that are seized, twisted, broken, missing, or otherwise inoperative;
  - (f) gaskets and seals that do not seal;
  - (g) any distortion of the overall configuration of a bulk container or container great enough to prevent proper alignment of handling equipment, mounting and securing on a chassis or wagon or vehicle, or insertion into ships' cells;
  - (h) any damage to lifting attachments or handling equipment interface features; or
  - (i) any damage to service or operational equipment.
- 7.3.2 Additional provisions for the carriage in bulk when the provisions of 7.3.1.1 (a) are applied**
- 7.3.2.1** The codes "BK1" and "BK2" in column (10) of Table A of Chapter 3.2 have the following meanings:
- BK1: Carriage in bulk in sheeted bulk containers is permitted;
- BK2: Carriage in bulk in closed bulk containers is permitted.
- 7.3.2.2** The bulk container used shall conform to the requirements of Chapter 6.11.
- 7.3.2.3 Goods of Class 4.2**
- The total mass carried in a bulk container shall be such that its spontaneous ignition temperature is greater than 55°C.
- 7.3.2.4 Goods of Class 4.3**
- These goods shall be carried in bulk containers which are watertight.
- 7.3.2.5 Goods of Class 5.1**
- Bulk containers shall be so constructed or adapted that the goods cannot come into contact with wood or any other incompatible material.
- 7.3.2.6 Goods of Class 6.2**
- 7.3.2.6.1 Animal material of Class 6.2**
- Animal material containing infectious substances (UN Nos. 2814, 2900 and 3373) is authorized for carriage in bulk containers provided the following conditions are met:
- (a) **Sheeted** bulk containers BK1 are permitted provided that they are not filled to maximum capacity to avoid substances coming into contact with the sheeting. Closed bulk containers BK2 are also permitted;
  - (b) Closed and sheeted bulk containers, and their openings, shall be leak-proof by design or by the fitting of a suitable liner;
  - (c) **The animal material** shall be thoroughly treated with an appropriate disinfectant before loading prior to carriage;
  - (d) **Sheeted bulk containers** shall be covered by an additional top liner weighted down by absorbent material treated with an appropriate disinfectant;
  - (e) Closed or sheeted bulk **containers shall** not be re-used until after they have been thoroughly cleaned and disinfected.
- NOTE:** Additional provisions may be required by appropriate national health authorities.

**7.3.2.6.2 Wastes of Class 6.2 (UN 3291)**

- (a) (Reserved);
- (b) Closed bulk containers and their openings shall be leakproof by design. These bulk containers shall have non porous interior surfaces and shall be free from cracks or other features which could damage packagings inside, impede disinfection or permit inadvertent release;
- (c) Wastes of UN No. 3291 shall be contained within the closed bulk container in UN type tested and approved sealed leakproof plastics bags tested for solids of packing group II and marked in accordance with 6.1.3.1. Such plastics bags shall be capable of passing the tests for tear and impact resistance according to ISO 7765-1:1988 "Plastics film and sheeting – Determination of impact resistance by the free-falling dart method – Part 1: Staircase methods" and ISO 6383-2:1983 "Plastics – Film and sheeting – Determination of tear resistance – Part 2: Elmendorf method". Each bag shall have an impact resistance of at least 165 g and a tear resistance of at least 480 g in both parallel and perpendicular planes with respect to the length of the bag. The maximum net mass of each plastics bag shall be 30 kg;
- (d) Single articles exceeding 30 kg such as soiled mattresses may be carried without the need for a plastics bag when authorized by the competent authority;
- (e) Wastes of UN No. 3291 which contain liquids shall only be carried in plastics bags containing sufficient absorbent material to absorb the entire amount of liquid without it spilling in the bulk container;
- (f) Wastes of UN No. 3291 containing sharp objects shall only be carried in UN type tested and approved rigid packagings meeting the provisions of packing instructions P621, IBC620 or LP621;
- (g) Rigid packagings specified in packing instructions P621, IBC620 or LP621 may also be used. They shall be properly secured to prevent damage during normal conditions of carriage. Wastes carried in rigid packagings and plastics bags together in the same closed bulk container shall be adequately segregated from each other, e.g. by suitable rigid barriers or dividers, mesh nets or otherwise securing, such that they prevent damage to the packagings during normal conditions of carriage;
- (h) Wastes of UN No. 3291 in plastics bags shall not be compressed in a closed bulk container in such a way that bags may be rendered no longer leakproof;
- (i) The closed bulk container shall be inspected for leakage or spillage after each journey. If any wastes of UN No. 3291 have leaked or been spilled in the closed bulk container, it shall not be re-used until after it has been thoroughly cleaned and, if necessary, disinfected or decontaminated with an appropriate agent. No other goods shall be carried together with UN No. 3291 other than medical or veterinary wastes. Any such other wastes carried in the same closed bulk container shall be inspected for possible contamination.

**7.3.2.7 Material of Class 7**

For the carriage of unpackaged radioactive material, see 4.1.9.2.3.

**7.3.2.8 Goods of Class 8**

These goods shall be carried in bulk containers which are watertight.

**7.3.3 Special provisions for carriage in bulk when the provisions of 7.3.1.1 (b) are applied**

When an alphanumeric code beginning with "VW" is shown under an entry in column (17) of Table A of Chapter 3.2, the following special provisions apply:

- VW 1** Carriage in bulk in closed wagons, movable-roof wagons, sheeted wagons, closed containers or in sheeted large containers is permitted.
- VW 2** Carriage in bulk is permitted in movable-roof wagons with a metal body, closed large metal containers and in wagons or large containers with a metal body covered with a non-combustible sheet.
- VW 3** Carriage in bulk is permitted in sheeted wagons or sheeted large containers with adequate ventilation or in movable-roof wagons. Suitable measures shall be taken to ensure that none of the contents, particularly any liquid components, can escape.
- VW 4** Carriage in bulk is permitted in sheeted metal wagons, movable-roof metal wagons, closed metal containers or in sheeted large metal containers. For UN Nos. 2008, 2009, 2210, 2545, 2546, 2881, 3189 and 3190, only carriage in bulk of solid waste is permitted.
- VW 5** Carriage in bulk is permitted in specially equipped wagons and containers. The receptacles of specially equipped wagons and containers and their closures shall conform to the general packing conditions of 4.1.1.1, 4.1.1.2 and 4.1.1.8. Openings designed for loading and unloading shall be capable of being hermetically closed.
- VW 6** Carriage in bulk is permitted in movable-roof wagons or in closed large containers.

**VW 7** Carriage in bulk in closed wagons, sheeted wagons, movable-roof wagons, closed containers or in sheeted large containers is permitted only if the substance is in pieces.

**VW 8** Carriage in bulk is permitted in open wagons or containers covered with an impermeable and non-combustible sheet, or in movable-roof wagons or in closed containers.

Wagons and containers shall be so constructed either that the substances contained cannot come into contact with wood or any other combustible material, or that the entire surface of the floor and walls, if made of wood or another combustible material has been provided with an impermeable surfacing resistant to combustion or has been coated with sodium silicate or a similar substance.

**VW 9** Carriage in bulk is permitted in sheeted wagons or in sheeted large containers, movable-roof wagons or in closed containers.

For substances of Class 8, wagons and containers shall be equipped with a suitable and sufficiently stout inner lining.

**VW 10** Carriage in bulk is permitted in sheeted wagons, sheeted large containers, movable-roof wagons or in closed containers. Wagons and containers shall be leakproof or rendered leakproof, for example by means of a suitable, sufficiently stout inner lining.

**VW 11** Carriage in bulk is permitted in specially equipped wagons and containers. The receptacles of specially equipped wagons and containers shall be so constructed that the openings designed for loading and unloading can be closed hermetically. Substances shall be filled in the receptacles in a manner which avoids risks to humans, animals and the environment.

**VW 12** Substances for which carriage in tank-wagons, in portable tanks or in tank-containers is unsuitable because of the high temperature and density of the substance may be carried in special wagons or containers in accordance with standards specified by the competent authority of the country of origin. If the country of origin is not a COTIF Member State, the conditions laid down shall be recognized by the competent authority of the first COTIF Member State reached by the consignment.

**VW 13** Carriage in bulk is permitted in specially equipped wagons or large containers in accordance with standards specified by the competent authority of the country of origin. If the country of origin is not a COTIF Member State, the conditions laid down shall be recognized by the competent authority of the first COTIF Member State reached by the consignment.

**VW 14** (1) Used batteries may be carried in bulk in specially equipped wagons or containers. Large plastics containers shall not be permitted. Small plastics containers shall be capable of withstanding, when fully loaded, a drop from a height of 0.8 m onto a hard surface at -18 °C, without breakage.

(2) The load compartments of wagons or containers shall be of steel resistant to the corrosive substances contained in the batteries. Less resistant steels may be used when there is a sufficiently great wall thickness or a plastics lining/layer resistant to the corrosive substances. The design of the load compartments of wagons or containers shall take account of any residual currents and impact from the batteries.

**NOTE:** Steel exhibiting a maximum rate of progressive reduction of 0.1 mm per year under the effects of the corrosive substances may be considered as resistant.

(3) It shall be ensured by means of constructional measures that there will be no leakage of corrosive substances from the load compartments of wagons or containers during carriage. Open load compartments shall be covered. The cover shall be resistant to the corrosive substances.

(4) Before loading, the load compartments of wagons or containers, including their equipment, shall be inspected for damage. Wagons or containers with damaged load compartments shall not be loaded.

The load compartments of wagons or containers shall not be loaded above the top of their walls.

(5) No batteries containing different substances and no other goods liable to react dangerously with each other shall be present in the load compartments of wagons or containers (see "dangerous reaction" in 1.2.1).

During carriage no dangerous residue of the corrosive substances contained in the batteries shall adhere to the outer surface of the load compartments of wagons or containers.

**VW 15** Carriage in bulk is permitted in closed wagons, movable-roof wagons, sheeted wagons, closed containers or sheeted large containers for substances or mixtures (such as preparations or wastes) containing not more than 1000 mg/kg of substance to which this UN No is assigned.

The bodies of wagons or containers shall be leakproof or rendered leakproof, for example by means of a suitable and sufficiently stout inner lining.

**VW 16** Carriage in bulk is permitted in accordance with the provisions of 4.1.9.2.3.

**VW 17** Carriage in bulk of SCO-I is permitted in accordance with the provisions of 4.1.9.2.3.



## **Chapter 7.4**

### **Provisions concerning carriage in tanks**

Dangerous goods may only be carried in tanks when a code is shown in column (10) or (12) of Table A of Chapter 3.2, or when a competent authority has issued an authorisation in accordance with the conditions specified in 6.7.1.3. The requirements of Chapter 4.2 or 4.3 shall be observed during carriage.

## Chapter 7.5

### Provisions concerning loading, unloading and handling

**NOTE:** Within the meaning of this section, placing a container, bulk-container, tank-container, portable tank or road vehicle onto a wagon is considered as loading, and removing it is considered as unloading.

#### 7.5.1 General provisions

**7.5.1.1** The requirements in force at the forwarding station shall be complied with for the loading of goods, **provided they do not conflict with the requirements of this Chapter.**

**7.5.1.2** The loading shall not be carried out if:

- an examination of the documents or
- a visual inspection of the wagon or of the large container(s), bulk container(s), tank-container(s), portable tank(s) or road vehicle(s), if any, as well as of their equipment used in loading and unloading, shows that the wagon, a large container, a bulk-container, a tank-container, a portable tank, a road vehicle or their equipment do not comply with the regulatory provisions.

**7.5.1.3** The unloading shall not be carried out if the above-mentioned inspections reveal deficiencies that might affect the safety or the security of the unloading.

The interior and exterior of a wagon or container shall be inspected prior to loading to ensure that there is no damage that could affect its integrity or that of the packages to be loaded in it.

**7.5.1.4** In accordance with the provisions of 7.5.11 and in conformity with column (18) of Table A of Chapter 3.2, certain dangerous goods shall only be forwarded as a wagon load or full load.

**7.5.1.5** When orientation arrows are required packages shall be oriented in accordance with such markings.

**NOTE:** Liquid dangerous goods shall be loaded below dry dangerous goods whenever practicable.

#### 7.5.2 Mixed loading prohibition

**7.5.2.1** Packages bearing different danger labels shall not be loaded together in the same wagon or container unless mixed loading is permitted according to the following Table based on the danger labels they bear.

The mixed loading prohibitions for packages shall also apply to the mixed loading of packages and small containers and the mixed loading of small containers in a wagon or large container in which small containers are carried.

**NOTE:** In accordance with 5.4.1.4.2, separate transport documents shall be drawn up for consignments that cannot be loaded together in the same wagon or container.

Labels Nos.	1	1.4	1.5	1.6	2.1, 2.2, 2.3	3	4.1	4.1 + 1	4.2	4.3	5.1	5.2	5.2 + 1	6.1	6.2	7A, 7B, 7C	8	9
1	See 7.5.2.2										(d)							(b)
1.4					(a)	(a)	(a)		(a)	(a)	(a)	(a)		(a)	(a)	(a)	(a)	(a),(b)(c)
1.5																		(b)
1.6																		(b)
2.1, 2.2, 2.3		(a)			X	X	X		X	X	X	X		X	X	X	X	X
3		(a)			X	X	X		X	X	X	X		X	X	X	X	X
4.1		(a)			X	X	X		X	X	X	X		X	X	X	X	X
4.1 + 1								X										
4.2		(a)			X	X	X		X	X	X	X		X	X	X	X	X
4.3		(a)			X	X	X		X	X	X	X		X	X	X	X	X
5.1	(d)	(a)			X	X	X		X	X	X	X		X	X	X	X	X
5.2		(a)			X	X	X		X	X	X	X	X	X	X	X	X	X
5.2 + 1												X	X					
6.1		(a)			X	X	X		X	X	X	X		X	X	X	X	X
6.2		(a)			X	X	X		X	X	X	X		X	X	X	X	X
7A, 7B, 7C		(a)			X	X	X		X	X	X	X		X	X	X	X	X
8		(a)			X	X	X		X	X	X	X		X	X	X	X	X
9	(b)	(a),(b),(c)	(b)	(b)	X	X	X		X	X	X	X		X	X	X	X	X

x Mixed loading permitted.

- (a) Mixed loading permitted with 1.4S substances and articles.
- (b) Mixed loading permitted between goods of Class 1 and life-saving appliances of Class 9 (UN Nos. 2990, 3072 and 3268).
- (c) Mixed loading permitted between air bag inflators, or air bag modules, or seat-belt pretensioners of Division 1.4, compatibility group G, (UN No. 0503) and air bag inflators or air bag modules or seat-belt pretensioners of Class 9 (UN No. 3268).
- (d) Mixed loading permitted between blasting explosives (except UN No. 0083 explosive, blasting, type C) and ammonium nitrate (UN Nos. 1942 and 2067) and alkali metal nitrates (e.g. UN No. 1486) and alkali earth metal nitrates (e.g. UN No. 1454) provided the aggregate is treated as blasting explosives under Class 1 for the purposes of placarding, segregation, stowage and maximum permissible load.

**7.5.2.2**

Packages containing substances or articles of Class 1, bearing a label conforming to models Nos. 1, 1.4, 1.5 or 1.6 which are assigned to different compatibility groups shall not be loaded together in the same wagon or container, unless mixed loading is permitted in accordance with the following Table for the corresponding compatibility groups.

Compatibility Group	B	C	D	E	F	G	H	J	L	N	S
<b>B</b>	X		(a)								X
<b>C</b>		X	X	X		X				(b), (c)	X
<b>D</b>	(a)	X	X	X		X				(b), (c)	X
<b>E</b>		X	X	X		X				(b), (c)	X
<b>F</b>					X						X
<b>G</b>		X	X	X		X					X
<b>H</b>							X				X
<b>J</b>								X			X
<b>L</b>									(d)		
<b>N</b>		(b), (c)	(b), (c)	(b), (c)						(b)	X
<b>S</b>	X	X	X	X	X	X	X	X		X	X

x Mixed loading permitted.

- (a) Packages containing articles of compatibility group B and those containing substances or articles of compatibility group D may be loaded together in one wagon or in one container provided they are effectively segregated such that there is no danger of transmission of detonation from the articles of compatibility group B to the substances or articles of compatibility group D. Segregation shall be achieved by the use of separate compartments or by placing one of the two types of explosive in a special containment system. Either method of segregation shall be approved by the competent authority.
- (b) Different types of articles of division 1.6, compatibility group N, may be carried together as articles of division 1.6, compatibility group N, only when it is proven by testing or analogy that there is no additional risk of sympathetic detonation between the articles. Otherwise they should be treated as hazard division 1.1.
- (c) When articles of compatibility group N are carried with substances or articles of compatibility groups C, D or E, the articles of compatibility group N should be considered as having the characteristics of compatibility group D.
- (d) Packages containing substances and articles of compatibility group L may be loaded together in one wagon or in one container with packages containing the same type of substances and articles of that compatibility group.

**7.5.2.3**

(Reserved)

**7.5.3****Protective distance**

Every wagon or large container containing substances or articles of Class 1 and bearing a label conforming to models Nos. 1, 1.5 or 1.6, shall be separated on the same train from wagons or large containers bearing a label conforming to models Nos. 2.1, 3, 4.1, 4.2, 4.3, 5.1 or 5.2 by a protective distance.

The requirement for this protective distance is met if the space between the buffer head of a wagon or the end wall of a large container and the buffer head of another wagon or the end wall of another large container is:

- (a) at least 18 m, or
- (b) occupied by two 2-axle wagons or a wagon with 4 or more axles.

**7.5.4 Precautions with respect to foodstuffs, other articles of consumption and animal feeds**

If special provision CW28 is indicated for a substance or article in column (18) of Table A of Chapter 3.2, precautions with respect to foodstuffs, other articles of consumption and animal feeds shall be taken as follows:

Packages as well as uncleaned empty packagings, including large packagings and intermediate bulk containers (IBCs), bearing labels conforming to models Nos. 6.1 or 6.2 and those bearing labels conforming to model No. 9 containing goods of UN Nos. 2212, 2315, 2590, 3151, 3152 or 3245, shall not be stacked on or loaded in immediate proximity to packages known to contain foodstuffs, other articles of consumption or animal feeds in wagons, in containers and at places of loading, unloading or transshipment.

When these packages, bearing the said labels, are loaded in immediate proximity of packages known to contain foodstuffs, other articles of consumption or animal feeds, they shall be kept apart from the latter:

- (a) by complete partitions which should be as high as the packages bearing the said labels;
- (b) by packages not bearing labels conforming to models Nos. 6.1, 6.2 or 9 or packages bearing labels conforming to model No.9 but not containing goods of UN Nos. 2212, 2315, 2590, 3151, 3152 or 3245; or
- (c) by a space of at least 0.8 m;

unless the packages bearing the said labels are provided with an additional packaging or are completely covered (e.g. by a sheeting, a fibreboard cover or other measures).

**7.5.5** (Reserved)

**7.5.6** (Reserved)

**7.5.7 Handling and stowage**

**7.5.7.1** Where appropriate the wagon or container shall be fitted with devices to facilitate securing and handling of the dangerous goods. Packages containing dangerous substances and unpackaged dangerous articles shall be secured by suitable means capable of restraining the goods (such as fastening straps, sliding slat-boards, adjustable brackets) in the wagon or container in a manner that will prevent any movement during carriage which would change the orientation of the packages or cause them to be damaged. When dangerous goods are carried with other goods (e.g. heavy machinery or crates), all goods shall be securely fixed or packed in the wagons or containers so as to prevent the release of dangerous goods. Movement of packages may also be prevented by filling any voids by the use of dunnage or by blocking and bracing. Where restraints such as banding or straps are used, these shall not be over-tightened to cause damage or deformation of the package.

**7.5.7.2** Packages shall not be stacked unless designed for that purpose. Where different design types of packages that have been designed for stacking are to be loaded together, consideration shall be given to their compatibility for stacking with each other. Where necessary, stacked packages shall be prevented from damaging the package below by the use of load-bearing devices.

**7.5.7.3** During loading and unloading, packages containing dangerous goods shall be protected from being damaged.

**NOTE:** Particular attention shall be paid to the handling of packages during their preparation for carriage, the type of wagon or container on which they are to be carried and to the method of loading or unloading, so that accidental damage is not caused through dragging or mishandling the packages.

**7.5.8 Cleaning after unloading**

**7.5.8.1** If, when a wagon or container which has contained packaged dangerous goods is unloaded, some of the contents are found to have escaped, the wagon or container shall be cleaned as soon as possible and in any case before reloading.

If it is not possible to do the cleaning locally, the wagon or container shall be carried, with due regard to adequate safety, to the nearest suitable place where cleaning can be carried out.

Carriage is adequately safe if suitable measures have been taken to prevent the uncontrolled release of the dangerous goods that have escaped.

**7.5.8.2** Wagons or containers which have been loaded with dangerous goods in bulk shall be properly cleaned before reloading unless the new load consists of the same dangerous goods as the preceding load.

**7.5.9** (Reserved)

**7.5.10** (Reserved)

**7.5.11 Additional provisions applicable to certain classes or specific goods**

In addition to the provisions of 7.5.1 to 7.5.4 and 7.5.8, the following special provisions shall apply when an alphanumeric code beginning with "CW" is shown in column (18) of Table A of Chapter 3.2.

**CW 1** Before loading, the floor of the wagon or container shall be carefully cleaned by the consignor.

No metal objects in the interior of the wagon or container other than those forming part of the construction of the wagon or container shall be allowed to protrude.

The doors and ventilator shutters of the wagons or containers shall be closed.

Packages shall be so loaded and stowed in the wagon or container that they cannot move or shift. They shall be protected against any chafing or bumping.

**CW 2** (Reserved)

**CW 3** (Reserved)

**CW 4** Substances and articles of compatibility group L shall only be carried as a full load or as a wagon load.

**CW 5** (Reserved)

**CW 6** (Reserved)

**CW 7** (Reserved)

**CW 8** (Reserved)

**CW 9** Packages shall not be thrown or subjected to impact.

**CW 10** Cylinders as defined in 1.2.1, shall be laid parallel to or at right angles to the longitudinal axis of the wagon or container; however, those situated near the forward transverse wall shall be laid at right angles to the said axis.

Short cylinders of large diameter (about 30 cm and over) may be stowed longitudinally with their valve-protecting devices directed towards the middle of the wagon or container.

Cylinders which are sufficiently stable or are carried in suitable devices effectively preventing them from overturning may be placed upright.

Cylinders which are laid flat shall be securely and appropriately wedged, attached or secured so that they cannot shift.

Receptacles designed to be rolled shall be laid with their longitudinal axis parallel to that of the wagon or container and shall be secured against any lateral movement.

**CW 11** Receptacles shall always be placed in the position for which they were designed and be protected against any possibility of being damaged by other packages.

**CW 12** When pallets loaded with articles are stacked, each tier of pallets shall be evenly distributed over the lower tier, if necessary by the interposition of a material of adequate strength.

**CW 13** If any substances have leaked and been spilled in a wagon or container, it may not be re-used until after it has been thoroughly cleaned and, if necessary, disinfected or decontaminated. Any other goods and articles carried in the same wagon or container shall be examined for possible contamination.

**CW 14** (Reserved)

**CW 15** (Reserved)

**CW 16** Consignments of UN No. 1749 chlorine trifluoride with a gross mass of more than 500 kg shall only be carried as a wagon load or as a full load and in quantities not exceeding 5000 kg per wagon or large container.

**CW 17** Packages containing substances of this Class which are to be carried at a specific ambient temperature shall only be carried as a wagon load or as a full load. The conditions of carriage shall be agreed between the consignor and the carrier.

**CW 18** Packages shall be so stowed that they are readily accessible.

**CW 19** (Reserved)

**CW 20** (Reserved)

**CW 21** (Reserved)

**CW 22** Wagons and large containers shall be thoroughly cleaned before loading.

Packages shall be loaded so that a free circulation of air within the loading space provides a uniform temperature of the load. If the contents of one wagon or large container exceed 5000 kg of these substances, the load shall be divided into stacks of not more than 5000 kg separated by air spaces of at least 0.05 m. Packages shall be protected from being damaged by other packages.

**CW 23** When handling packages, special measures shall be taken to ensure that they do not come into contact with water.

**CW 24** Before loading, wagons and containers shall be thoroughly cleaned and in particular be free of any combustible debris (straw, hay, paper, etc.).

The use of readily flammable materials for stowing packages is prohibited.

**CW 25** (Reserved)

**CW 26** The wooden parts of a wagon or container which have come into contact with these substances shall be removed and burnt.

**CW 27** (Reserved)

**CW 28** See 7.5.4.

**CW 29** Packages shall be stored upright.

**CW 30** The consignor and the carrier shall come to an agreement on the conditions of carriage before consignments are handed over for the carriage of refrigerated liquefied gases in tank-wagons, portable tanks or tank-containers fitted with safety valves.

**CW 31** Wagons or large containers which have contained substances of this Class as wagon loads or as full loads shall be checked, after unloading, for any residues of the load.

**CW 32** (Reserved)

**CW 33 NOTE** 1: "Critical group" means a group of members of the public which is reasonably homogeneous with respect to its exposure for a given radiation source and given exposure pathway and is typical of individual receiving the highest effective dose by the given exposure pathway from the given source.

2: "Members of the public" means in a general sense, any individuals in the population except when subject to occupational or medical exposure.

3: "Workers" are any persons who work, whether full time, part-time or temporarily, for an employer and who have recognised rights and duties in relation to occupational radiation protection.

#### (1) Segregation

(1.1) Packages, overpacks, containers and tanks containing radioactive material and unpackaged radioactive material shall be segregated during carriage:

(a) from workers in regularly occupied working areas:

- (i) in accordance with Table A below; or
- (ii) by distances calculated using a dose criterion of 5 mSv in a year and conservative model parameters;

**NOTE:** Workers subject to individual monitoring for the purposes of radiation protection shall not be considered for the purposes of segregation.

(b) from members of the critical group of the public, in areas where the public has regular access:

- (i) in accordance with Table A below; or
- (ii) by distances calculated using a dose criterion of 1 mSv in a year and conservative model parameters;

(c) from undeveloped photographic film and mailbags:

- (i) in accordance with Table B below; or
- (ii) by distances calculated using a radiation exposure criterion for undeveloped photographic film due to the transport of radioactive material for 0.1 mSv per consignment of such film; and

**NOTE:** Mailbags shall be assumed to contain undeveloped film and plates and therefore be separated from radioactive material in the same way.

(d) from other dangerous goods in accordance with 7.5.2.

**Table A: Minimum distances between packages of category II-YELLOW or of category III-YELLOW and persons**

Sum of transport indexes not more than	Exposure time per year (hours)			
	Areas where members of the public have regular access		Regularly occupied working areas	
	50	250	50	250
	Segregation distance in metres, no shielding material intervening, from:			
2	1	3	0.5	1
4	1.5	4	0.5	1.5
8	2.5	6	1.0	2.5
12	3	7.5	1.0	3
20	4	9.5	1.5	4
30	5	12	2	5
40	5.5	13.5	2.5	5.5
50	6.5	15.5	3	6.5

**Table B: Minimum distances between packages of category II-YELLOW or of category III-YELLOW and packages bearing the word "FOTO", or mailbags**

Total number of packages not more than		Sum of transport indexes not more than	Journey or storage duration, in hours							
			1	2	4	10	24	48	120	240
Category			Minimum distances in metres							
III-YEL-LOW	II-YEL-LOW									
		0.2	0.5	0.5	0.5	0.5	1	1	2	3
		0.5	0.5	0.5	0.5	1	1	2	3	5
	1	1	0.5	0.5	1	1	2	3	5	7
	2	2	0.5	1	1	1.5	3	4	7	9
	4	4	1	1	1.5	3	4	6	9	13
	8	8	1	1.5	2	4	6	8	13	18
1	10	10	1	2	3	4	7	9	14	20
2	20	20	1.5	3	4	6	9	13	20	30
3	30	30	2	3	5	7	11	16	25	35
4	40	40	3	4	5	8	13	18	30	40
5	50	50	3	4	6	9	14	20	32	45

(1.2) Category II-YELLOW or III-YELLOW packages or overpacks shall not be carried in compartments occupied by passengers, except those exclusively reserved for couriers specially authorized to accompany such packages or overpacks.

(1.3) (Reserved)

## (2) Activity limits

The total activity in a wagon, for carriage of LSA material or SCO in Industrial Packages Type 1 (Type IP-1), Type 2 (Type IP-2), Type 3 (Type IP-3) or unpackaged, shall not exceed the limits shown in Table C below.

**Table C: Wagon activity limits for LSA material and SCO in industrial packages or unpackaged**

Nature of material or object	Activity limit for wagon
LSA-I	No limit
LSA-II and LSA-III non-combustible solids	No limit
LSA-II and LSA-III combustible solids, and all liquids and gases	100 A <sub>2</sub>
SCO	100 A <sub>2</sub>

**(3) Stowage during carriage and storage in transit**

- (3.1) Consignments shall be securely stowed.
- (3.2) Provided that its average surface heat flux does not exceed  $15 \text{ W/m}^2$  and that the immediately surrounding cargo is not in bags, a package or overpack may be carried or stored among packaged general cargo without any special stowage provisions except as may be specifically required by the competent authority in an applicable approval certificate.
- (3.3) Loading of containers and accumulation of packages, overpacks and containers shall be controlled as follows:
- (a) Except under the condition of exclusive use, and for consignments of LSA-I material, the total number of packages, overpacks and containers in a single wagon shall be so limited that the total sum of the transport indexes in the wagon does not exceed the values shown in Table D below.
  - (b) The radiation level under routine conditions of carriage shall not exceed  $2 \text{ mSv/h}$  at any point on, and  $0.1 \text{ mSv/h}$  at 2 m from, the external surface of the wagon, except for consignments carried under exclusive use, for which the radiation limits around the wagon are set forth in (3.5) (b) and (c);
  - (c) The total sum of the criticality safety indexes in a container and or wagon shall not exceed the values shown in Table E below.

**Table D: Transport Index limits for containers and wagons not under exclusive use**

Type of container or wagon	Limit on total sum of transport indexes in a container or wagon
Small container	50
Large container	50
Wagon	50

**Table E: Criticality Safety Index for containers and vehicles containing fissile material**

Type of container or wagon	Limit on total sum of criticality safety indexes in a container or wagon	
	Not under exclusive use	Under exclusive use
Small container	50	n.a.
Large container	50	100
Wagon	50	100

- (3.4) Any package or overpack having either a transport index greater than 10, or any consignment having a criticality safety index greater than 50, shall be carried only under exclusive use.
- (3.5) For consignments under exclusive use, the radiation level shall not exceed:
- (a)  $10 \text{ mSv/h}$  at any point on the external surface of any package or overpack, and may only exceed  $2 \text{ mSv/h}$  provided that:
    - (i) the wagon is equipped with an enclosure which, during routine conditions of carriage, prevents the access of unauthorized persons to the interior of the enclosure;
    - (ii) provisions are made to secure the package or overpack so that its position within the wagon enclosure remains fixed during routine conditions of carriage, and
    - (iii) there is no loading or unloading during the shipment;
  - (b)  $2 \text{ mSv/h}$  at any point on the outer surfaces of the wagon, including the upper and lower surfaces, or, in the case of an open wagon, at any point on the vertical planes projected from the outer edges of the wagon, on the upper surface of the load, and on the lower external surface of the wagon; and
  - (c)  $0.1 \text{ mSv/h}$  at any point 2 m from the vertical planes represented by the outer lateral surfaces of the wagon, or, if the load is carried in an open wagon, at any point 2 m from the vertical planes projected from the outer edges of the wagon.

**(4) Segregation of packages containing fissile material during carriage and storage in transit**

- (4.1) Any group of packages, overpacks, and containers containing fissile material stored in transit in any one storage area shall be so limited that the total sum of the CSIs in the group does not exceed 50. Each group shall be stored so as to maintain a spacing of at least 6 m from other such groups.
- (4.2) Where the total sum of the criticality safety indexes in a wagon or container exceeds 50, as permitted in Table E above, storage shall be such as to maintain a spacing of at least 6 m from other groups of packages, overpacks or containers containing fissile material or other wagons carrying radioactive material.



**(5) Damaged or leaking packages, contaminated packagings**

- (5.1) If it is evident that a package is damaged or leaking, or if it is suspected that the package may have leaked or been damaged, access to the package shall be restricted and a qualified person shall, as soon as possible, assess the extent of contamination and the resultant radiation level of the package. The scope of the assessment shall include the package, the wagon, the adjacent loading and unloading areas, and, if necessary, all other material which has been carried in the wagon. When necessary, additional steps for the protection of persons property and the environment, in accordance with provisions established by the competent authority, shall be taken to overcome and minimize the consequences of such leakage or damage.
- (5.2) Packages damaged or leaking radioactive contents in excess of allowable limits for normal conditions of carriage may be removed to an acceptable interim location under supervision, but shall not be forwarded until repaired or reconditioned and decontaminated.
- (5.3) A wagon and equipment used regularly for the carriage of radioactive material shall be periodically checked to determine the level of contamination. The frequency of such checks shall be related to the likelihood of contamination and the extent to which radioactive material is carried.
- (5.4) Except as provided in paragraph (5.5), any wagon, or equipment or part thereof which has become contaminated above the limits specified in 4.1.9.1.2 in the course of carriage of radioactive material, or which shows a radiation level in excess of 5  $\mu\text{Sv/h}$  at the surface, shall be decontaminated as soon as possible by a qualified person and shall not be re-used unless the non-fixed contamination does not exceed the limits specified in 4.1.9.1.2, and the radiation level resulting from the fixed contamination on surfaces after decontamination is less than 5  $\mu\text{Sv/h}$  at the surface.
- (5.5) A container, tank, intermediate bulk container or wagon dedicated to the carriage of unpackaged radioactive material under exclusive use shall be excepted from the requirements of the previous paragraph (5.4) and in 4.1.9.1.2 solely with regard to its internal surfaces and only for as long as it remains under that specific exclusive use.

**(6) Other provisions**

Where a consignment is undeliverable, the consignment shall be placed in a safe location and the competent authority shall be informed as soon as possible and a request made for instructions on further action.

- CW 34** Prior to carriage of pressure receptacles it shall be ensured that the pressure has not risen due to potential hydrogen generation.
- CW 35** If bags are used as single packagings, they shall be adequately separated to allow for the dissipation of heat.
- CW 36** Packages shall preferably be loaded in open or ventilated wagons or open or ventilated containers. If this is not feasible and packages are carried in other closed wagons or containers, the cargo doors of the wagons or containers shall be marked with the following in letters not less than 25 mm high:

"WARNING  
NO VENTILATION  
OPEN WITH CAUTION"

This shall be in a language considered appropriate by the consignor.

## Chapter 7.6

### Provisions for carriage as colis express (express goods)

In accordance with Article 5 § 1 of Appendix C to COTIF, goods are only permitted for carriage as express goods when a special provision with an alphanumeric code beginning with the letters "CE" is shown in column (19) of Table A of Chapter 3.2 specifically authorizing this form of transport, and the conditions of this special provision are complied with.

The following special provisions apply when they are shown under an entry in column (19) of Table A of Chapter 3.2.

- CE 1** An express parcels package shall not weigh more than 40 kg. Express parcels consignments may be loaded in railway wagons which can simultaneously serve for the carriage of persons, but only up to a limit of 100 kg per wagon.
- CE 2** An express parcels package shall not weigh more than 40 kg.
- CE 3** An express parcels package shall not weigh more than 50 kg.
- CE 4** An express parcels package shall not contain more than 45 litres of this substance and shall not weigh more than 50 kg.
- CE 5** An express parcels package shall not contain more than 2 litres of this substance.
- CE 6** An express parcels package shall not contain more than 4 litres of this substance.
- CE 7** An express parcels package shall not contain more than 6 litres of this substance.
- CE 8** An express parcels package shall not contain more than 12 litres of this substance.
- CE 9** An express parcels package shall not contain more than 4 kg of this substance.
- CE 10** An express parcels package shall not contain more than 12 kg of this substance.
- CE 11** An express parcels package shall not contain more than 24 kg of this substance.
- CE 12** When sent as an express parcel, the substance shall be contained in unbreakable receptacles. An express parcels package shall not weigh more than 25 kg.
- CE 13** Only inorganic cyanides containing precious metals, and mixtures of these may be sent as express parcels. In this case, combination packagings with inner packagings of glass, plastics or metal in accordance with 6.1.4.21 shall be used. An express parcels package shall not contain more than 2 kg of the substance.
- Carriage in luggage vans or luggage compartments accessible to passengers shall be authorized if, by means of appropriate measures, packages are placed out of reach of non-authorized persons.
- CE 14** Only substances which are not to be carried at a specific ambient temperature may be forwarded as express parcels. In this case, the following quantity limits shall apply:
- for substances other than those assigned to UN No. 3373 up to 50 ml per package for liquids and up to 50 g per package for solids.
  - for substances assigned to UN No. 3373 in quantities as specified in packing instruction P650 in 4.1.4.1.
  - for body parts or organs, a package shall not weigh more than 50 kg.
- CE 15** For express parcels packages, the sum of the transport indexes on the danger labels in a luggage van or luggage compartment shall not be more than 10. For packages of category III-YELLOW, the carrier may determine the time of delivery of the consignment. An express parcels package shall not weigh more than 50 kg.

## Chapter 7.7

### **Carriage of dangerous goods as hand luggage or registered luggage or in or on board motor vehicles (car on train)**

**NOTE 1:** In accordance with Article 12 § 4 of the Uniform Rules concerning the Contract of International Carriage of Passengers by Rail (CIV – Appendix A of COTIF) and Article 5 of Appendix C (RID) of COTIF, dangerous goods are only permitted as hand luggage, registered luggage or in or on board motor vehicles (car on train) in accordance with the requirements of RID.

**2:** Further restrictions in the railway undertakings' conditions of carriage under private law are not affected.

Dangerous goods may only be carried as hand luggage or registered luggage or in or on board motor vehicles (car on train) if the exemption requirements of 1.1.3.1 (a) or (b), 1.1.3.2 (b), (d) or (f), 1.1.3.3 or 1.1.3.7 are applicable for the carriage.

**Unofficial part of RID**

## Requirements for the testing of plastics receptacles

### Guidelines for 6.1.5.2.7 and 6.5.6.3.6

Laboratory methods using samples for proving chemical compatibility of polyethylene in accordance with the definition in 6.1.5.2.6 and 6.5.6.3.5 with filling substances (substances, mixtures and preparations) as compared with the standard liquids according to 6.1.6.

Carrying out laboratory methods A to C described below will enable determination of the possible deterioration mechanisms on the material of the receptacle for the substances intended to be carried, as compared with the standard liquids in each case.

The deterioration mechanisms to be expected will determine the choice of test method.

The laboratory methods will establish

- softening through swelling (laboratory method A),
- formation of stress cracking (laboratory method B),
- reaction by oxidizing and molecular degradation (laboratory method C),

in the material of the receptacle, where these cannot already be determined on the basis of the formulation, and will in each case be compared with the appropriate standard liquids with similar effects.

Test samples of the same thickness within the tolerance limits indicated shall be used.

### Laboratory method A

The increase in mass through swelling is determined using flat test samples from the receptacle material stored at 40°C in the substance intended to be carried and in the standard liquid to be compared.

The change in mass through swelling is determined by weighing the test samples before storage and if the test samples are not more than 2 mm, after a reaction period of 4 weeks, otherwise after a reaction time sufficient for the test samples to reach mass constancy.

In each case, the average value of 3 test samples shall be determined. Test samples shall only be used once.

### Laboratory method B (pin insertion procedure)

#### 1. Short description

The performance of a receptacle material made of high density polyethylene with respect to the substance intended to be carried and the appropriate standard liquid is tested using the pin impression test, to the extent that this performance can be influenced by the formation of stress cracking, with or without simultaneous swelling up to 4%.

For the test, the test samples are provided with a drilled hole and a notch, and undergo preliminary storage in the filling substance to be tested and in the appropriate standard liquid. After preliminary storage, a pin of a defined oversize is inserted into the drilled hole.

The test samples prepared thus are then stored in the filling substance to be tested and in the appropriate standard liquid and are removed after storage periods of different duration and tested for residual tensile strength (procedure 3.1) or for the length of time until the test samples crack (procedure 3.2).

By making comparative measurements with the standard liquids "wetting solution", "acetic acid", "normal butyl acetate/normal butyl acetate-saturated wetting solution" or "water" as the test substance, it can be determined whether the degree of deterioration caused by the filling substance to be tested is equal to, more than or less than that of the standard liquid.

#### 2. Test samples

##### 2.1 Form and dimensions

The form and dimensions of the test sample are shown in figure 1. The thickness of the sample should not vary by  $\pm 15\%$  of the average value within a test series.

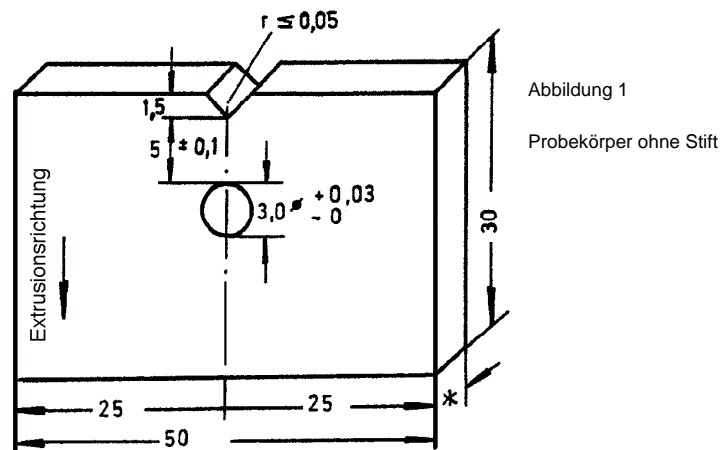
The filling substance to be tested and the appropriate standard liquid are part of the test procedure.

**Figure 1**

Extrusionsrichtung = direction of extrusion

Probekörper ohne Stift = test sample without pin

Mindestwanddicke: 2mm = minimum wall thickness: 2mm



\* Mindestwanddicke: 2mm

## 2.2 Manufacture

The test samples of a test series may be taken from receptacles of the same design type or from the same piece of an extruded semi-finished product.

With regard to machining of test samples, the surface quality obtained by cutting with a saw is sufficient. Ridges that occur during manufacture should simply be removed from the surface which is later to be notched. The test samples shall be notched parallel to the direction of extrusion.

A hole with a diameter of 3 mm  $^{+0,03}_{-0}$  is to be drilled into each test sample as shown in Figure 1.

The test sample shall then be provided with a V notch as shown in Figure 1, with a notch radius of  $\leq 0.05$  mm.

The distance between the bottom of the notch and the perimeter of the hole shall be 5 mm  $\pm 0.1$  mm.

## 2.3 Number of test samples

To determine the residual tensile strength in accordance with paragraph 3.2, 10 test samples per storage period shall be used. As a rule, at least 5 storage periods shall be used.

In order to determine the time required until the test samples crack in accordance with paragraph 3.3, a total of 15 samples is required.

## 2.4 Pins

See Figure 2 for the dimensions of the 4 mm thick pins.

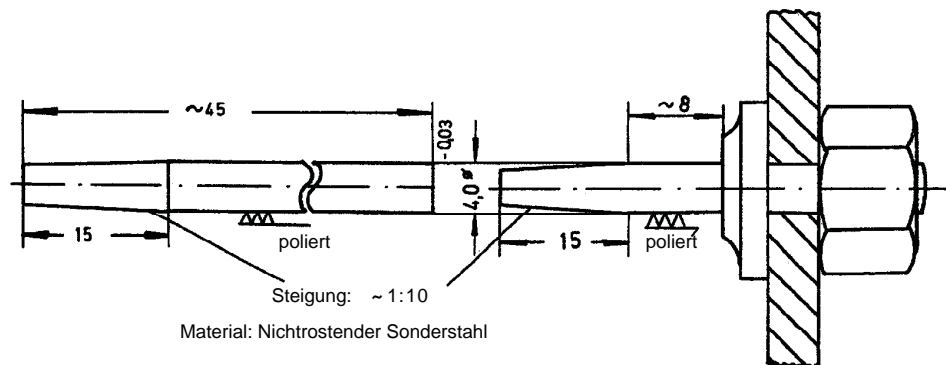
**Figure 2**

- a: Pin to determine residual tensile strength                      b: Pin to determine the standing time until the test sample cracks

poliert = polished

Steigung = gradient

Material: Nichtrostender Sonderstahl = Material: stainless (rust-resistant) steel



The preferred material for the pin is stainless steel (e.g. X 12 Cr Si 17).

For substances which can corrode this steel, glass pins shall be used.

### 3. Test procedure and evaluation

#### 3.1 Preliminary storage of the samples

Before having the pin inserted, the test samples shall undergo preliminary storage for 21 days at  $40^{\circ}\text{C} \pm 1^{\circ}\text{C}$  in the test liquids and standard liquids. For standard liquid c) in accordance with 6.1.6.1, preliminary storage shall be in n-butyl acetate.

#### 3.2 Procedure to determine the residual tensile strength curve

##### 3.2.1 Method

The pin in accordance with Figure 2a is inserted into the drilled hole in the test samples past the tapered part on to the cylindrical section.

The samples prepared thus are then immersed in storage receptacles filled with the respective test liquid, thermally conditioned to a temperature of  $40^{\circ}\text{C}$ , and then stored in an oven at  $40^{\circ}\text{C} \pm 1^{\circ}\text{C}$ . For standard liquid c), this test is carried out using wetting solution with the addition of 2% n-butyl acetate.

The period of time between inserting the pin into the test samples and continuing the storage in the test liquid must be uniformly selected and kept constant for a test series.

The storage periods for determining the time and test liquid related formation of stress cracking shall be selected such that a clear differentiation can be demonstrated between the residual tensile strength curves of the standard liquids tested and the filling substances to be classified with sufficient certainty.

After being removed from the storage receptacle, the pins shall immediately be removed from the test samples and any residual test liquid shall be cleaned off.

After being cooled to room temperature, the test samples shall be split parallel to the notched side through the middle of the drilled hole using a saw cut. Only the notched parts of the test samples shall be used for further testing.

These notched test samples shall then, no later than 8 hours after being removed from the test liquid, be subjected in a tensile testing machine to a uniaxial tensile stress, at a test speed (speed of the moving clamp) of 20 mm/min, until they break. The maximum strength shall be determined. The tensile test shall be carried out at room temperature ( $23^{\circ}\text{C} \pm 2^{\circ}\text{C}$ ) in accordance with ISO/R 527.

### 3.2.2 Evaluation

The evaluation to determine the effect of the test liquid comprises calculation of the maximum tensile strength of the pre-stored test sample parts without the pin as the zero value, and the maximum tensile strength of the sample after the storage periods  $t_y$  where  $y \geq 5$  (days). After converting these maximum tensile strength values at  $t_y$  into %, compared to the zero value, these values are plotted on a graph as in Figure 3.

A comparison with the corresponding residual tensile strength curves from measurements using the standard liquids "wetting solution" or "acetic acid" or "n-butyl acetate/n-butyl acetate-saturated wetting solution" or "water" then shows whether the filling substance tested has a stronger, weaker or no effect on the same receptacle material (see Figure 3).

**Figure 3**

Spannungsrißprüfung (Stifteindrückmethode) = stress cracking test (pin impression method)

Füllgut = filling substance

Standardflüssigkeit = standard liquid

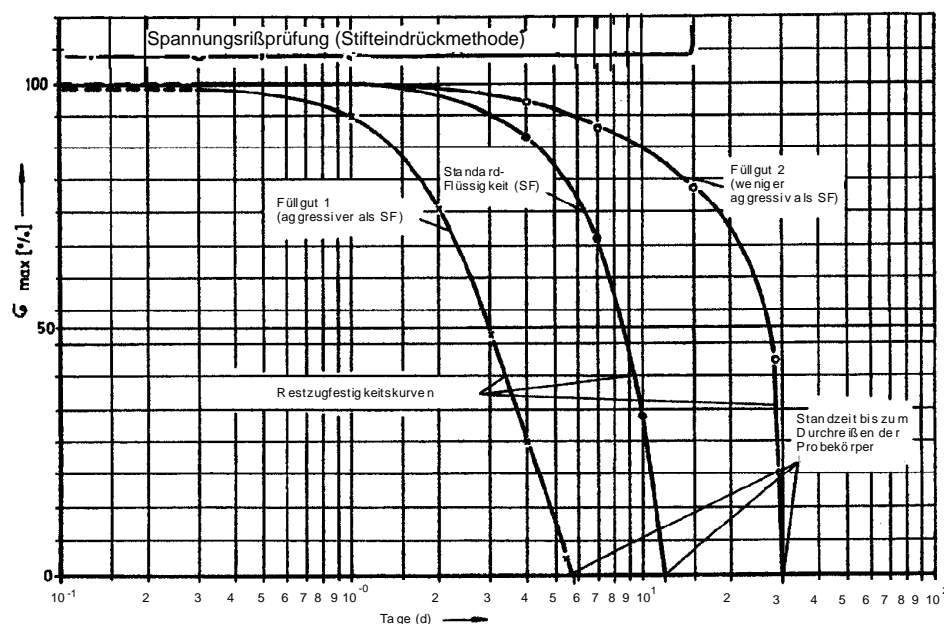
Aggressiver = more aggressive

Weniger aggressiv als = less aggressive than

Restzugfestigkeitskurven = residual tensile strength curves

Standzeit bis zum Durchreißen der Probekörper = time until the test samples crack

Tage = days



### 3.3 Procedure to determine the time until the test samples crack

#### 3.3.1 Method

15 pins are fully inserted into 15 individual upright test samples in accordance with diagram 2b, which are then placed into a glass tube thermally conditioned to 40°C and filled with the test liquid.

The test temperature is kept constant  $\pm 1^\circ\text{C}$ . The cracking of the test samples on each pin is ascertained by visual observation. Experience shows that the crack always grows from the base of the notch to the surface of the pin.



### 3.3.2 Evaluation

The elapsed time  $T_{SF}$  with the standard liquid until 8 samples have cracked is decisive for the assessment. It is not necessary to wait for any further cracks to form.

The evaluation is carried out by comparing with the number of samples that cracked using the filling substance. There shall be no more than 8 samples that crack during the time  $T_{SF}$ .

### 3.4 Comment

For this test procedure, the test parameters "storage temperature" and "distance between the bottom of the notch and perimeter of the hole" were selected in such a way that in corresponding tests with the standard liquids "wetting solution", "acetic acid" and "normal butyl acetate/normal butyl acetate-saturated wetting solution", meaningful results in the context of this test procedure can be obtained within an overall test duration of about 28 days. In this case, a high molecular mass polyethylene with a density of  $\sim 0.952 \text{ g/cm}^3$  and a Melt Flow Rate (MFR  $190^\circ\text{C}/21.6 \text{ kg load}$ ) of  $\sim 2.0 \text{ g/10 min}$  was taken as a basis.

As the conclusion of this test procedure should always be a relative conclusion, it is also possible to modify the relative values of the test parameters above in order to reduce the period required for the test. This information must be specified in the test report.

## 4. Criteria for a satisfactory test result

- 4.1 The test result according to laboratory method A shall not exceed 1% increase in mass through swelling if standard liquid a), "wetting solution" or standard liquid b), "acetic acid" is to be used for making a comparison.

The test result according to laboratory method A with the filling substance being tested shall not exceed the increase in mass through swelling obtained with normal butyl acetate (about 4%) if standard liquid c), "normal butyl acetate/normal butyl acetate-saturated wetting solution" is to be used for making a comparison.

- 4.2 The test result according to laboratory method B shall yield the same or a longer standing time for the filling substance than that for the standard liquids used for the comparison.

### Laboratory method C

In order to assess whether the filling substance poses a potential risk of oxidation or molecular degradation for a receptacle material made of high density polyethylene in accordance with 6.1.5.2.6 and 6.5.6.3.5 respectively, the Melt Flow Rate (MFR  $190^\circ\text{C}/21.6 \text{ kg load}$  in accordance with ISO 1133 – Condition 7) of test samples with a thickness range equivalent to the design type, shall be determined before and after storage of these samples in the filling substance to be assessed.

By storing geometrically identical samples in the standard liquid "55% nitric acid" in accordance with 6.1.6.1 (e) and by means of melt flow rate data, it shall be ascertained whether the degree of degradation caused by the filling substance to the material of the receptacle is less, equal or greater.

Samples shall be stored at  $40^\circ\text{C}$  until it is possible to make a final assessment, up to a maximum of 42 days.

If the filling substance to be approved produces swelling with an increase in mass of  $\geq 1\%$  in accordance with laboratory method A, in order not to affect the result of the measurement, the sample shall be "post-dried" whilst simultaneously checking the mass before the melt flow rate is measured, e.g. by storage in a vacuum drying cabinet at  $50^\circ\text{C}$  until mass constancy is reached, as a rule for not more than 7 days.

Criterion for a satisfactory test result:

The increase in the melt flow rate of the receptacle material caused by the filling substance to be approved shall not be greater than the change caused by the standard liquid "55% nitric acid", including a tolerance limit of 15% necessitated by the test method.

**A Nemzetközi Vasúti Fuvarozási Egyezmény  
(COTIF)**

**C Függeléke**

**2009.**

## ***A Veszélyes Áruk Nemzetközi Vasúti Fuvarozásáról szóló Szabályzat (RID)***

### *1. cikk*

#### **Hatály**

1. § Ezt a Szabályzatot kell alkalmazni
- a)* a veszélyes áruknak a tagállamok területén történő nemzetközi vasúti fuvarozására,
  - b)* a CIM Egységes Szabályok hatálya alá tartozó, a vasúti fuvarozást kiegészítő fuvarozásra, az egyéb közlekedési móddal történő szállításra vonatkozó nemzetközi előírások betartásával, valamint a jelen Szabályzat Mellékletében említett tevékenységekre.
2. § Azok a veszélyes áruk, amelyeket a Melléklet a fuvarozásból kizár, nem képezhetik nemzetközi fuvarozás tárgyát.

### *2. cikk*

#### **Mentesség**

A jelen Szabályzatot - részben vagy egészében - nem kell alkalmazni azokra a veszélyes árukra, amelyekre a Melléklet mentességet állapít meg. Mentesség csak akkor állapítható meg, ha az áru mennyisége, természete vagy csomagolása garantálja a fuvarozás biztonságát.

### *3. cikk*

#### **Korlátozások**

A tagállamok fenntartják maguknak azt a jogot, hogy veszélyes áruknak a saját területükön való nemzetközi fuvarozását, a fuvarozás biztonságán kívül, egyéb okokból is szabályozhassák vagy megtilthassák.

### *4. cikk*

#### **Egyéb előírások**

A jelen Szabályzat hatálya alá tartozó fuvarozásra a vasúti áru fuvarozásra általában vonatkozó nemzeti, illetve nemzetközi előírások továbbra is érvényesek.

*5. cikk***Engedélyezett vonattípusok. Kézipoggyászként, útipoggyászként vagy  
gépjárműben való szállítás**

1. § Veszélyes áru csak tehervonaton fuvarozható, kivéve

*a)* a Melléklet szerint fuvarozásra felvehető olyan veszélyes árut, amelyek a nem tehervonattal történő fuvarozásra vonatkozó legnagyobb mennyiségi és különleges fuvarozási feltételeknek megfelelnek;

*b)* a Melléklet különleges előírásai szerint, a CIV Egységes Szabályok 12. cikkének megfelelően kézipoggyászként, útipoggyászként, illetve gépjárműben szállított veszélyes árut.

2. § Az utas veszélyes árut nem vihet magával kézipoggyászként, nem adhat fel útipoggyászként vagy gépjárműben, ha az áru nem felel meg a Melléklet különleges előírásainak.

*6. cikk***Melléklet**

A Melléklet a jelen Szabályzat szerves részét képezi.

**A Veszélyes Áruk Nemzetközi Vasúti Fuvarozásáról szóló  
Szabályzat (RID)**

**Melléklete**

**1. Rész**  
**Általános előírások**

## 1.1 fejezet

### Hatály és alkalmazási terület

#### 1.1.1 Szerkezet

A RID hét részre van osztva, minden rész fejezetekből áll és minden fejezet szakaszokat és bekezdéseket tartalmaz.

Az egyes részekben belül a rész sorszáma kapcsolódik az egyes fejezetek, szakaszok és bekezdések sorszámaához; például a 4. rész, 2. fejezet, 1. szakaszának számozása: „4.2.1”.

#### 1.1.2 Hatály

A C Függelék 1. cikke szerint a RID meghatározza:

- a) azokat a veszélyes árukat, amelyek a nemzetközi fuvarozásból ki vannak zárva;
- b) azokat a veszélyes árukat, amelyek nemzetközi fuvarozása engedélyezett és a fuvarozásukhoz előírt feltételeket (beleértve a mentességeket), különösen:
  - az áruk besorolását (osztályozását), beleértve a besorolási kritériumokat és a vonatkozó vizsgálati módszereket;
  - a csomagolóeszközök használatát (beleértve az egybecsomagolást);
  - a tartányok használatát (beleértve azok töltését);
  - a feladási eljárásokat (beleértve a küldeménydarabok jelölését és bárcázását, a szállítóeszközök jelölését és táblázását, valamint a szükséges okmányokat és információkat);
  - a csomagolóeszközök és tartányok gyártására, vizsgálatára és jóváhagyására vonatkozó előírásokat;
  - a szállítóeszközök használatát (beleértve a berakást, az együvé rakást és a kirakást).

A RID értelmében vett fuvarozásokra – a C Függeléken kívül – a COTIF többi függelékének vonatkozó előírásai is érvényesek, különösen a szerződés alapján végzett fuvarozásokra vonatkozóan a B Függelék előírásai.

#### 1.1.3 Mentességek

##### 1.1.3.1 *A fuvarozás jellegéből adódó mentességek*

A RID előírásait nem kell alkalmazni:

- a) a magánszemélyek által történő veszélyes áru szállításra, amennyiben az áru kiskereskedelmi csomagolásban van és személyes vagy háztartási használatra, továbbá szabadidő vagy sport célokra szolgál, feltéve, hogy a veszélyes áru normális szállítási feltételek melletti kiszabadulásának megakadályozására szükséges intézkedéseket megtették. Amennyiben ez az áru magánszemély által vagy magánszemély részére megtöltött, újratölthető tartályokban szállított gyúlékony folyékony anyag, akkor az összmennyiség egy tartályban legfeljebb 60 liter lehet. Az IBC, a nagycsomagolás, ill. a tartály nem tekinthető kiskereskedelmi csomagolásnak.;

- b) a RID-ben nem szereplő gépek és készülékek szállítására, amelyek szerkezetükben vagy működtető elemeikben veszélyes árut tartalmaznak, feltéve, hogy a veszélyes áru normális szállítási feltételek melletti kiszabadulásának megakadályozására szükséges intézkedéseket megtették;
- c) a vállalatok (vállalkozások) olyan szállításaira, ami fő tevékenységükkel kapcsolatos, mint például a mély- és magasépítési munkaterületek ellátása, vagy méréssel, javítással és karbantartással kapcsolatos szállítások, ill. visszaszállítások küldeménydarabonként legfeljebb 450 liter mennyiségű veszélyes áru esetén és az 1.1.3.6 bekezdésben meghatározott mennyiségi határokon belül. Meg kell tenni a szükséges intézkedéseket a veszélyes áru normális szállítási feltételek melletti kiszabadulásának megakadályozására. Ez a fajta mentesség nem alkalmazható a 7 osztályra. Ugyancsak nem alkalmazható ez a mentesség a vállalatok (vállalkozások) által anyagbeszerzés, külső vagy belső anyagelosztás céljából végzett szállításokra;
- d) a kárelhárító szolgálatok által vagy felügyeletük mellett végzett szállításokra, amennyiben a szállítás a kárelhárítás érdekében szükséges, különösen a rendkívüli eseményben vagy balesetben érintett veszélyes áru összegyűjtésére és biztonságos helyre történő elszállítására;
- e) emberi életek mentését vagy a környezet védelmét szolgáló, veszélyhelyzetben történő szállításokra, amennyiben teljesen biztonságos végrehajtásukhoz minden intézkedést megtették;
- f) üres, tisztítatlan, telepített tárolótartályok, amelyekben a 2 osztály A, O vagy F csoportjába tartozó gázok, a 3 vagy 9 osztály II vagy III csomagolási csoportjába tartozó anyagok, vagy a 6.1 osztály II vagy III csomagolási csoportjába tartozó peszticidek voltak, azzal a feltétellel, hogy:
  - minden rajtuk lévő nyílás – az esetleges nyomáscsökkentő szerkezetek nyílásainak kivételével – légmentesen le van zárva;
  - megtették a szükséges intézkedéseket annak érdekében, hogy szokásos szállítási körülmények között a tartalom ne szivároгjon ki; és
  - a rakomány úgy van rögzítve rekeszben, kalodában vagy egyéb kezelőeszközben, ill. magán a kocsiban vagy a konténerben, hogy szokásos szállítási körülmények között ne lazuljon ki, ill. ne mozduljon el.

Ez a mentesség nem vonatkozik az olyan telepített tárolótartályokra, amelyekben érzékenyített robbanóanyag vagy a RID által a fuvarozásból kizárt anyag volt.

**Megjegyzés:** A radioaktív anyagokra lásd még az 1.7.1.4 bekezdést is.

### 1.1.3.2

#### *A gázok fuvarozására vonatkozó mentességek*

A RID előírásait nem kell alkalmazni, ha a fuvarozott anyagok (tárgyak) a következők:

- a) a szállítóeszközök tartályaiban levő gázok, amelyek azok meghajtására vagy különleges berendezéseinek (pl. hűtőkészülék) működtetésére szolgálnak;
- b) a szállított járművek tüzelőanyagtartályában levő gázok. A zárószelepnek a tartály és a motor között zárva kell lenni és az elektromos érintkezőket meg kell szakítani;
- c) a 2.2.2.1 bekezdés szerinti A és O csoport gázai, ha a gáz nyomása a tartályban vagy tartányban 20 °C-on nem haladja meg a 200 kPa-t (2 bar-t) és a gáz nem cseppfolyósított, ill. nem mélyhűtött cseppfolyósított gáz. Ide tartozik mindenfajta tartály és tartány, pl. a gépek és berendezések részeit képezők is;



- d) a jármű üzemelése során használt felszerelésekben (pl. tűzoltókészülékben) lévő gázok, beleértve a tartalék alkatrészekben (pl. felfújtt gumiabroncsban) lévő gázokat is. Ez a mentesség arra az esetre is vonatkozik, ha felfújtt gumiabroncsokat rakományként szállítanak;
- e) a kocsik különleges készülékeiben (hűtőkészülék, halszállító tartályok, fűtőkészülék stb.) levő gázok, amelyek a szállítás során ezek működtetéséhez szükségesek, valamint az ilyen készülékek tartalék tartályai és üres, tisztítatlan cseretartályai, amelyeket ugyanazon kocsiban szállítanak;
- f) az italokban és élelmiszerekben levő gázok.

#### **1.1.3.3 Folyékony tüzelőanyagok szállítására vonatkozó mentességek**

A RID előírásait nem kell alkalmazni a szállítóeszközök tüzelőanyag-tartályaiban levő üzemanyag szállítására, amely a szállítóeszköz meghajtására vagy speciális felszerelése (pl. hűtőgépek) működtetésére szolgál. A motorkerékpárok és segédmotoros kerékpárok motorja és tartálya között található csapot, ha a tartályokban üzemanyag van, szállítás közben zárva kell tartani; továbbá ezeket a motorkerékpárokat és segédmotoros kerékpárokat állítva kell berakni, és feldőlés ellen biztosítani kell.

#### **1.1.3.4 A különleges előírások szerinti és a korlátozott, ill. engedményes mennyiségben csomagolt veszélyes áruk fuvarozására vonatkozó mentességek**

**Megjegyzés:** A radioaktív anyagokra lásd az 1.7.1.4 bekezdést.

**1.1.3.4.1** A 3.3 fejezet bizonyos különleges előírásai egyes veszélyes anyagok fuvarozását részben vagy teljesen felmentik a RID előírásai alól. Ez a mentesség akkor alkalmazható, ha a különleges előírásra hivatkozás található a 3.2 fejezet „A” táblázat 6 oszlopában a szóban forgó veszélyes árura vonatkozóan.

**1.1.3.4.2** Bizonyos veszélyes áruk ugyancsak mentességet élvezhetnek, amennyiben a 3.4 fejezet feltételeit kielégítik.

**1.1.3.4.3** Bizonyos veszélyes áruk ugyancsak mentességet élvezhetnek, amennyiben a 3.5 fejezet feltételeit kielégítik.

#### **1.1.3.5 Az üres, tisztítatlan csomagolóeszközökre vonatkozó mentességek**

Az üres, tisztítatlan csomagolóeszközök (beleértve az üres IBC-eket és nagycsomagolásokat), amelyekben a 2, a 3, a 4.1, az 5.1, a 6.1, a 8 és a 9 osztály anyagai voltak, nem esnek a RID előírásainak hatálya alá, ha a lehetséges veszély elhárítására megfelelő intézkedéseket tettek. A veszély akkor tekinthető elhárítotttnak, ha megtették a megfelelő intézkedéseket az 1 – 9 osztály bármelyikére jellemző veszély elhárítására.

#### **1.1.3.6 Legnagyobb megengedett összmennyiség kocsinként, ill. nagykonténerenként**

**1.1.3.6.1** (fenntartva)

**1.1.3.6.2** (fenntartva)

**1.1.3.6.3** Ha egy kocsiban vagy nagykonténerben az 1.1.3.1.c) pont alapján ugyanazon szállítási kategóriába tartozó veszélyes árut szállítanak, a kocsira, ill. a nagykonténerre következő táblázat 3 oszlopában megadott legnagyobb megengedett mennyiségeket kell betartani:

Szállítási kategória	Anyag vagy tárgy csomagolási csoport vagy osztályozási kód/csoport vagy UN szám	Legnagyobb összmenyiség kocsinként, ill. nagykonténe- renként
(1)	(2)	(3)
0	<p>1 osztály: 1.1L, 1.2L, 1.3L és UN 0190</p> <p>3 osztály: UN 3343</p> <p>4.2 osztály: az I csomagolási csoportba tartozó anyagok</p> <p>4.3 osztály: UN 1183, 1242, 1295, 1340, 1390, 1403, 1928, 2813, 2965, 2968, 2988, 3129, 3130, 3131, 3134, 3148, 3396, 3398, 3399</p> <p>5.1 osztály: UN 2426</p> <p>6.1 osztály: UN 1051, 1600, 1613, 1614, 2312, 3250, 3294</p> <p>6.2 osztály: UN 2814, 2900</p> <p>7 osztály: UN 2912 – 2919, 2977, 2978, 3321 – 3333</p> <p>8 osztály UN 2215 (maleinsavanhidrid, olvasztott)</p> <p>9 osztály: UN 2315, 3151, 3152, 3432 és az ilyen anyagokat vagy keverékeket tartalmazó készülékek</p> <p>és az UN 2908 alá tartozók kivételével azok az üres, tisztítatlan csomagolóeszközök, amelyek az ebbe a szállítási kategóriába tartozó anyagokat tartalmazták.</p>	0
1	<p>Az I csomagolási csoportba tartozó anyagok és tárgyak, amelyek nem szerepelnek a 0 szállítási kategóriában és a következő osztályok anyagai és tárgyai:</p> <p>1 osztály: 1.1B – 1.1J<sup>a)</sup>, 1.2B – 1.2J, 1.3C, 1.3G, 1.3H, 1.3J, 1.5D<sup>a)</sup></p> <p>2 osztály: T, TC<sup>a)</sup>, TO, TF, TOC<sup>a)</sup> és TFC csoportok aeroszolok: C, CO, FC, T, TF, TC, TO, TFC és TOC csoport</p> <p>4.1 osztály: UN 3221 – 3224</p> <p>5.2 osztály: UN 3101 – 3104</p>	20
2	<p>A II csomagolási csoportba tartozó anyagok és tárgyak, amelyek nem szerepelnek a 0, az 1 vagy a 4 szállítási kategóriában és a következő osztályok anyagai és tárgyai:</p> <p>1 osztály: 1.4B – 1.4G és 1.6N</p> <p>2 osztály: F csoportok aeroszolok: F csoport</p> <p>4.1 osztály: UN 3225 – 3230</p> <p>5.2 osztály: UN 3105 – 3110</p> <p>6.1 osztály: III csomagolási csoportba tartozó anyagok és tárgyak</p>	333

Szállítási kategória	Anyag vagy tárgy csomagolási csoport vagy osztályozási kód/csoport vagy UN szám	Legnagyobb összmenyiség kocsinként, ill. nagykonténe- renként
(1)	(2)	(3)
	9 osztály: UN 3245	
3	A III csomagolási csoportba tartozó anyagok és tárgyak, amelyek nem szerepelnek a 0, a 2 vagy a 4 szállítási kategóriában és a következő osztályok anyagai és tárgyai: 2 osztály: A és O csoportok aeroszolok: A és O csoport 3 osztály: UN 3473 4.3 UN 3476 8 osztály: UN 2794, 2795, 2800, 3028 és 3477 9 osztály: UN 2990, 3072	1000
4	1 osztály: 1.4S 4.1 osztály: UN 1331, 1345, 1944, 1945, 2254, 2623 4.2 osztály: UN 1361 és 1362 III csomagolási csoport 7 osztály: UN 2908 – 2911 9 osztály: UN 3268 valamint azok az üres, tisztítatlan csomagolóeszközök, amelyek a 0 szállítási kategóriába tartozókon kívüli, többi anyagot tartalmazták.	Korlátlan

a) Az UN 0081, 0082, 0084, 0241, 0331, 0332, 0482, 1005 és 1017 számú anyagnál a legnagyobb összmenyiség kocsinként, ill. nagykonténerenként 50 kg.

Az előző táblázatban a „legnagyobb összmenyiség kocsinként, ill. nagykonténerenként” jelentése a következő:

- tárgyaknál a bruttó tömeg kg-ban (az 1 osztályba tartozó tárgyaknál a robbanóanyag nettó tömege kg-ban; a RID-ben szereplő gépekben és készülékekben lévő veszélyes áru esetén, a bennük lévő veszélyes áru összmenyisége kg-ban vagy literben);
- szilárd anyagoknál, cseppfolyósított gázoknál, mélyhűtött, cseppfolyósított gázoknál és oldott gázoknál a nettó tömeg kg-ban;
- folyékony anyagoknál és sűrített gázoknál a tartály névleges űrtartalma literben (lásd a meghatározást az 1.2.1 szakaszban).

#### 1.1.3.6.4

Ha a táblázat szerint különböző szállítási kategóriába tartozó veszélyes árukat ugyanabban a vasúti kocsiban vagy nagykonténerben fuvaroznak, akkor:

- az „1” szállítási kategóriába tartozó anyagok és tárgyak mennyisége 50-nel szorozva,
- az „1” szállítási kategóriába tartozó, az 1.1.3.6.3 pont táblázatához fűzött a) lábjegyzet szerinti anyagok és tárgyak mennyisége 20-szal szorozva,
- a „2” szállítási kategóriába tartozó anyagok és tárgyak mennyisége 3-mal szorozva, és
- a „3” szállítási kategóriába tartozó anyagok és tárgyak mennyisége

együttesen nem haladhatja meg az 1000-t.

- 1.1.3.6.5** E bekezdés alkalmazásánál nem kell figyelembe venni azokat a veszélyes árukat, amelyek az 1.1.3.2 – 1.1.3.5 bekezdés szerint mentességet élveznek.

**1.1.3.7** *Lítium akkumulátorok szállítására vonatkozó menteségek*

A RID előírásait nem kell alkalmazni:

- a) a szállítóeszközben alkalmazott lítium akkumulátorokra, amelyek annak meghajtására vagy bármely berendezésének működtetésére szolgálnak;
- b) a szállítás során használt (vagy használni szándékozott) eszközökben (pl. laptopban) lévő lítium akkumulátorokra, amelyek ezen eszközök működtetésére szolgálnak.

**1.1.4** *Más előírások alkalmazhatósága*

**1.1.4.1** *Általános előírások*

- 1.1.4.1.1** A tagállamok területén való nemzetközi fuvarozás a C Függelék 3. cikke szerinti szabályozás vagy tilalom alá eshet a fuvarozás biztonságán kívül egyéb okokból is. Az ilyen szabályozást, ill. tilalmat megfelelő módon közzé kell tenni.

**1.1.4.1.2** (fenntartva)

**1.1.4.1.3** (fenntartva)

**1.1.4.2** *Tengeri vagy légi szállítást is magában foglaló szállítási lánc*

- 1.1.4.2.1** Az olyan küldeménydarabokat, konténereket, mobil tartányokat és tankkonténereket, valamint kocsikat, amelyekben kocsirakományként csak ugyanazon árut tartalmazó küldeménydarabok vannak, amelyek nem felelnek meg teljesen a RID csomagolásra, egybecsomagolásra, a küldeménydarab jelölésére és bárcázására, és a nagybárcák és narancssárga táblák alkalmazására vonatkozó előírásainak, de megfelelnek az IMDG Kódex vagy az ICAO Műszaki Utasítások előírásainak, a tengeri vagy légi szállítást is magában foglaló szállítási láncban történő továbbításra a következő feltételekkel fel lehet venni:

- a) Ha a küldeménydarabok nincsenek a RID-nek megfelelően bárcázva és jelölve, akkor az IMDG Kódex vagy az ICAO Műszaki Utasítások szerinti veszélyességi bárcá(k)nak és jelölésnek kell rajtuk lenni.
- b) Az egy küldeménydarabba történő egybecsomagolásra az IMDG Kódex vagy az ICAO Műszaki Utasítások előírásait kell alkalmazni.
- c) A tengeri szállítást is magában foglaló szállítási láncban történő továbbításnál, ha a konténerek, mobil tartányok vagy tankkonténerek, valamint az olyan kocsik, amelyekben kocsirakományként csak ugyanazon árut tartalmazó küldeménydarabok vannak, nincsenek a RID 5.3 fejezete szerint jelölve és nagybárcával ellátva, akkor az IMDG Kódex 5.3 fejezete szerinti jelölésnek és nagybárcá(k)nak kell rajtuk lenni. Üres, tisztítatlan mobil tartányokat és tankkonténereket ezen előírás szerint egészen a tisztítóállomásig lehet szállítani (szállítási láncban történő továbbítást követően).

Ez a könnyítés nem vonatkozik azokra az árukra, amelyek a RID 1 – 9 osztályába tartozó veszélyes áruk, azonban az IMDG Kódex vagy az ICAO Műszaki Utasítások előírásai szerint nem veszélyesek.

**Megjegyzés:** Az 1.1.4.2.1 pont szerinti fuvarozásra lásd az 5.4.1.1.7 pontot is. Konténerben történő fuvarozásra lásd az 5.4.2 szakaszt is.

**1.1.4.2.2–****1.1.4.2.3** (fenntartva)**1.1.4.3** *A tengeri szállításra engedélyezett IMO-típusú mobil tartányok használata*

Azok az IMO-típusú mobil tartányok (1, 2, 5 és 7 típusú IMO tartányok), amelyek nem felelnek meg teljesen a 6.7 vagy a 6.8 fejezet követelményeinek, de amelyeket az IMDG Kódex (29-98 módosítás) előírásai szerint (beleértve az átmeneti előírásokat is) 2003. január 1-je előtt gyártottak és engedélyeztek, 2009. december 31-ig továbbra is használhatók, amennyiben kielégítik az IMDG Kódex (29-98 módosítás) vonatkozó vizsgálati előírásait, és az IMDG Kódex (33-06 módosítás) 3.2 fejezet 12 és 14 oszlopában hivatkozott előírásokat teljes mértékben kielégítik. 2009. december 31-e után azonban csak akkor használhatók, ha kielégítik az IMDG Kódex vonatkozó vizsgálati előírásait és a RID 3.2 fejezet 10 és 11 oszlopában található utasításokat, és megfelelnek a RID 4.2 fejezet előírásainak is.<sup>1)</sup>

**1.1.4.4** *Huckepack forgalom*

A veszélyes árukat huckepack fuvarozási módon is lehet továbbítani, mégpedig a következő előírások szerint:

A huckepack fuvarozási módon feladott közúti járműnek, valamint rakományának meg kell felelnie az ADR előírásainak.

Nem engedélyezettek azonban a következő anyagok:

- az 1 osztály A összeférhetőségi csoport robbanóanyagai (UN 0074, 0113, 0114, 0129, 0130, 0135, 0224 és 0473);
- a 4.1 osztály hőmérséklet-szabályozást igénylő, önreaktív anyagai (UN 3231 – 3240);
- az 5.2 osztály hőmérséklet-szabályozást igénylő, szerves peroxidjai (UN 3111 – 3120);
- a 8 osztályba tartozó kén-trioxid, legalább 99,95%-os tisztaságú, amit stabilizálás nélkül, tartányokban fuvaroznak (UN 1829).

**Megjegyzés:** A huckepack forgalomban használt hordozó kocsira elhelyezendő nagybárcákra és narancssárga jelölésre lásd az 5.3.1.3.2 és az 5.3.2.1.6 pontot. A fuvarokmányba teendő bejegyzésekre lásd az 5.4.1.1.9 pontot.

**1.1.4.5** *Nem vasúton történő továbbítás*

**1.1.4.5.1** Ha a RID előírásainak hatálya alá tartozó szállítást végző vasúti kocsit az útvonal egy részén nem vasúton továbbítják, akkor ezen az útvonalszámon csak azok a belföldi vagy nemzetközi szabályok alkalmazhatók, amelyek a veszélyes áruknak az útvonal szombat forgó részén a vasúti kocsi továbbítására használt szállítási móddal való szállítását adott esetben szabályozzák.

**1.1.4.5.2** Az érintett COTIF Tagállamok megállapodhatnak a RID alkalmazásában a fuvarozás azon szakaszára, amely során a vasúti kocsit nem vasúton továbbítják, szükség esetén kiegészítve további követelményekkel, kivéve, ha az érintett COTIF Tagállamok közötti ezen megállapodások ellentétesek a veszélyes áruknak az útvonal nevezett szakaszán a vasúti

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1) A Nemzetközi Tengerészeti Szervezet (IMO) a DSC.1/Circ.12 számú körlevéllel (ill. helyesbítéseivel) kiadta „A meglévő IMO-típusú mobil tartányok és közúti tartányjárművek veszélyes áruk szállítására történő további használatára vonatkozó útmutatót” („Guidance on the Continued Use of Existing IMO Type Portable Tanks and Road Tank Vehicles for the Transport of Dangerous Goods”), amelynek szövege megtalálható az IMO honlapján: [www.imo.org](http://www.imo.org)

kocsi továbbítására alkalmazott szállítási módra vonatkozó nemzetközi megállapodások előírásaival. Ezeket a megállapodásokat a kezdeményező Tagállamnak be kell terjesztenie az OTIF Titkárságnak, amely a Tagállamokat értesíti<sup>2)</sup>.

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2) Az ezen pont alapján kötött megállapodások az OTIF honlapján ([www.otif.org](http://www.otif.org)) megtekinthetők.

## 1.2 fejezet

### Meghatározások és mértékegységek

#### 1.2.1

#### Meghatározások

**Megjegyzés:** Ez a szakasz minden általános és különleges meghatározást tartalmaz.

A RID alkalmazásában:

**A**

**ADN:** a Veszélyes Áruk Nemzetközi Belvízi Szállításáról szóló Európai Megállapodás;

**ADR:** A Veszélyes Áruk Nemzetközi Közúti Szállításáról szóló Európai Megállapodás, beleértve a külön megállapodásokat is, amelyeket a szállításban résztvevő Szerződő Felek aláírtak;

**Aeroszol** vagy **aeroszol csomagolás:** a 6.2.6 szakasz követelményeit kielégítő, fémből, üvegből vagy műanyagból készült, nem utántölthető tartály, amely sűrített, cseppfolyósított vagy nyomás alatt oldott gázt tartalmaz valamilyen folyékony, pépszerű vagy por alakú anyaggal együtt vagy akár nélküle, olyan adagoló szerkezettel, amely lehetővé teszi a tartalomnak gázban szuszpendált szilárd vagy folyékony részecskék, hab, paszta, por formájában, folyadék vagy gáz alakban való kibocsátását;

**Állandósult nyomás:** a nyomástartó tartály tartalmának nyomása a termikus és diffúziós egyensúly elérése után;

**Állati eredetű anyagok:** az állati tetemek, állati testrészek és az állati eredetű takarmány;

**ASTM:** American Society for Testing and Materials (Amerikai Anyagvizsgálati Társaság), (ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA, 19428-2959, United States of America);

**Átalakított csomagolóeszköz:** különösen

- a) az olyan fémhordók,
  - i) amelyeket nem UN típusból alakítottak át a 6.1 fejezet előírásainak megfelelő, UN típusúvá; vagy
  - ii) amelyeket a 6.1 fejezetnek megfelelő valamely UN típusból egy másik UN típusúvá alakítottak át; vagy
  - iii) amelyek valamely lényeges szerkezeti elemét (pl. a nem levehető tetőt) kicserélték;
- b) az olyan műanyag hordók,
  - i) amelyeket egyik UN típusból egy másik UN típusúvá alakítottak át (pl. 1H1-ből 1H2-vé); vagy
  - ii) amelyek valamely lényeges szerkezeti elemét kicserélték.

Az átalakított csomagolóeszközök a 6.1 fejezet ugyanazon követelményei alá esnek, mint amelyeket az azonos típusú, új csomagolóeszközökre kell alkalmazni;

**Átalakított IBC:** lásd **nagyméretű csomagolóeszköz (IBC)**;

**B**

**Battériás kocsi:** olyan kocsi, amelynek egymással gyűjtőcsővel összekötött és tartósan a kocsira rögzített elemei vannak. A következő elemek tekinthetők a battériás kocsi elemeinek: palackok, nagypalackok, gázhordók, palackkötegek és a 2 osztály gázainak szállítására készült, 450 liternél nagyobb befogadóképességű tartányok;

**Bélés:** olyan különálló tömlő vagy zsák, beleértve nyílásainak zárószerkezeteit, amelyet a csomagolóeszközbe (nagycsomagolásba, IBC-be) helyeztek el, de nem alkotja annak szerves részét;

**Belső csomagolóeszköz:** olyan csomagolóeszköz, amelyet a szállításhoz külső csomagolással kell ellátni;

**Belső tartály:** olyan tartály, amelyet külső csomagolással kell ellátni ahhoz, hogy befogadó funkcióját betöltse;

**Berakó:** az a vállalkozás, amelyik a veszélyes árut a vasúti kocsiba vagy nagykonténerbe berakja;

**Biztonsági szelep:** nyomáskülönbség hatására automatikusan működésbe lépő, rugóterhelésű szerkezet, amelynek feladata a nem megengedett belső nyomás kialakulásának megakadályozása a tartányban;

**Biztonsági tartály (a 7 osztály anyagainak szállításánál):** a csomagolási elemeknek a tervező által meghatározott együttese, amelynek feladata a radioaktív anyagok kiszabadulásának megakadályozása a szállítás során;

**C**

**CGA:** Compressed Gas Association (Sűrített Gáz Egyesület), (CGA, 4221 Walney Road, 5th Floor, Chantilly VA 20151-2923, United States of America);

**Címzett (átvevő):** a fuvarozási szerződés szerinti címzett. Ha a címzett a fuvarozási szerződésre vonatkozó előírásokkal összhangban harmadik személyt jelöl meg, a RID értelmében ezt a személyt kell címettnak tekinteni. Ha a fuvarozást szerződés nélkül végzik, az a vállalkozás tekintendő címettnak, amely megérkezéskor a veszélyes árut átveszi;

**Criticality safety index (CSI):** lásd *kritikussági biztonsági mutatószám (CSI)*

**CSC Egyezmény:** „A Biztonságos Konténerekről szóló 1972. évi Nemzetközi Egyezmény” módosított kiadása, kiadja a Nemzetközi Tengerészeti Szervezet (IMO), London (Magyarországon kihirdette a 2003. évi LXIV. törvény);

**Cs**

**Cserefelépítmény:** lásd *konténer*;

**Csomagolási csoport:** olyan csoport, melyhez csomagolás céljából egyes anyagok veszélyességük mértéke szerint rendelhetők hozzá. A csomagolási csoportok a következőket jelentik (bővebb magyarázat a 2. részben található):

I csomagolási csoport: nagyon veszélyes anyagok;

II csomagolási csoport: közepesen veszélyes anyagok;

III csomagolási csoport: kevésbé veszélyes anyagok;

**Megjegyzés:** Bizonyos, veszélyes anyagokat tartalmazó tárgyak is valamely csomagolási csoporthoz vannak hozzárendelve.



**Csomagoló:** az a vállalkozás, amely a veszélyes árut csomagolóeszközbe, nagycsomagolásba vagy IBC-be teszi, ill. szükség esetén előkészíti a küldeménydarabokat a szállításhoz;

**Csomagolóeszköz (csomagolás):** egy vagy több tartály és minden egyéb szerkezeti elem vagy anyag, amely szükséges ahhoz, hogy a tartály betölthesse befogadó és egyéb biztonsági funkcióját (lásd még *átalakított csomagolóeszköz, belső csomagolóeszköz, felújított csomagolóeszköz, finomlemez csomagolóeszköz, IBC, ismételten felhasznált csomagolóeszköz, kármentő csomagolás, kombinált csomagolás, köztes csomagolóeszköz, külső csomagolóeszköz, nagycsomagolás, összetett (műanyag) csomagolóeszköz, összetett (üveg, porcelán, kőagyag) csomagolóeszköz és portömör csomagolóeszköz*);

## E

**Egyesítőcsomagolás:** olyan – a 7 osztály esetében egyetlen feladó által használt – burkolat, amit egy vagy több küldeménydarab egységbe fogására használnak a szállítás alatti könnyebb kezelés és rakodás céljából.

Egyesítőcsomagolás például:

- a) a rakományképző eszköz, pl. rakodólap, amelyre több küldeménydarabot raknak vagy halmazolnak és műanyag pántszalaggal, zsugor- vagy nyújtható fóliával vagy más alkalmas módon rögzítenek; vagy
- b) a külső védőcsomagolás, mint pl. láda vagy rekesz;

**EN (szabvány)\*:** Az Európai Szabványügyi Bizottság (CEN) által kiadott európai szabvány (CEN – 36 rue de Stassart B-1050 Brussels);

## Engedély:

**Egyoldalú engedély (a 7 osztály anyagainak szállításánál):** a mintadarab olyan engedélye, amelyet csak a mintadarab származási országa illetékes hatóságnak kell megadnia. Amennyiben a származási ország nem valamely COTIF Tagállam, akkor a küldemény által érintett első COTIF Tagállam illetékes hatóságának kell ezt az engedélyt elismernie (lásd a 6.4.22.6 bekezdést).

**Többoldalú engedély (a 7 osztály anyagainak szállításánál):** az olyan engedély, amelyet a mintadarabnak, ill. a szállításnak a származási, ill. kiindulási országa illetékes hatósága ad, és mindazon országok illetékes hatósága, amely országba vagy amely országon keresztül a küldeményt szállítják. E vonatkozásban az „amely országba vagy amely országon keresztül” kifejezés egyértelműen nem terjed ki arra az esetre, amikor az ország fölött szállítják, vagyis az engedélyre és értesítésre vonatkozó követelmények nem vonatkoznak arra az országra, amely fölött a radioaktív anyagot légi járművel szállítják, feltéve, hogy nincs tervezett leszállás abban az országban.

**ENSZ Minta Szabályzat:** az ENSZ „Ajánlások a veszélyes áruk szállítására – Minta szabályzat” kiadvány tizenötödik javított kiadása (ST/SG/AC.10/1/Rev.15);

## F

**Fa IBC:** merev vagy összecukható fa testből és bélésből (de nem belső csomagolásból), továbbá szerkezeti és üzemi szerelvényekből álló IBC;

**Fahordó:** fából kör keresztmetszettel, domború paláستtal készült csomagolóeszköz, dongákból és fenekekből összeállítva és abrónsokkal ellátva;

\* A magyar szöveg a szabványok címét a Magyar Szabványügyi Testület szabványkatalógusában szereplő fordításban közli. A szabványok szóhasználata esetenként jelentősen eltérhet a RID szóhasználatától.

**Fedett kocsi:** vasúti kocsi fix vagy eltolható oldalfalakkal és tetővel;

**Feladó:** az a vállalkozás, amely a veszélyes árut a saját nevében vagy harmadik fél megbízásából feladja. Ha a szállítást fuvarozási szerződés alapján végzik, a feladó a fuvarozási szerződés szerinti feladót jelenti;

**Felújított csomagolóeszköz:** különösen

- a) az olyan fémhordók, amelyeket
  - i) az eredeti szerkezeti anyagig megtisztítottak, eltávolítva minden korábbi tartalmat, a belső és külső korróziós nyomokat és a külső bevonatokat és bárcákat;
  - ii) visszaállítottak eredeti alakjukra és körvonalukra, peremeiket (ha vannak) kiegyengették és tömítették és minden, nem beépített tömítésüket kicserélték;
  - iii) tisztítás után, de festés előtt megvizsgáltak, és kiselejtezték azokat, amelyeken látható kitörések, az anyagvastagság jelentős csökkenése, fémkifáradás, sérült menetek vagy záróelemek, vagy egyéb jelentős hiányosságok tapasztalhatók;
- b) az olyan műanyag hordók és kannák,
  - i) amelyeket az eredeti szerkezeti anyagig megtisztítottak, eltávolítva minden korábbi tartalmat, külső bevonatot és bárcát;
  - ii) amelyek minden, nem beépített tömítését kicserélték; és
  - iii) amelyeket tisztítás után megvizsgáltak, és kiselejtezték azokat, amelyeken látható kopások, törések, repedések, sérült menetek vagy záróelemek, vagy egyéb jelentős hiányosságok tapasztalhatók;

**Fém IBC:** fém-testből, valamint a megfelelő üzemi és szerkezeti szerelvényekből álló IBC;

**Finomlemez csomagolóeszköz:** olyan kör, ellipszis, négyszög vagy sokszög keresztmetszetű (vagy kúp alakú), valamint kúpos nyakú vagy vödör alakú, ónozott acéllemezből vagy finomlemezből 0,5 mm-nél kisebb falvastagsággal, lapos vagy domború fenékkal, egy vagy több töltőnyílással készült csomagolóeszköz, amely nem esik a hordóra vagy kannára vonatkozó meghatározás alá;

**Folyékony anyag:** olyan anyag, amelynek gőznyomása 50 °C-on legfeljebb 300 kPa (3 bar) és 101,3 kPa nyomáson 20 °C-on nem teljesen gáz alakú, és

- a) olvadáspontja vagy olvadás kezdőpontja 101,3 kPa nyomáson legfeljebb 20 °C; vagy
- b) az ASTM D 4359-90 vizsgálati módszerrel meghatározva folyékony; vagy
- c) a 2.3.4 szakaszban leírt folyékonyság meghatározási vizsgálat (penetrométer eljárás) kritériumai szerint nem pasztaszerű;

**Megjegyzés:** A „folyékony állapotban történő szállítás” a tartányokra vonatkozó előírások tekintetében:

- az előző meghatározás szerint folyékony anyag szállítása, vagy
- olyan szilárd anyag szállítása, amelyet olvasztott állapotban adnak át a szállításra.

**Fuvarozó:** az a vállalkozás, amely az árutovábbítást végzi, akár fuvarozási szerződés alapján, akár anélkül;

**Fuvarokmány:** a fuvarozási szerződésnek megfelelő fuvarlevél [lásd a Nemzetközi Vasúti Árufuvarozási Szerződésekre vonatkozó Egységes Szabályok (CIM – a COTIF B

Függeléke)], az „Általános Szerződés a Teherkocsik Használatára” (AVV<sup>3)</sup>) szerinti „üres kocsis kísérlével”, vagy az 5.4.1 szakasz előírásainak megfelelő, más fuvarokmány;

**Fuvarozás (szállítás):** a veszélyes áru helyváltoztatása, beleértve a közlekedési okokból történő megállásokat, illetve minden olyan közlekedési szempontból szükségessé vált időszakot a helyváltoztatás előtt, alatt és után, amely alatt a veszélyes áru a vasúti kocsiban, tartányban vagy konténerben van.

Ez a fogalom kiterjed a veszélyes áruk átmeneti tárolására is a szállítási módok, illetve a szállítóeszközök cseréjénél (átrakásnál), azzal a feltétellel, hogy az áru átvételének és kiszolgáltatásának helyét feltüntető fuvarokmányt kérésre bemutatják, illetve a küldeménydarabokat vagy a tartányokat a fuvarozás alatt nem nyitják fel, kivéve, ha az illetékes hatóságok ellenőrzik.

## G

**Gáz:** olyan anyag, amelynek

- a) gőznyomása 50 °C-on meghaladja a 300 kPa-t (3 bar-t); vagy
- b) 20 °C-on és 101,3 kPa normál nyomáson teljesen gáz alakú;

**Gázhordó:** szállításra használt, hegesztett, nyomástartó tartály legalább 150 liter, de legfeljebb 1000 liter űrtartalommal (pl. hengeres tartály gördítőabroncsokkal; csúszótálpakra erősített, gömb alakú tartály);

**Gázpatron (gázzal töltött kis méretű tartály):** olyan nem utántölthető tartály, amely túlnyomás alatti gázt vagy gázkeveréket tartalmaz, és szeleppel is ellátható;

**Gázzal töltött kis méretű tartály:** lásd **gázpatron**;

**GHS:** a „Vegyi anyagok osztályozásának és címkézésének egyetemes harmonizált rendszere” második módosítása, amelyet az ENSZ ST/SG/AC.10/30/Rev.2 jelű kiadványa tartalmaz;

## Gy

**Gyúlékony alkotórész (aeroszolonál):** a „Vizsgálatok és kritériumok kézikönyv”, III. rész 31.1.3 szakaszához fűzött 1 – 3. megjegyzésben meghatározott gyúlékony folyékony anyag, gyúlékony szilárd anyag, ill. gyúlékony gáz és gázkeverék. Ez a meghatározás nem terjed ki a piroforos, az önmelegedő és a vízzel reaktív anyagokra. A kémiai égéshőt a következő módszerek valamelyikével kell meghatározni: ASTM D 240, ISO/FDIS 13943: 1999 (E/F) 86.1 – 86.3, ill. NFPA 30B;

**Gyűjtőmegnevezés:** az anyagok vagy tárgyak jól körülhatárolt csoportját jelentő tétel (lásd a 2.1.1.2 bekezdés B., C. és D. pontját);

## H

**Hajlékony falú IBC:** fóliából, szövetből vagy más hajlékony anyagból vagy ilyen anyagok kombinációjából készült csomagolóeszköz-testből álló IBC, szükség esetén belső bevonattal vagy béléssel, a megfelelő üzemi és kezelő szerelvényekkel felszerelve;

**Hajlékony falú IBC rendszeres karbantartása:** lásd **nagyméretű csomagolóeszköz (IBC)**;

**Hordó:** fémből, papírlémezről, műanyagból, rétegelt falemezből vagy más alkalmas

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anyagból készült, henger alakú csomagolóeszköz, sík vagy domború fenékkal. Ez a meghatározás magában foglalja az egyéb alakú csomagolóeszközöket is, pl. kúpos nyakú, kör keresztmetszetű tartályokat vagy vödröket. A fahordók és a kannák nem tartoznak ezen meghatározás alá;

**Huckepack forgalom:** közúti járművek vasúti kocsin történő fuvarozása;

**Hulladék:** olyan anyag, oldat, keverék és tárgy, amelyet általában közvetlenül nem lehet felhasználni, de amelyet újrahasznosítási eljárás, lerakóhelyen való tárolás, égetéssel vagy más módon történő ártalmatlanítás céljából szállítanak;

**Hulladék szállítására szolgáló, vákuummal üzemelő tartány:** olyan tankkonténer vagy tartányos cserefelépítmény, amelyet elsődlegesen veszélyes hulladékok szállítására használnak, és a hulladékok töltését, ill. ürítését szolgáló speciális kialakítása, ill. felszerelése megfelel a 6.10 fejezet előírásainak. Az olyan tartány, amely mindenben megfelel a 6.7 vagy a 6.8 fejezet előírásainak, nem minősül „hulladék szállítására szolgáló, vákuummal üzemelő tartány”-nak;

## I

**IAEA:** Nemzetközi Atomenergia Ügynökség (NAÜ), (IAEA, P.O.Box 100, A-1400 Wien);

**IBC:** lásd *nagyméretű csomagolóeszköz*;

**ICAO:** International Civil Aviation Organization (Nemzetközi Polgári Repülési Szervezet), (ICAO, 999 University Street, Montreal, Quebec H3C 5H7, Canada);

**ICAO Műszaki Utasítások:** a Nemzetközi Polgári Repülésről szóló Chicagói Egyezmény 18. Függeléke, a Veszélyes Áruk Légi Szállításának Biztonságát Szolgáló Műszaki Utasítások, amelyet a Nemzetközi Polgári Repülési Szervezet (ICAO), (Montreal) ad ki. Magyarországon kihirdette az 1971. évi 25. tvr. és a 20/1997.(X.21) KHVM rendelet;

**Illetékes hatóság:** az a hatóság vagy hatóságok vagy egyéb szervezet vagy szervezetek, amelye(ke)t az egyes országokban, az egyes esetekre a belföldi jogszabályok szerint kijelölnek;

**IMDG Kódex:** az „Életbiztonság a tengeren” tárgyú nemzetközi egyezmény (SOLAS egyezmény), 1974, A rész, VII. fejezetének végrehajtására szolgáló Veszélyes Áruk Nemzetközi Tengerészeti Kódexe, amelyet a Nemzetközi Tengerészeti Szervezet (IMO), (London), ad ki. Magyarországon kihirdette a 2001. évi XI. törvény;

**IMO:** International Maritime Organization (Nemzetközi Tengerészeti Szervezet), (IMO, 4 Albert Embankment, London SE1 7SR, United Kingdom);

**Ismételten felhasznált csomagolóeszköz:** olyan csomagolóeszköz, amelyet megvizsgáltak és olyan sérülésektől mentesnek találtak, amelyek befolyásolnák a teljesítőképességi vizsgálatok elviselését; a fogalom kiterjed azokra a csomagolóeszközökre is, amelyeket azonos vagy hasonló összeférhetőségű termékkel töltenek meg ismételten és a termék feladója által ellenőrzött elosztási láncban szállítanak;

**ISO (szabvány):** a Nemzetközi Szabványügyi Szervezet (ISO) (1, rue de Varembe – CH-1204 Geneva 20) által kiadott nemzetközi szabvány;

## J

**Javított IBC:** lásd *nagyméretű csomagolóeszköz (IBC)*;

## K

**Kanna:** fémből vagy műanyagból készült, négy- vagy sokszög keresztmetszetű, egy- vagy többnyílású csomagolóeszköz;

**Kármentő csomagolás:** olyan különleges csomagolóeszköz, amelybe sérült, meghibásodott vagy szivárgó veszélyes áru küldeménydarabot vagy kiszóródott, kifolyt veszélyes árut lehet elhelyezni visszanyerés vagy ártalmatlanítás céljából történő szállításhoz;

**Kényszervezérlésű szellőzőszelep:** olyan szelep az alsó ürítésű tartányon, amely a fenékszeleppel össze van kapcsolva és üzemszerűen csak a tartány töltésénél és ürítésénél van nyitva a tartány szellőzéséhez;

**Kérelmező:** megfelelőség-értékelés vonatkozásában a gyártó vagy valamely COTIF Tagállamban felhatalmazott képviselője. Időszakos és soron kívüli vizsgálat vonatkozásában a **kérelmező** a vizsgálóhely, az üzemben tartó vagy valamely COTIF Tagállamban felhatalmazott képviselőjük;

**Megjegyzés:** *Megfelelőség-értékelési kérelmet kivételes esetben harmadik fél (pl. az 1.2.1 szakasz meghatározása szerinti üzemben tartó) is benyújthat.*

**Kezelő szerelvény (hajlékony falú IBC-knél):** az IBC testéhez erősített vagy az IBC test folytatásaként kialakított fül, hurok, szem vagy keret;

**Kiskonténer:** lásd **konténer**;

**Kizárólagos használat (a 7 osztály anyagainak szállításánál):** a jármű vagy a nagykonténer egyetlen feladó általi használata, amikor is a szállítás előtt, alatt és után az összes be- és kirakási műveletet a feladó vagy a címzett utasítása szerint végzik;

**Kocsi:** saját meghajtás nélküli vasúti jármű, amely saját kerekein a vasúti sínen gördül és áru szállításra szolgál;

**Kocsirakomány:** egy vasúti kocsi kizárólagos használata, függetlenül attól, hogy a kocsi rakománytere teljes egészében vagy csak részben van kihasználva;

**Megjegyzés:** *A 7 osztálynál a megfelelő kifejezés a „kizárólagos használat”.*

**Kombinált csomagolás:** szállítási csomagolóeszköz-kombináció, amely egy vagy több belső csomagolóeszközből áll, amelye(ke)t külső csomagolóeszközbe helyeztek el a 4.1.1.5 bekezdésnek megfelelően;

**Megjegyzés:** *A „kombinált csomagolás” „belső elemét” mindig „belső csomagolás”-nak nevezik és nem „belső tartály”-nak. Az üvegpalack jó példa az ilyen „belső csomagolás”-ra.*

**Konténer:** olyan szállítóeszköz (daruzható, emelhető vagy más hasonló szerkezet), amely

- tartós jellegű és ennek megfelelően elég szilárd ahhoz, hogy ismételten felhasználható legyen;
- kifejezetten úgy van kialakítva, hogy megkönnyítse az áruknak egy vagy több szállítóeszközzel – a rakomány megbontása nélkül – történő szállítását;
- a rakodást és a különböző szállítóeszközök közötti gyors átrakást lehetővé tevő elemekkel van ellátva;
- kialakításánál fogva az áru egyszerűen berakható és kirakható;
- a radioaktív anyagok szállítására használt konténerek kivételével befogadóképessége legalább 1 m<sup>3</sup>.

Ezen kívül:

A **kiskonténer** olyan konténer, amelynek vagy külső méretei (hosszúsága, szélessége, magassága) 1,5 m-nél kisebbek vagy befogadóképessége legfeljebb 3 m<sup>3</sup>;

**A nagykonténer**

- a) olyan konténer, amely nem felel meg a kiskonténer meghatározásának;
- b) „A Biztonságos Konténerekről szóló 1972. évi Nemzetközi Egyezmény (CSC)” értelmében:
- olyan méretű konténer, amelynek az alsó négy sarokkal behatárolt területe
- i) legalább 14 m<sup>2</sup> (150 négyzetláb); vagy
  - ii) legalább 7 m<sup>2</sup> (75 négyzetláb), ha felső sarokelemekkel rendelkezik;

**A nyitott konténer** nyitott tetejű konténer vagy szállítólap alapú konténer;

**A ponyvás konténer** a berakott áru védelme érdekében ponyvával ellátott nyitott konténer;

**A zárt konténer** teljesen zárt, szilárd tetejű, oldalfalú, végfalú és padlójú konténer. Ide tartozik az a nyitható tetejű konténer is, amelynek teteje a szállítás alatt zárva tartható;

**A cserefelépítmény** olyan konténer, amely az EN 283 Európai Szabvány (1991. évi kiadás) szerint a következő jellemzőkkel bír:

- szilárdság szempontjából csak szárazföldi vasúti és közúti, valamint komphajón történő fuvarozásra van méretezve;
- nem halmazolható;
- a közúti járművekről a jármű rakfelületén levő berendezéssel saját támasztólábaira lerakható, ill. visszarakható;

**Megjegyzés:** A „konténer” fogalom nem terjed ki a hagyományos csomagoló-eszközökre, IBC-kre, tankkonténerekre és kocsikra. Radioaktív anyagok szállításánál azonban a konténerek csomagolóeszközként használhatók.

**Köztes csomagolóeszköz:** olyan csomagolóeszköz, amelyet a belső csomagolások vagy tárgyak és a külső csomagolás közé helyeznek;

**Kritikus hőmérséklet:** az a hőmérséklet, amely felett az anyag nem létezhet folyékony halmazállapotban;

**Kritikussági biztonsági mutatószám (CSI) hasadóanyagot tartalmazó küldeménydarabhoz, egyesítőcsomagoláshoz vagy konténerhez (a 7 osztály anyagainak szállításánál):** olyan szám, amelyet a hasadó anyagot tartalmazó küldeménydarabok, egyesítőcsomagolások vagy konténerek együttesének ellenőrzésére használnak;

**Küldemény:** olyan veszélyes áru küldeménydarab(ok) vagy rakomány, amelyet a feladó szállításra átad;

**Küldeménydarab:** a csomagolási művelet végterméke, amely a feladásra kész csomagolóeszközből, nagycsomagolásból vagy IBC-ből és tartalmából áll. A fogalom kiterjed a gázok szállítására használt, ezen fejezet szerinti tartályokra, valamint az olyan tárgyakra is, amelyek méretük, tömegük vagy kialakításuk folytán csomagolás nélkül vagy rekeszben (csúszótalpon), kosárban vagy rakodóeszközben szállíthatók. A radioaktív anyagok szállítását kivéve, nem terjed ki terjed ki e fogalom azokra az árukra, amelyeket ömlesztve szállítanak, sem a tartányban szállított anyagokra;

**Megjegyzés:** A radioaktív anyagokra lásd a 2.2.7.2 bekezdést, a 4.1.9.1.1 pontot és a 6.4 fejezetet.

**Küldeménydarab tömege:** ellenkező meghatározás hiányában a küldeménydarab bruttó tömege;



**Külső csomagolóeszköz:** az összetett csomagolóeszköz vagy kombinált csomagolás külső védelme felszívóanyaggal, tömítőanyaggal és minden egyéb elemmel, ami szükséges a belső tartályok vagy belső csomagolóeszközök befogadásához és védelméhez;

## **L**

**Láda:** fémből, fából, rétegelt falemezből, farostlemezéből, papírlamezből, műanyagból vagy más alkalmas anyagból készült, négyszögletes vagy sokszög alakú oldalakkal rendelkező teljes falú csomagolóeszköz. Kis nyílások olyan célokra, mint a könnyebb megfogás vagy felnyitás vagy a besorolási követelmények kielégítése, engedélyezettek, amennyiben ezek nem befolyásolják a csomagolóeszköz integritását a fuvarozás alatt;

**Légmentesen zárt tartány:** folyékony anyagok szállítására szolgáló, legalább 4 bar nyomásra méretezett tartány, vagy szilárd (porszerű vagy szemcsés) anyagok szállítására szolgáló tartány – a tervezési nyomásától függetlenül –, amelynek nyílásai légmentesen zárva vannak, és:

- nincs rajta se biztonsági szelep, se hasadótárcsa vagy más hasonló biztonsági berendezés, se vákuumszelep vagy kényszervezérlésű szellőzőszelep; vagy
- nincs rajta se biztonsági szelep, se hasadótárcsa vagy más hasonló biztonsági berendezés, de van rajta a 6.8.2.2.3 pont előírásának megfelelő vákuumszelep vagy kényszervezérlésű szellőzőszelep; vagy
- van rajta biztonsági szelep, ami előtt a 6.8.2.2.10 pont szerint hasadótárcsa van, de nincs rajta vákuumszelep vagy kényszervezérlésű szellőzőszelep; vagy
- van rajta biztonsági szelep, ami előtt a 6.8.2.2.10 pont szerint hasadótárcsa van, és van rajta a 6.8.2.2.3 pont előírásának megfelelő vákuumszelep vagy kényszervezérlésű szellőzőszelep is;

**Legnagyobb nettó tömeg:** egyetlen csomagolás tartalmának legnagyobb tiszta tömege, vagy belső csomagolások és ezek tartalmának legnagyobb együttes tömege kg-ban;

**Legnagyobb normál üzemi nyomás (a 7 osztály anyagainak szállításánál):** a közepes tengerszint feletti levegőnyomást meghaladó azon legnagyobb nyomás, amely a biztonsági tartály belsejében a szállítás során fennálló környezeti feltételeknek megfelelő hőmérsékleti és napsugárzási viszonyok mellett, szellőztetés, segédrendszer általi külső hűtés vagy szállítás közbeni üzemi ellenőrzés nélkül egy év alatt kialakulhat;

**Legnagyobb űrtartalom:** a tartály vagy csomagolóeszköz (beleértve az IBC-t és a nagycsomagolást is) legnagyobb befogadóképessége m<sup>3</sup>-ben vagy literben;

**Legnagyobb üzemi nyomás (túlnyomás):** a következő három érték közül a legnagyobb:

- a) a tartányban a töltés során megengedett legnagyobb tényleges nyomás (legnagyobb megengedett töltési nyomás);
- b) a tartányban az ürítés során megengedett legnagyobb tényleges nyomás (legnagyobb megengedett ürítési nyomás); és
- c) az a tényleges túlnyomás, amelyet a tartányra annak tartalma (beleértve azokat az idegen gázokat is, amelyeket tartalmazhat) a legnagyobb üzemi hőmérsékleten fejt ki.

Hacsak a 4.3 fejezetben levő különleges előírások másként nem rendelkeznek, az üzemi nyomás (túlnyomás) számszerű értéke nem lehet kisebb, mint a tartalom gőznyomása (abszolút nyomása) 50 °C-on.

A biztonsági szelepekkel (hasadótárcsával vagy anélkül) felszerelt tartányok esetén azonban a legnagyobb üzemi nyomásnak (túlnyomásnak) a biztonsági szelepekre előírt

nyitónyomással kell egyenlőnek lennie. Ez a követelmény nem vonatkozik a 2 osztály sűrített, cseppfolyósított és oldott gázainak szállítására szolgáló tartányokra. (lásd még *próbanyomás, tervezési nyomás, töltési nyomás és ürítési nyomás*);

**Megjegyzés:** 1. A mobil tartányokra lásd a 6.7 fejezetet.

2. A zárt mélyhűtő tartályokra lásd a 6.2.1.3.6.5 ponthoz fűzött megjegyzést.

**Leszerelhető tartány:** a vasúti kocsi különleges építésmódjához illeszkedő tartány, arról csak a rögzítőberendezések oldása után vehető le;

**Lobbanáspont:** egy folyékony anyag azon legalacsonyabb hőmérséklete, amelynél gőzei a levegővel gyúlékony keveréket alkotnak;

## M

**Megengedett legnagyobb bruttó tömeg:**

- a) (a hajlékony falú IBC-ket kivéve, minden más IBC típusnál) az IBC, az üzemi és a szerkezeti szerelvények tömegének, valamint a legnagyobb nettó rakomány tömegnek az összege;
- b) (tartányoknál) a tartány saját tömege és a szállításra megengedett legnagyobb rakomány össztömege;

**Megjegyzés:** A mobil tartányokra lásd a 6.7 fejezetet.

**Megengedett legnagyobb rakomány (hajlékony falú IBC-knél):** az a legnagyobb nettó tömeg, amelyre az IBC-t kialakították és amelynek szállítására engedélyezték;

**Megfelelőség biztosítása (radioaktív anyagoknál):** az illetékes hatóság által alkalmazott rendszeres intézkedési program, amelynek célja annak biztosítása, hogy a RID követelményei a gyakorlatban megvalósuljanak;

**Megfelelőség-értékelés:** egy termék megfelelőségének ellenőrzése az 1.8.6 és az 1.8.7 szakasznak a típusjóváhagyásra, a gyártás felügyeletére és az üzembe helyezés előtti vizsgálatra vonatkozó előírásai szerint;

**MEG-konténer:** lásd *többeleemes gázkonténer*;

**Megtartó rendszer (a 7 osztály anyagainak szállításánál):** a hasadóanyagnak és a csomagolási elemeknek a tervező által meghatározott és az illetékes hatóság által jóváhagyott együttese, amelynek feladata a kritikussági biztonság fenntartása;

**Mélyhűtő tartály:** szállításra használt, hőszigetelt, nyomástartó tartály mélyhűtött, cseppfolyósított gázokhoz, legfeljebb 1000 liter űrtartalommal;

**Merev falú belső tartály (összetett IBC-knél):** olyan tartály, amely üres, tisztítatlan állapotban, a zárószerkezet helyre tétele és a külső burkolat segítségével is megtartja szokásos alakját. Minden belső tartályt, amely nem „merev falú”, „hajlékony falú”-nak kell tekinteni;

**Merev falú IBC rendszeres karbantartása:** lásd *nagyméretű csomagolóeszköz (IBC)*;

**Merev falú műanyag IBC:** merev műanyag testből álló IBC, amely vázszerkezettel rendelkezhet, és a megfelelő üzemi szerelvényekkel látható el;

**Minőségbiztosítás:** bármely szervezet vagy szerv által alkalmazott rendszeres ellenőrzési és felügyeleti program, amelynek célja annak biztosítása, hogy a RID biztonsági előírásai a gyakorlatban megvalósuljanak;



**Minta** (a 7 osztály anyagainak szállításánál): valamely különleges formájú radioaktív anyag, kis mértékben diszpergálódó radioaktív anyag, küldeménydarab vagy csomagolás leírása, ami lehetővé teszi az ilyen tárgy pontos azonosítását. A leíráshoz adatlapok, szerkezeti rajzok, az előírásokkal való egyezőséget tanúsító jelentések és más mértékadó dokumentumok tartozhatnak;

**m.n.n. (másként meg nem nevezett) tétel:** olyan gyűjtőmegnevezés, amelyhez olyan anyagok, keverékek, oldatok vagy tárgyak rendelhetők, amelyek

- a) nincsenek a 3.2 fejezet „A” táblázatában név szerint megemlítve; és
- b) az m.n.n. tétel megnevezésének, osztályának, osztályozási kódjának és csomagolási csoportjának megfelelő kémiai, fizikai és/vagy veszélyes tulajdonságokkal rendelkeznek;

**Mobil tartány:** a 6.7 fejezetben, ill. az IMDG Kódexben található meghatározás szerinti, multimodális tartány, amelyhez a 3.2 fejezet „A” táblázat 10 oszlopában mobil tartány utasítás (T-jel) van feltüntetve; amennyiben a 2 osztály anyagainak szállítására használják, 450 liternél nagyobb befogadóképességű;

**Műanyagszövet** (hajlékony falú IBC-knél): alkalmas műanyagból álló nyújtott szalagokból vagy monoszálakból készült anyag;

**Műszaki megnevezés:** elfogadott kémiai – adott esetben biológiai – megnevezés, vagy a tudományos és műszaki kézikönyvekben, folyóiratokban és egyéb szakirodalomban jelenleg használt, egyéb megnevezés (lásd a 3.1.2.8.1.1 pontot);

**N**

**Nagycsomagolás:** olyan csomagolóeszköz, amelynél a belső csomagolások vagy tárgyak egy külső csomagolóeszközbe vannak helyezve és

- a) gépi mozgatásra alkalmas kivitelű;
- b) befogadóképessége meghaladja a 400 kg nettó tömeget, ill. a 450 litert, de legfeljebb 3 m<sup>3</sup>;

**Nagykonténer:** lásd *konténer*;

**Nagyméretű csomagolóeszköz (IBC):** a 6.1 fejezetben nem említett, merev vagy hajlékony falú, szállítható csomagolóeszköz, amelynek

- a) űrtartalma
  - i) nem haladja meg a 3 m<sup>3</sup>-t a II és a III csomagolási csoportba tartozó, szilárd és folyékony anyagok esetében;
  - ii) nem haladja meg az 1,5 m<sup>3</sup>-t az I csomagolási csoportba tartozó, szilárd anyagok esetében, ha azok hajlékony falú, merev falú műanyag, összetett, papírlemez vagy fa IBC-kbe vannak csomagolva;
  - iii) nem haladja meg a 3 m<sup>3</sup>-t az I csomagolási csoportba tartozó, szilárd anyagok esetében, ha azok fém IBC-kbe vannak csomagolva;
  - iv) nem haladja meg a 3 m<sup>3</sup>-t a 7 osztály radioaktív anyagai esetében;
- b) gépi mozgatásra alkalmas kivitelű;
- c) a szállítás és kezelés során fellépő erőhatásoknak oly módon áll ellen, mint azt a 6.5 fejezet szerinti próbák meghatározzák (lásd még *fa IBC*, *fém IBC*, *hajlékony falú IBC*, *merev falú műanyag IBC*, *összetett IBC műanyag belső tartállyal* és *papírlemez IBC*);

**Megjegyzés:** 1. A 6.7 fejezet előírásainak megfelelő mobil tartányok, ill. a 6.8 fejezet előírásainak megfelelő tankkonténerek nem tekinthetők IBC-knek.

2. A 6.5 fejezet előírásainak megfelelő IBC-k a RID értelmében nem tekinthetők konténereknek.

Az **átalakított IBC** olyan fém, merev falú műanyag vagy összetett IBC,

- a) amelyet nem UN típusból alakítottak át UN típusúvá; vagy
- b) amelyet valamely UN típusból egy másik UN típusúvá alakítottak át.

Az átalakított IBC-kre a RID ugyanazon követelményei vonatkoznak, mint amelyeket az azonos típusú, új IBC-kre kell alkalmazni (lásd még a gyártási típus meghatározását a 6.5.6.1.1 pontban).

A **javított IBC** olyan fém, merev falú műanyag vagy összetett IBC, amely ütődés vagy bármilyen más ok (pl. korrózió, ridegedés, a gyártási típushoz képest gyengült ellenállóképesség) miatt kijavítottak, hogy megegyezzen a gyártási típussal és képes legyen a gyártási típus vizsgálatok elviselésére. Az összetett IBC-k merev falú műanyag belső tartályának a cseréje a gyártó eredeti specifikációja szerinti belső tartályra a RID értelmében az IBC javításának minősül. A merev falú IBC-k rendszeres karbantartása azonban nem minősül javításnak. A merev falú műanyag IBC testeken és az összetett IBC-k belső tartályán nem végezhető javítás. A hajlékony falú IBC-k csak az illetékes hatóság engedélyével javíthatók;

A **hajlékony falú IBC rendszeres karbantartása** a hajlékony falú, műanyag vagy textilszövet IBC-ken a következő, rendszeresen elvégzett munkákat jelenti:

- a) tisztítás; vagy
- b) az IBC szerves részét nem képező alkotóelemek, pl. különálló bélések és zárószalagok cseréje a gyártó eredeti előírásainak megfelelővel;

amennyiben ez az IBC árumegtartó funkcióját nem befolyásolja kedvezőtlenül, ill. az IBC gyártási típusát nem változtatja meg;

A **merev falú IBC rendszeres karbantartása** a fém, merev falú műanyag és összetett IBC-ken a következő, rendszeresen elvégzett munkákat jelenti:

- a) tisztítás;
- b) a zárószervezetek (beleértve a hozzátartozó tömítéseket) vagy az üzemi szerelvények eltávolítása és visszahelyezése vagy a gyártó eredeti előírásainak megfelelővel való cseréje, feltéve, hogy az IBC tömörségét ellenőrzik; vagy
- c) a veszélyes áru megtartására vagy az ürítési nyomás fenntartására közvetlenül nem szolgáló szerkezeti szerelvények kijavítása (pl. a tartólábak, emelő tartozékok helyreigazítása), hogy megegyezzenek a gyártási típussal, amennyiben ez az IBC megtartó funkcióját nem befolyásolja;

**Nagypalack:** varrat nélküli, szállításra használt, nyomástartó tartály 150 liternél nagyobb, de legfeljebb 3000 liter űrtartalommal;

**Ny**

**Nyitott kocsi:** homlok- és oldalfalakkal ellátott, vagy anélküli kocsi, amelynek rakfelülete nyitott;

**Nyitott konténer:** lásd **konténer**;

**Nyomástartó tartály:** gyűjtőfogalom, amelyhez a palackok, a nagypalackok, a gázhordók, a zárt mélyhűtő tartályok és a palackkötegek tartoznak;

## O

**„Offshore” ömlesztettáru-konténer:** olyan többször használható ömlesztettáru-konténer, amelyet speciálisan nyílt tengeri létesítményekhez, létesítményektől, ill. létesítmények közötti szállításra terveztek. Az „offshore” ömlesztettáru-konténert a nyílt tengeren kezelt „offshore” konténerekre vonatkozó jóváhagyási útmutató szerint kell tervezni és gyártani, amit a Nemzetközi Tengerészeti Szervezet (IMO) MSC/Circ.860 dokumentuma tartalmaz;

**Orsó (az 1 osztályban):** műanyagból, fából, papírlémezről, fémből vagy egyéb alkalmas anyagból készített eszköz központi tengellyel és a tengely mindkét végén oldalsó tárcsával vagy anélkül. Az anyagok és tárgyak a tengely köré tekerelhetők és azokat az oldalsó tárcsák tarthatják meg;

**OTIF:** Intergovernmental Organization for International Carriage by Rail (Nemzetközi Vasúti Fuvarozási Államközi Szervezet) (OTIF, Gryphenhübeliweg 30, CH-3006 Bern, Svájc);

## Ö

**ÖBH:** lásd *Öngyorsuló bomlási hőmérséklet*;

**Ömlesztettáru-konténer:** olyan megtartó rendszer (beleértve mindenfajta bélést és bevonatot), amely a vele közvetlenül érintkező szilárd anyag szállítására szolgál. A csomagolóeszközök, IBC-k, nagycsomagolások és tartályok nem tartoznak ide.

Az ömlesztettáru-konténer

- tartós jellegű és ennek megfelelően elég szilárd ahhoz, hogy ismételten felhasználható legyen;
- kifejezetten úgy van kialakítva, hogy megkönnyítse az áruknak egy vagy több szállítási móddal – a rakomány megbontása nélkül – történő szállítását;
- a könnyű kezelhetőséget lehetővé tevő elemekkel van ellátva;
- befogadóképessége legalább 1,0 m<sup>3</sup>.

Ömlesztettáru-konténer lehet pl. konténer, „offshore” ömlesztettáru-konténer, billenő-puttony, ömlesztettáru-siló, cserefelépítmény, konténerteknő, görgős konténer, a kocsik rakodótere;

**Ömlesztett fuvarozás:** csomagolatlan szilárd anyagok vagy tárgyak fuvarozása vasúti kocsikban vagy konténerekben. A fogalom nem vonatkozik sem a küldeménydarabokban, sem a tartályokban fuvarozott árukra;

**Öngyorsuló bomlási hőmérséklet (ÖBH):** az a legalacsonyabb hőmérséklet, amelynél a szállítás során használt csomagolásban levő anyagnál az öngyorsuló bomlás bekövetkezhet. Az ÖBH meghatározására vonatkozó követelményeket és a zárt térben történő hevítés hatását a „Vizsgálatok és kritériumok kézikönyv” II. része tartalmazza. [Az öngyorsuló bomlási hőmérséklet (ÖBH) a francia *temperature de decomposition auto-accélerée* (TDAA), ill. az angol *self-accelerating decomposition temperature* (SADT) magyar megfelelője.];

**Összetett IBC műanyag belső tartállyal:** olyan IBC, amely merev külső burkolatot képező vázszerkezetből áll, amely a műanyag belső tartályt, valamint a megfelelő üzemi és szerkezeti szerelvényeket veszi körül. Kialakítása olyan, hogy a belső tartály és a külső burkolat összeszerelve szétválaszthatatlan egységet képez és így töltik, tárolják, szállítják vagy ürítik;

**Megjegyzés:** A „műanyag” az összetett IBC-knél a belső tartállyal kapcsolatosan használva az egyéb polimer anyagokat, mint pl. a gumit is jelenti.

**Összetett (műanyag) csomagolóeszköz:** belső műanyag tartályból és külső (fém, papírlemez, rétegelt falemez stb.) csomagolásból álló csomagolóeszköz. Ez a csomagolóeszköz, ha egyszer már összeállították, szétválaszthatatlan marad, így töltik, raktározzák, szállítják és ürítik;

**Megjegyzés:** Lásd az összetett (üveg, porcelán, kőagyag) csomagolóeszközhöz fűzött megjegyzést.

**Összetett (üveg, porcelán, kőagyag) csomagolóeszköz:** belső üveg-, porcelán- vagy kőagyag tartályból és külső (fém, fa, papírlemez, műanyag, habosított műanyag stb.) csomagolásból áll. Ez a csomagolóeszköz, ha egyszer összeállították, szétválaszthatatlan marad, így töltik, raktározzák, fuvarozzák és ürítik;

**Megjegyzés:** Egy „összetett csomagolóeszköz” „belső elemét” a szokásos körülmények között „belső tartálynak” nevezik. Például egy 6HA1 típusú összetett (műanyag) csomagolóeszköz „belső eleme” egy ilyen fajta „belső tartály”, mivel ezt a szokásos körülmények között nem arra alakították ki, hogy „külső csomagolás” nélkül „befogadó” funkciót lásson el, és így nem „belső csomagolásról” van szó.

## P

**Palack:** legfeljebb 150 liter űrtartalmú, szállításra használt, nyomástartó tartály;

**Palackköteg:** szállításra használt, szerkezeti egységbe épített palackok, amelyek egymással gyűjtőcsővel vannak összekötve és szilárdan egymáshoz vannak erősítve. A palackok együttes űrtartalma legfeljebb 3000 liter lehet, a 2 osztály mérgező (a 2.2.2.1.3 pont szerint T betűvel kezdődő csoportba tartozó) gázainak szállítására használt palackkötegek űrtartalma azonban legfeljebb 1000 liter lehet;

**Papírlemez IBC:** papírlemez testből különálló fenékkal és tetővel vagy anélkül, szükség esetén béléssel (de nem belső csomagolással), és megfelelő szerkezeti és üzemi szerelvényekből álló IBC;

**Ponyvás kocsi:** a berakott áru védelme érdekében ponyvával ellátott nyitott kocsi;

**Ponyvás konténer:** lásd *konténer*;

**Portömör csomagolóeszköz:** olyan csomagolóeszköz, amely nem engedi át a szilárd tartalmat, beleértve a szállítás alatt keletkező finom szilárd anyagot is;

**Próbanyomás:** az üzembe helyezés előtti, ill. az időszakos vizsgálat alkalmával végzett nyomáspróba során kifejtett nyomás (lásd még *legnagyobb üzemi nyomás (túlnyomás)*, *tervezési nyomás*, *töltési nyomás* és *ürítési nyomás*);

**Megjegyzés:** A mobil tartányokra lásd a 6.7 fejezetet.

## R

**Radioaktív tartalom (a 7 osztály anyagainak szállításánál):** a csomagolásban együtt levő radioaktív anyag bármely szennyezett vagy felaktivált szilárd vagy folyékony anyaggal és gázzal;

**Referencia acél:** a 370 N/mm<sup>2</sup> szakítószilárdságú és 27% szakadási nyúlású acél;

**Rekesz:** rácsos kialakítású (nem teljes falú) külső csomagolóeszköz;

**Rögzített tartány:** szerkezetiileg tartósan a vasúti kocsira szerelt, legalább 1000 liter befogadóképességű tartány (a kocsi ily módon tartálykocsivá válik) vagy egy ilyen kocsi alvázának elválaszthatatlan részét képező tartány;

**S**

**Sugárzási szint** (a 7 osztály anyagainak szállításánál): a megfelelő sugárzásra vonatkozó dózis-teljesítmény millisievert per óra egységben megadva;

**Sz**

**Szabályozási hőmérséklet:** az a legmagasabb hőmérséklet, amelyen a szerves peroxid vagy az önreaktív anyag biztonságosan szállítható;

**Szállítási mutatószám (Transport index, TI) küldeménydarabhoz, egyesítőcsomagoláshoz, konténerhez vagy csomagolatlan LSA-I vagy SCO-I küldeményhez** (a 7 osztály anyagainak szállításánál): olyan szám, amelyet a besugárzás ellenőrzésére használnak;

**Szerkezeti acél:** a 360...440 N/mm<sup>2</sup> közötti legkisebb szakítószilárdságú acél;

**Megjegyzés:** A mobil tartányokra lásd a 6.7 fejezetet.

**Szerkezeti szerelvény:**

- a) tartálykocsi esetében a tartány külső vagy belső erősítő- és rögzítő- vagy védő-elemei;
- b) tankkonténer esetében a tartány külső vagy belső erősítő- és rögzítő-, védő- vagy stabilizáló-elemei;

**Megjegyzés:** A mobil tartányokra lásd a 6.7 fejezetet.

- c) a battériás kocsi vagy MEG-konténer elemei esetében a tartány vagy a tartály külső erősítő-, rögzítő-, védő- vagy stabilizáló-elemei;
- d) a hajlékony falú IBC-eket kivéve minden más IBC típusnál a test erősítő-, rögzítő-, kezelő, védő- vagy stabilizáló-elemei (beleértve a belső műanyag tartállyal rendelkező összetett IBC-k esetében a raklap alapot is);

**Szilárd anyag:**

- a) amelynek olvadáspontja vagy olvadás kezdőpontja 101,3 kPa nyomáson 20 °C-nál magasabb; vagy
- b) az ASTM D 4359-90 vizsgálati módszerrel meghatározva nem folyékony, vagy a 2.3.4 szakaszban leírt folyékonyág meghatározási vizsgálat (penetrométer eljárás) kritériumai szerint pasztaszerű;

**T**

**Tálca** (az 1 osztályban): fém, műanyag, papírlemez vagy más alkalmas anyagú lemez, amelyet a belső, a köztes vagy a külső csomagolásba helyeznek és azokba szorosan illeszkedik. A tálca felülete lehet alakos, hogy a csomagolások vagy tárgyak beültethetők, szilárdan rögzíthetők és egymástól elválaszthatók legyenek;

**Tankkonténer:** gáz alakú, folyékony, porszerű vagy szemcsés anyagok szállítására használt, a konténer meghatározásnak megfelelő szállítóeszköz, amely a tartányból és szerelvényeiből áll, beleértve azokat a szerelvényeket is, amelyek lehetővé teszik a tankkonténer helyváltoztatását egyensúlyhelyzete jelentős megváltoztatása nélkül; amennyiben a 2 osztály anyagainak szállítására használják, 450 liternél nagyobb befogadóképességű;

**Megjegyzés:** A 6.5 fejezet előírásainak megfelelő IBC-k nem tekinthetők tankkonténereknek.

**Tankkonténer, mobil tartány vagy tartálykocsi üzemben tartója:** az a vállalkozás, amelynek

a nevén a tankkonténert, a mobil tartányt vagy a tartálykocsit nyilvántartásba vették; vagy szokásos módon forgalomba helyezték;

**Tartály** (az 1 osztályban): köztes vagy belső csomagolásként használt láda, palack, hordó, kanna, doboz és hüvely, beleértve mindenféle zárószervezetüket;

**Tartály:** anyagok vagy tárgyak befogadására vagy tartására alkalmas befogadóedény, beleértve mindenfajta zárószervezetét is. Ez a meghatározás a tartányokra nem vonatkozik (lásd még *belső tartály, gázpatron, mélyhűtő tartály, merev belső tartály és nyomástartó tartály*);

**Tartálykocsi:** folyékony, gáznemű, porszerű vagy szemcsés anyagok fuvarozására használt kocsi, amely egy vagy több tartányt magába foglaló felépítményből és azok szerelvényeiből, valamint egy, a saját szerelvényeivel ellátott alvázból (futómű, felfüggesztés, vonó- és ütközőberendezés, fékek és feliratok) áll;

**Megjegyzés:** A leszerelhető tartányos kocsik is tartálykocsinak minősülnek.

**Tartály névleges űrtartalma:** a tartályban található veszélyes áru literben kifejezett névleges térfogata. A sűrített gázok tartályainál ez megegyezik a víztöltet térfogatával;

**Tartány:** maga a tartányköpeny, beleértve annak üzemi és szerkezeti szerelvényeit. Ahol a tartány szó önmagában szerepel, tankkonténert, mobil tartányt, leszerelhető tartányt vagy tartálykocsit jelent az ebben a részben szereplő meghatározás szerint, ill. olyan tartányt, amely a battériás kocsi vagy a MEG-konténer elemét képezi (lásd még *leszerelhető tartány, MEG-konténer, mobil tartány, battériás kocsi és tartálykocsi*);

**Megjegyzés:** A mobil tartányokra lásd a 6.7.4.1 bekezdést.

**Tartány, ill. tartánykamra befogadóképessége (űrtartalma):** a tartány, ill. tartánykamra teljes belső térfogata, literben vagy m<sup>3</sup>-ben kifejezve. Ha a tartányt, ill. tartánykamrát az alakja vagy a szerkezeti kialakítása miatt nem lehet teljesen feltölteni, akkor a töltési fok meghatározásánál és a tartány jelölésénél a csökkentett befogadóképességet kell alapul venni;

**Tartány-vizsgálati könyv (gépkönyv):** olyan dokumentáció, amely tartalmazza a tartányra, battériás kocsira, ill. MEG-konténerre vonatkozóan az összes fontos műszaki adatot, mint például a 6.8.2.3, a 6.8.2.4 és a 6.8.3.4 bekezdésben említett bizonyítványokat, ill. tanúsítványokat;

**Tartányköpeny:** az anyagot tartalmazó burkolat (beleértve a nyílásokat és zárószervezeteiket);

**Megjegyzés:** 1. Ez a meghatározás nem vonatkozik a tartályokra.

2. A mobil tartányokra lásd a 6.7 fejezetet.

**Tartányos cserefelépítmény:** a tartányos cserefelépítmény tankkonténernek tekintendő;

**Teljes rakomány:** egyetlen feladótól származó rakomány, amely részére egy nagykonténer kizárólagos használatra van fenntartva, és amelynek be- és kirakását a feladó vagy a címzett utasításai szerint végzik;

**Megjegyzés:** A 7 osztálynál a megfelelő kifejezés a., kizárólagos használat”.

**Tervezési nyomás:** a próbanyomással legalább egyenlő elméleti nyomás, amely a szállított anyag veszélyességi foka szerint kisebb vagy nagyobb mértékben meghaladhatja az üzemi nyomást. A tervezési nyomás csak a tartány falvastagságának meghatározására való a külső és belső erősítőelemek figyelembe vétele nélkül (lásd még *legnagyobb üzemi nyomás (túlnyomás), próbanyomás, töltési nyomás és ürítési nyomás*);

**Megjegyzés:** A mobil tartányokra lásd a 6.7 fejezetet.



**Test** (az összetett IBC-ek kivéve minden más IBC típusnál): maga a tartály, beleértve a nyílásokat és azok zárószerkezeteit, de kizárva az üzemi szerelvényeket;

**Többelemes gázkonténer (MEG-konténer):** olyan szállítóeszköz, amelynek egymással gyűjtőcsővel összekötött és vázra szerelt elemei vannak. A következő elemek tekinthetők a többelemes gázkonténer elemeinek: palackok, nagypalackok, gázhordók, palackkötegek és a 2 osztály gázainak szállítására készült, 450 liternél nagyobb befogadóképességű tartányok;

**Megjegyzés:** Az UN MEG-konténerekre lásd a 6.7 fejezetet.

**Töltési fok:** a gáz tömegének és a felhasználásra kész nyomástartó tartályt teljesen kitöltő víz tömegének aránya 15 °C-on;

**Töltési nyomás:** az a legnagyobb nyomás, amely a tartányban a nyomás alatti töltéskor ténylegesen fellép (lásd még legnagyobb üzemi nyomás (túlnyomás), próbanyomás, tervezési nyomás és ürítési nyomás);

**Töltő:** bármely vállalkozás, amely a veszélyes árut tartányba (tartálykocsiba, leszerelhető tartányba, mobil tartányba vagy tankkonténerbe), battériás kocsiba vagy MEG-konténerbe tölti, ill. az ömlesztett veszélyes árut vasúti kocsiba, nagykonténerbe vagy kiskonténerbe rakja;

**Tömörégi próba:** tartányok, csomagolóeszközök vagy IBC-k, szerelvények és zárószerkezetek szivárgásmentességének meghatározására szolgáló vizsgálat;

**Megjegyzés:** A mobil tartányokra lásd a 6.7 fejezetet.

**Transport index (TI):** lásd szállítási mutatószám (TI);

**Túlnyomásos gázpatron:** lásd aeroszol vagy aeroszol csomagolás;

## U

**UIC:** Union Internationale des Chemins de Fer (Nemzetközi Vasútegylet), (UIC, 16 rue Jean Rey, F-75015 Paris, France);

**UNECE:** United Nations Economic Commission for Europe (ENSZ Európai Gazdasági Bizottság), (UNECE, Palais des Nations, 8-14 avenue de la Paix, CH-1211 Geneva 10, Switzerland);

**UN szám (azonosító szám):** az anyagok és tárgyak négyjegyű azonosító száma, amely az „ENSZ Minta Szabályzat”-ból származik;

## Ü

**Ürítési nyomás:** az a legnagyobb nyomás, amely a tartányban a nyomás alatti ürítéskor ténylegesen fellép (lásd még legnagyobb üzemi nyomás (túlnyomás), próbanyomás, tervezési nyomás és töltési nyomás);

**Üzemi nyomás:** a sűrített gáz állandósult nyomása a megtöltött nyomástartó tartályban 15 °C referencia hőmérsékleten;

**Megjegyzés:** Tartányokra lásd a legnagyobb üzemi nyomás (túlnyomás) fogalmát.

### Üzemi szerelvények:

- tartányoknál a töltő- és ürítő-, a szellőző-, a biztonsági, a fűtő- és hőszigetelő berendezések, valamint a mérőeszközök;

**Megjegyzés:** A mobil tartányokra lásd a 6.7 fejezetet.

- b) battériás kocsí vagy MEG-konténer elemeinél a töltő-, ürítő- és biztonsági berendezések, az összekötő csövek, valamint a mérőeszközök;
- c) IBCk-nél a töltő- és ürítő-, a nyomáscsökkentő-, szellőző-, a fűtő- és hőszigetelő-berendezések, valamint a mérőeszközök;

## V

**Vákuum-szelep:** nyomáskülönbség hatására automatikusan működésbe lépő, rugóterhelésű szerkezet, amelynek feladata a nem megengedett vákuum kialakulásának megakadályozása a tartányban;

**Vállalat:** lásd **vállalkozás**;

**Vállalkozás:** a természetes személy vagy jogi személy, függetlenül attól, hogy folytat-e jövedelemszerző tevékenységet; a jogi személyiség nélküli társaság vagy személyek társulása, függetlenül attól, hogy folytat-e jövedelemszerző tevékenységet; a hivatalos testületet, függetlenül attól, hogy rendelkezik-e jogi személyiséggel, vagy hogy jogi személyiséggel rendelkező hatóságtól függ-e;

**Vasúti infrastruktúra:** minden vasúti vágány és rögzített berendezés, amely a vasúti járművek közlekedéséhez és a közlekedés biztonságához szükséges;

**Vasúti infrastruktúra üzemeltetője (pályavasút):** bármely állami szervezet vagy vállalkozás, amelynek feladata a vasúti pályának és tartozékainak létesítése, karbantartása, valamint a üzemviteli és biztonsági rendszer irányítása;

**Védett IBC (fém IBC-nél):** az ütközéssel szembeni kiegészítő védelemmel ellátott IBC, ez a védelem lehet pl. többrétegű (szendvicsszerkezetű) vagy kettős falú konstrukció vagy fémrácsos vázszerkezet;

**Veszélyes áruk:** olyan anyagok és tárgyak, amelyek fuvarozását a RID tiltja vagy csak feltételekkel engedi meg;

**Veszélyes reakció:**

- a) égés és/vagy jelentős hőfejlődés;
- b) gyúlékony, fojtó hatású, gyújtó hatású (oxidáló) és/vagy mérgező gázok fejlődése;
- c) maró anyagok képződése;
- d) vegyileg nem állandó anyagok képződése; vagy
- e) veszélyes nyomásnövekedés (csak tartányoknál);

**Vészhőmérséklet:** az a hőmérséklet, amelynél a hőmérséklet-szabályozás megszűnése esetén a vészhelyzeti eljárásokat alkalmazni kell;

**Visszaforgatott műanyag:** használt ipari csomagolóeszközökből visszanyert anyag, melyet új csomagolóeszközzé való feldolgozásához megtisztítanak és előkészítenek;

**Vizsgálatok és kritériumok kézikönyv:** az ENSZ „Ajánlások a veszélyes áruk szállítására, Vizsgálatok és kritériumok kézikönyv” negyedik javított kiadása (az ST/SG/AC.10/11/Rev.4/Amend.1. és az ST/SG/AC.10/11/Rev.4/Amend.2 jelű dokumentummal módosított ST/SG/AC.10/11/Rev.4);

**Vizsgáló szervezet:** az illetékes hatóság által elismert, független vizsgáló szervezet;



**Z**

**Zárószervezet:** a tartály nyílását záró szerkezet;

**Zárt konténer:** lásd *konténer*;

**ZS**

**Zsák:** papírból, műanyag fóliából, textiltől, szövött anyagból vagy más alkalmas anyagból készült hajlékony csomagolóeszköz.

## 1.2.2 Mértékegységek

### 1.2.2.1 A RID-ben a következő mértékegységek<sup>4)</sup> alkalmazhatók

Fizikai mennyiség	SI-egység <sup>5)</sup>		Egyéb engedélyezett mértékegység		A mértékegységek közötti arány
	neve	jele	neve	jele	
Hosszúság	méter	m	—	—	
Terület, felület	négyszetméter	m <sup>2</sup>	—	—	
Térfogat	köbméter	m <sup>3</sup>	liter	l <sup>6)</sup>	1 l = 10 <sup>-3</sup> m <sup>3</sup>
Idő	másodperc	s	perc óra nap	min h d	1 min = 60 s 1 h = 3600 s 1 d = 86 400 s
Tömeg	kilogramm	kg	gramm tonna	g t	1 g = 10 <sup>-3</sup> kg 1 t = 10 <sup>3</sup> kg
Sűrűség	—	kg/m <sup>3</sup>	—	kg/l	1 kg/l = 10 <sup>3</sup> kg/m <sup>3</sup>
Hőmérséklet	kelvin	K	Celsius-fok	°C	0 °C = 273,15 K
Hőmérséklet-különbség	kelvin	K	Celsius-fok	°C	1 °C = 1 K
Erő	newton	N	—	—	1 N = 1 kg·m/s <sup>2</sup>
Nyomás	Pascal	Pa	bar	bar	1 bar = 10 <sup>5</sup> Pa 1 Pa = 1 N/m <sup>2</sup>
Mechanikai feszültség	—	N/m <sup>2</sup>	—	N/mm <sup>2</sup>	1 N/mm <sup>2</sup> = 1 MPa
Munka Energia Hőmennyiség	joule	J	kilowattóra elektronvolt	kWh eV	1 kWh = 3,6 MJ 1 J = 1 N·m = 1 W·s 1 eV = 0,1602·10 <sup>-18</sup> J
Teljesítmény					
Kinematikai viszkozitás					
Dinamikai viszkozitás	—	Pa·s	—	mPa·s	1 mPa·s = 10 <sup>-3</sup> Pa·s
Aktivitás	becquerel	Bq	—	—	—
Dózisegyenérték	sievert	Sv	—	—	—

- 4) A korábbi, már nem törvényes mértékegységekkel adott mennyiség értékek törvényes mértékegységű értékre való átszámításához a következő kerekített értékeket kell alkalmazni:

**Erő:**

$$\begin{aligned} 1 \text{ kg} &= 9,807 \text{ N} \\ 1 \text{ N} &= 0,102 \text{ kg} \end{aligned}$$

**Mechanikai feszültség:**

$$\begin{aligned} 1 \text{ kg/mm}^2 &= 9,807 \text{ N/mm}^2 \\ 1 \text{ N/mm}^2 &= 0,102 \text{ kg/mm}^2 \end{aligned}$$

**Nyomás:**

$$\begin{aligned} 1 \text{ Pa} &= 1 \text{ N/m}^2 = 10^{-5} \text{ bar} = 1,02 \cdot 10^{-5} \text{ kg/cm}^2 = 0,75 \cdot 10^{-2} \text{ Torr} \\ 1 \text{ bar} &= 10^5 \text{ Pa} = 1,02 \text{ kg/cm}^2 = 750 \text{ Torr} \\ 1 \text{ kg/cm}^2 &= 9,807 \cdot 10^4 \text{ Pa} = 0,9807 \text{ bar} = 736 \text{ Torr} \\ 1 \text{ Torr} &= 1,33 \cdot 10^2 \text{ Pa} = 1,33 \cdot 10^{-3} \text{ bar} = 1,36 \cdot 10^{-3} \text{ kg/cm}^2 \end{aligned}$$

**Munka, energia, hőmennyiség:**

$$\begin{aligned} 1 \text{ J} &= 1 \text{ N} \cdot \text{m} = 0,278 \cdot 10^{-6} \text{ kWh} = 1,102 \text{ kg} \cdot \text{m} = 0,239 \cdot 10^{-3} \text{ kcal} \\ 1 \text{ kWh} &= 3,6 \cdot 10^6 \text{ J} = 367 \cdot 10^3 \text{ kg} \cdot \text{m} = 860 \text{ kcal} \\ 1 \text{ kg} \cdot \text{m} &= 9,807 \text{ J} = 2,72 \cdot 10^{-6} \text{ kWh} = 2,34 \cdot 10^{-3} \text{ kcal} \\ 1 \text{ kcal} &= 4,19 \cdot 10^3 \text{ J} = 1,16 \cdot 10^{-3} \text{ kWh} = 427 \text{ kg} \cdot \text{m} \end{aligned}$$

**Teljesítmény:**

$$\begin{aligned} 1 \text{ W} &= 0,102 \text{ kg} \cdot \text{m/s} = 0,86 \text{ kcal/h} \\ 1 \text{ kg} \cdot \text{m/s} &= 9,807 \text{ W} = 8,43 \text{ kcal/h} \\ 1 \text{ kcal/h} &= 1,16 \text{ W} = 0,119 \text{ kg} \cdot \text{m/s} \end{aligned}$$

**Kinematikai viszkozitás:**

$$\begin{aligned} 1 \text{ m}^2/\text{s} &= 10^4 \text{ St (stokes)} \\ 1 \text{ St} &= 10^{-4} \text{ m}^2/\text{s} \end{aligned}$$

**Dinamikai viszkozitás:**

$$\begin{aligned} 1 \text{ Pa} \cdot \text{s} &= 1 \text{ N} \cdot \text{s/m}^2 = 10 \text{ P (poise)} = 0,102 \text{ kg} \cdot \text{s/m}^2 \\ 1 \text{ P} &= 0,1 \text{ Pa} \cdot \text{s} = 0,1 \text{ N} \cdot \text{s/m}^2 = 1,02 \cdot 10^{-2} \text{ kg} \cdot \text{s/m}^2 \\ 1 \text{ kg} \cdot \text{s/m}^2 &= 9,807 \text{ Pa} \cdot \text{s} = 9,807 \text{ N} \cdot \text{s/m}^2 = 98,07 \text{ P} \end{aligned}$$

- 5) A Nemzetközi mértékegységrendszer (SI) az Általános Súly- és Mértékügyi Értekezlet határozatainak eredménye (Cím: Pavillon de Breteuil, Parc de St-Cloud, F-92 310 Sèvres)
- 6) Írógép használata esetén a literre vonatkozó „l” rövidítés mellett az „L” rövidítés is megengedett.

A mértékegységek többszöröseit és törtrészeit a mértékegységek jele elé tett, egy szorzót jelentő, következő prefixumok (SI-prefixumok) egyikével lehet képezni.

Szorzó			A prefixum neve	A prefixum jele
1 000 000 000 000 000 000 =	$10^{18}$	trillió	exa	E
1 000 000 000 000 000 =	$10^{15}$	billiárd	peta	P
1 000 000 000 000 =	$10^{12}$	billió	tera	T
1 000 000 000 =	$10^9$	milliárd	giga	G
1 000 000 =	$10^6$	millió	mega	M
1 000 =	$10^3$	ezer	kilo	k
100 =	$10^2$	száz	hekto	h
10 =	$10^1$	tíz	deka	da
0,1 =	$10^{-1}$	tized	deci	d
0,01 =	$10^{-2}$	század	centi	c
0,001 =	$10^{-3}$	ezred	milli	m
0,000 001 =	$10^{-6}$	milliomod	mikro	$\mu$
0,000 000 001 =	$10^{-9}$	milliárdod	nano	n
0,000 000 000 001 =	$10^{-12}$	billiomod	piko	p
0,000 000 000 000 001 =	$10^{-15}$	billiárdod	femto	f
0,000 000 000 000 000 001 =	$10^{-18}$	trilliomod	atto	a

#### 1.2.2.2

Kifejezett ellentétes meghatározás hiányában a „%” a RID-ben a következőket jelenti:

- szilárd vagy folyékony anyagok keveréke, valamint oldatok és folyadékokkal átitatott szilárd anyagok esetén a keverék, az oldat vagy az átitatott anyag teljes tömegére vonatkoztatott tömeg%-ot;
- sűrített gázkeverékek esetén: ha a töltés nyomásra történik, a térfogatarányt a gázkeverék teljes térfogatának százalékában megadva; vagy ha a töltés tömegre történik, a tömegarányt a gázkeverék teljes tömegének százalékában megadva;
- cseppfolyósított gázkeverék, valamint oldott gázkeverék esetén: a tömegarányt a gázkeverék teljes tömegének százalékában megadva.

#### 1.2.2.3

A tartályokra vonatkozó mindenféle nyomás (pl. próbanyomás, belső nyomás, a biztonsági szelepek nyitónyomása) mindig túlnyomásban van megadva (a légköri nyomáshoz viszonyított túlnyomásban); ezzel szemben a gőznyomás mindig abszolút nyomásban van kifejezve.

#### 1.2.2.4

Ha a RID töltési fokot ír elő tartályokra vagy tartányokra, ez mindig 15 °C anyag-hőmérsékletre vonatkozik, kivéve, ha más hőmérséklet van megjelölve.

## 1.3 fejezet

### A veszélyes áruk fuvarozásában résztvevő személyek képzése

#### 1.3.1 Alkalmazási terület

Az 1.4 fejezetben hivatkozott résztvevők által alkalmazott, veszélyes áruk fuvarozásával kapcsolatos munkakört ellátó személyeknek feladatukhoz és felelősségükhöz igazodó képzésben kell részesülniük a veszélyes árukra vonatkozó előírásokból. A veszélyes árukkal kapcsolatos közbiztonsági előírásokról szóló 1.10 fejezet képzési követelményeit is figyelembe kell venni.

**Megjegyzés:** 1. A biztonsági tanácsadó képzésére lásd az 1.8.3 szakaszt.

2. (fenntartva)

3. A 7 osztályra vonatkozó képzésre lásd az 1.7.2.5 bekezdést is.

4. A személyzetet még a veszélyes áruk szállításával kapcsolatos feladat megkezdése előtt kell a képzésben részesíteni.

#### 1.3.2 A képzés jellege

Az érintett személyek feladatához és felelősségéhez igazodva a következő képzés szükséges:

##### 1.3.2.1 Általános tájékoztató oktatás

A személyzetnek meg kell ismernie a veszélyes áruk fuvarozására vonatkozó általános előírásokat.

##### 1.3.2.2 Munkakörre (feladatra) szakosított oktatás

A személyzetet feladatával és felelősségével arányban álló részletességgel ki kell oktatni a veszélyes áruk fuvarozására vonatkozó előírásokra.

Ha a veszélyes árut multimodális szállítással továbbítják, a többi szállítási módra vonatkozó előírásokat is ismertetni kell.

Ezenkívül a fuvarozónak és a vasúti infrastruktúra üzemeltetőjének a személyzetét a vasúti fuvarozás különlegességeire is ki kell oktatni. Az oktatást alapozó és szakosító oktatás formájában kell nyújtani.

a) Alapozó oktatás a teljes személyzet számára:

A teljes személyzetet ki kell oktatni a veszélyességi bárcák és a narancssárga jelölés jelentésére. Ezenkívül a személyzettel meg kell ismertetni a szabálytalanságok jelentési eljárását.

b) A szakosító oktatás a veszélyes áruk fuvarozásában közvetlenül érintett üzemi személyzet számára:

Az előző a) pontban említett alapozó oktatáson kívül a személyzetet tevékenységüktől függően kell oktatásban részesíteni.

A szakosító oktatás témáit a személyzet számára az 1.3.2.2.1 pont szerinti csoportok és az 1.3.2.2.2 pont szerinti három kategória alapján kell meghatározni.

**1.3.2.2.1**

A személyzet csoportosítására az egyes kategóriákba a következő táblázat szolgál:

Csoport	A kategória leírása	Személyzet
1	a veszélyes áruk fuvarozásában közvetlenül érintett üzemi személyzet	vontatójármű-vezetők, kocsirendezők, ill. ennek megfelelő feladatot ellátó személyek
2	a veszélyes áruk fuvarozásához használt kocsik műszaki ellenőrzéséért felelős személyzet	kocsivizsgálók, ill. ennek megfelelő feladatot ellátó személyek
3	a forgalmi és rendezési szolgálat irányításáért és ellenőrzéséért felelős személyzet, a vasúti infrastruktúra üzemeltető vezetősége	forgalmi szolgálattevők, váltókezelők, irányítóközpontok személyzete, ill. ennek megfelelő feladatot ellátó személyek

**1.3.2.2.2**

A szakosító oktatásnak legalább a következő témákra kell kiterjednie:

- a) az 1 kategóriába tartozó vontatójármű-vezetők, ill. ennek megfelelő feladatot ellátó személyek esetén:
- a vonat összeállítására, a veszélyes áruk jelenlétére és azok vonaton belüli helyére vonatkozó, szükséges információkhoz való hozzáférés módja;
  - a szabálytalanságok fajtái;
  - szabálytalanságok esetén a kritikus helyzetek kezelése, intézkedések fogantatása a saját vonatuk és a szomszédos vágányokon folyó forgalom védelmére;
- az 1 kategóriába tartozó kocsirendezők, ill. ennek megfelelő feladatot ellátó személyek esetén:
- a RID 13 és 15 számú tolatási bárcájának jelentése (lásd az 5.3.4.2 bekezdést);
  - a RID 7.5.3 szakasza szerinti védőtávolságok az 1 osztály áruinál;
  - a szabálytalanságok felismerése;
- b) a 2 kategóriába tartozó kocsivizsgálók, ill. ennek megfelelő feladatot ellátó személyek esetén:
- „A teherkocsik nemzetközi forgalomban történő kölcsönös használatáról szóló szabályzat (RIV)” XII Melléklete (A teherkocsik műszaki vizsgálatának feltételei nemzetközi forgalomban) szerinti vizsgálatok végrehajtása;
  - az UIC 471-3 Döntvény normatíváinak gyakorlati alkalmazása (csak azon személyek részére, akik az 1.4.2.2.1 pontban meghatározott ellenőrzéseket végzik);
  - a szabálytalanságok fajtái;
- c) a 3 kategóriába tartozó forgalmi szolgálattevők, váltókezelők, irányítóközpontok dolgozói, ill. ennek megfelelő feladatot ellátó személyek esetén:
- szabálytalanságok esetén a kritikus helyzetek kezelése;
  - a RID 1.11 fejezete szerinti belső veszélyelhárítási terv a rendezőpályaudvarokra.

**1.3.2.3      *Biztonsági képzés***

A személyzetet ki kell oktatni a veszélyes áruk által képviselt veszélyekről és kockázatról azzal arányban, hogy a veszélyes áruk szállításakor, be- vagy kirakásakor bekövetkező baleset esetén mekkora a sérülés veszélye, illetve mennyire van kitéve a veszélyes áru hatásának.

Az oktatás célja, hogy a személy tudatában legyen a biztonságos árukezelés szabályainak és a veszélyhelyzet elhárítására teendő intézkedéseknek.

**1.3.2.4      (törölve)****1.3.3      Dokumentálás**

Az oktatásra vonatkozó iratokat a munkáltatónak és a munkavállalónak is meg kell őriznie, és új munkakör betöltése esetén ellenőrizni kell. A személyzet oktatását ismeretfelújító oktatás keretében rendszeresen ki kell egészíteni az előírásokban történt változásokkal.

## 1.4 fejezet

### A résztvevők biztonsággal kapcsolatos kötelezettségei

#### 1.4.1 Általános biztonsági előírások

**1.4.1.1** A veszélyes áru fuvarozásában résztvevőknek az előrelátható veszély természetének és mértékének megfelelő intézkedéseket kell tenniük, hogy elkerüljék a sérüléseket és károkat, ill. a lehető legkisebbre csökkentsék a következményeket. A RID előírásait azonban mindenképpen be kell tartani.

**1.4.1.2** Amennyiben olyan közvetlen veszély áll fenn, ami a közbiztonságot veszélyezteti, a résztvevőknek azonnal értesíteniük kell a vészelhárító szolgálatokat, és rendelkezésükre kell bocsátaniuk azokat az információkat, amelyeket beavatkozásukhoz igényelnek.

**1.4.1.3** A RID a különböző résztvevőkre háruló kötelezettségeket részletesebben is megadhatja.

Ha egy Tagállam véleménye szerint nem jár a biztonság csökkenésével, a valamely résztvevőre háruló kötelezettségeket belföldi jogszabályaiban átháríthatja egy vagy több másik résztvevőre, feltéve, hogy az 1.4.2 és az 1.4.3 szakaszban felsorolt kötelezettségeknek eleget tesznek. Ezekről az eltérésekről a Tagállamnak értesítenie kell az OTIF Titkárságát, amely a többi Tagállam tudomására hozza.

Az 1.2.1, az 1.4.2 és az 1.4.3 szakasznak a résztvevők és kötelezettségeik meghatározására vonatkozó előírásai nem érintik a belföldi jog jogkövetkezményekre (büntetőjogi, kártérítési felelősség stb.) vonatkozó azon előírásait, amelyek abból fakadnak, hogy a kérdéses résztvevő pl. természetes vagy jogi személy, önálló vállalkozó, munkaadó vagy alkalmazott.

#### 1.4.2 A fő résztvevők kötelezettsége

***Megjegyzés:** A radioaktív anyagokra lásd még az 1.7.6 szakaszt is.*

##### 1.4.2.1 Feladó

**1.4.2.1.1** A veszélyes áru feladója csak olyan küldeményt adhat át fuvarozásra, amely megfelel a RID előírásainak. A feladó – az 1.4.1 szakasz figyelembevételével – különösen a következő kötelezettségek hárulnak:

- a) meg kell győződnie arról, hogy a veszélyes áru a RID-del összhangban van besorolva és fuvarozása engedélyezett;
- b) el kell látnia a fuvarozót információval és adatokkal, ill. szükség esetén az előírt fuvarokmánnyal és kísérő okmányokkal (jóváhagyások, engedélyek, bejelentések, bizonyítványok stb.), különös tekintettel az 5.4 fejezet és a 3.2 fejezet „A” táblázatának előírásaira;
- c) csak olyan csomagolóeszközöket, nagycsomagolásokat, IBC-eket és tartányokat (tartálykocsikat, leszerelhető tartányos kocsikat, battériás kocsikat, MEG-konténereket, mobil tartányokat és tankkonténereket) szabad használnia, amelyek jóvá vannak hagyva és az adott anyag szállítására alkalmasak, ill. el vannak látva a RID által előírt jelölésekkel;
- d) be kell tartania a feladás módjára és a továbbítási korlátozásokra vonatkozó előírásokat;

- e) biztosítani kell, hogy még az üres, tisztítatlan és nem gáztalanított tartányok (tartálykocsik, leszerelhető tartányos kocsik, battériás kocsik, MEG-konténerek, mobil tartányok vagy tankkonténerek), illetve az ömlesztett áruhoz használt üres, tisztítatlan kocsik, nagy- és kiskonténerek is el legyenek látva megfelelő jelölésekkel és veszélyességi bárcákkal, továbbá az üres, tisztítatlan tartányok ugyanolyan tömören le legyenek zárva, mint megtöltött állapotban.

**1.4.2.1.2** Ha a feladó más résztvevők (csomagoló, berakó, töltő stb.) szolgáltatásait veszi igénybe, megfelelő intézkedéseket kell fogantatnia annak biztosítására, hogy a küldemény megfeleljen a RID előírásainak. Az 1.4.2.1.1 a), b), c) és e) pont esetében azonban a feladó megbízhat a többi résztvevőtől kapott adatokban és információkban.

**1.4.2.1.3** Ha a feladó harmadik fél nevében vagy megbízásából jár el, ez utóbbinak a feladót írásban kell tájékoztatnia arról, hogy veszélyes áruval van szó, és rendelkezésre kell bocsátania minden információt és okmányt, amire a feladónak szüksége van kötelezettségei teljesítéséhez.

#### **1.4.2.2** *Fuvarozó*

**1.4.2.2.1** A fuvarozóra, aki a feladás helyén a veszélyes árut átveszi, – az 1.4.1 szakasz figyelembevételével – reprezentatív módon, szűrőpróbaszerűen különösen a következő kötelezettségek hárulnak:

- a) meg kell győződnie arról, hogy a szállítandó veszélyes áru a RID szerint fuvarozásra engedélyezett;
- b) meg kell győződnie arról, hogy az előírt okmányok a fuvarokmányhoz csatolva legyenek és továbbításra kerüljenek;
- c) szemrevételezéssel meg kell győződnie arról, hogy sem a kocsinak, sem a rakománynak nincs nyilvánvaló hiányossága, nem szivárog, nincs rajta repedés, szükséges berendezései nem hiányoznak stb.;
- d) meg kell győződnie arról, hogy a tartálykocsi, battériás kocsi, leszerelhető tartányos kocsi, mobil tartány, tankkonténer vagy MEG-konténer időszakos vizsgálatának érvényességi ideje még nem járt le;

***Megjegyzés:** A tartányok, a battériás kocsik és a MEG-konténerek az érvényességi idejük lejártá után is szállíthatók a 4.1.6.10 bekezdés (nyomástartó tartályokból álló battériás kocsik és MEG-konténerek esetén), a 4.2.4.4 bekezdés, a 4.3.2.4.4, a 6.7.2.19.6, a 6.7.3.15.6 és a 6.7.4.14.6 pontok feltételei szerint.*

- e) ellenőriznie kell, hogy a kocsik ne legyenek túlterhelve;
- f) meg kell győződnie arról, hogy a kocsira előírt nagybárcák és jelölések el vannak helyezve.

Az előzőeket – értelemszerűen – a fuvarokmány, illetve a kísérő okmányok alapján, a kocsi vagy a konténer, vagy adott esetben a rakomány szemrevételezésével kell végrehajtani.

Ezen pont előírásai az UIC 471-3 V Döntvény<sup>7)</sup> (Veszélyes áru küldemények ellenőrzése) 5. pontja alkalmazása esetén teljesítettnek tekinthetők.

**1.4.2.2.2** Az 1.4.2.2.1 a), b), e) és f) pont esetében azonban a fuvarozó megbízhat többi résztvevőtől kapott információkban és adatokban.

7) Az UIC Döntvény 2009. január 1-jétől érvényes kiadása.



**1.4.2.2.3** Ha a fuvarozó az 1.4.2.2.1 pont alapján a RID előírásainak megsértését tapasztalja, akkor a küldeményt mindaddig nem továbbíthatja, amíg az előírások nem teljesülnek.

**1.4.2.2.4** Ha a fuvarozó a szállítás alatt olyan szabálytalanságot észlel, amely a szállítás biztonságát veszélyeztet, a küldemény továbbítását – a közlekedés és a küldemény biztonsága, illetve a közbiztonság figyelembevételével – a lehető leghamarabb meg kell szakítania.

A szállítás csak akkor folytatható, ha a küldemény megfelel az előírásoknak. Az útvonal hátralevő része szerint illetékes hatóság(ok) azonban engedélyt adhat(nak) a szállítás folytatására.

Amennyiben a szabálytalanság nem szüntethető meg, illetve a szállítás folytatására engedélyt nem adtak, az illetékes hatóságoknak a szükséges közigazgatási eszközökkel támogatniuk kell a fuvarozót. Ugyanez vonatkozik arra az esetre is, ha a fuvarozó tájékoztatja hatóságot, hogy a feladó nem közölte vele az áru veszélyességét, és a fuvarozási szerződésekre vonatkozó jogszabályok alapján az árut lerakni, megsemmisíteni vagy ártalmatlanná tenni kívánja.

**1.4.2.2.5** A fuvarozónak biztosítania kell, hogy az igénybevett vasúti infrastruktúra üzemeltetője a szállítás alatt bármikor, gyorsan és korlátlanul hozzáférhessen azokhoz az adatokhoz, melyek számára az 1.4.3.6 bekezdés b) pont előírásainak teljesítéséhez szükségesek.

***Megjegyzés:** Az adatszolgáltatás rendjét és módját az infrastruktúra használatára vonatkozó szabályzatban rögzíteni kell.*

### **1.4.2.3 Címzett**

**1.4.2.3.1** A címzett kötelezettsége az áru átvétele – kivéve, ha az átvétel megtagadására kellő indokkal rendelkezik –, ill. kirakás után ellenőrizni, hogy az őt érintő RID előírásokat betartották.

A címzettre – az 1.4.1 szakasz figyelembevételével – különösen a következő kötelezettségek hárulnak:

- a) el kell végeznie a RID által megkövetelt esetekben a kocsik és konténerek előírt tisztítását és fertőtlenítését;
- b) biztosítania kell, hogy ha már a kocsikat és konténereket teljesen kiürítették, kitisztították, ill. fertőtlenítették, ne legyenek rajtuk láthatók a nagybárcák és a narancssárga tábla jelölések.

Egy kocsi vagy konténer csak akkor adható vissza vagy használható fel ismét, ha az előzőekben említett előírásokat betartották.

**1.4.2.3.2** Ha a címzett más résztvevők (kirakók, tisztító, fertőtlenítő helyek stb.) szolgáltatásait is igénybe veszi, akkor megfelelő intézkedéseket kell foganatosítania annak biztosítására, hogy az 1.4.2.3.1 pont előírásainak megfeleljenek.

### **1.4.3 A többi résztvevő kötelezettségei**

A többi résztvevőt, ill. kötelezettségeiket a következő – nem teljes körű – felsorolás tartalmazza. A többi résztvevő kötelezettségei az előző 1.4.1 szakaszból következnek, amennyiben tudatában vannak vagy tudatában kell lenniük, hogy feladataikat a RID hatálya alá eső fuvarozási tevékenység részeként végzik.

**1.4.3.1 Berakó**

**1.4.3.1.1** A berakóra – az 1.4.1 szakasz figyelembevételével – különösen a következő kötelezettségek hárulnak:

- a) csak akkor adhatja át az árut a fuvarozónak, ha az a RID szerint fuvarozható;
- b) amikor becsomagolt veszélyes árut vagy üres, tisztítatlan csomagolóeszközt ad át szállításra, ellenőriznie kell a csomagolóeszközök sértetlenségét. Nem adhat át olyan küldeménydarabot, amelynek csomagolóeszköze sérült – különösen, ha az nem tömített, szivárog vagy fennáll a veszélyes áru kifolyásának veszélye –, amíg a sérülést ki nem javították; ugyanez vonatkozik az üres, tisztítatlan csomagolóeszközökre is;
- c) amikor veszélyes árut rak egy kocsiba vagy nagykonténerbe, be kell tartania a rakodásra és árukezelésre vonatkozó különleges előírásokat;
- d) amikor a veszélyes árut közvetlenül adja át a fuvarozónak szállítás céljából, figyelembe kell vennie a kocsi vagy nagykonténer bárcázására (nagybárcák elhelyezésére) és a kocsi vagy nagykonténer narancssárga táblával való jelölésére vonatkozó előírásokat;
- e) amikor a küldeménydarabokat berakja, be kell tartania az együvé rakásra vonatkozó tiltásokat, figyelembe véve a kocsiban vagy nagykonténerben levő, korábban berakott veszélyes árukat és az élelmiszerektől, egyéb fogyasztási cikkektől és takarmánytól való elkülönítésre vonatkozó előírásokat.

**1.4.3.1.2** Az 1.4.3.1.1. a), d) és e) pont esetében azonban a berakó megbízhat a többi résztvevőtől kapott információkban és adatokban.

**1.4.3.2 Csomagoló**

A csomagolóra - az 1.4.1 szakasz figyelembevételével - különösen a következő kötelezettségek hárulnak:

- a) be kell tartania a csomagolási és az egybecsomagolási feltételekre vonatkozó előírásokat;
- b) amikor egy küldeménydarabot szállításra előkészít, be kell tartania a küldeménydarabok jelölésére és bárcázására vonatkozó előírásokat.

**1.4.3.3 Töltő**

A töltőre – az 1.4.1 szakasz figyelembevételével – különösen a következő kötelezettségek hárulnak:

- a) a tartány megtöltése előtt meg kell győződnie arról, hogy a tartány és szerelvényei kielégítő műszaki állapotban vannak;
- b) meg kell győződnie arról, hogy a tartálykocsi, battériás kocsi, leszerelhető tartányos kocsi, mobil tartány, tankkonténer vagy MEG-konténer időszakos vizsgálatának érvényességi ideje még nem járt le;
- c) tartányba csak olyan veszélyes árut tölthet, amelynek szállítására az adott tartány engedélyezve van;
- d) a tartányok töltése során be kell tartania a szomszédos tartánykamrákban levő veszélyes árukra vonatkozó előírásokat;

- e) a töltés során be kell tartania a betöltendő anyagra engedélyezett legnagyobb töltési fokot vagy az űrtartalom literenkénti legnagyobb töltési tömeget;
- f) a tartány megtöltése után ellenőriznie kell a zárószerkezetek tömörségét;
- g) biztosítani kell, hogy az általa megtöltött tartány külsején ne maradjon a betöltött anyagból semmilyen veszélyes maradék;
- h) a veszélyes áru szállításra történő előkészítése során biztosítani kell, hogy a narancssárga táblák és veszélyességi bárcák vagy nagybárcák az előírás szerint el legyenek helyezve a tartányokon, a kocsikon és a kis- és nagykonténereken;
- i) cseppfolyósított gáz tartálykocsiba töltése előtt és után figyelembe kell vennie az ide vonatkozó különleges ellenőrzési előírásokat;
- j) meg kell győződnie arról, hogy ömlesztett áru kocsiba, ill. konténerbe rakodása során a 7.3 fejezet vonatkozó előírásait betartják.

#### **1.4.3.4 Tankkonténer vagy mobil tartány üzembentartója**

A tankkonténer vagy mobil tartány üzemben tartójára – az 1.4.1 szakasz figyelembevételével – különösen a következő kötelezettségek hárulnak:

- a) biztosítani kell, hogy a gyártásra, a szerelvényekre, a vizsgálatokra és a jelölésre vonatkozó követelményeknek megfeleljenek;
- b) biztosítani kell, hogy a tartányt és szerelvényeit oly módon tartsák karban, ami biztosítja, hogy rendes üzemeltetési körülmények között a tankkonténer vagy a mobil tartány a következő időszakos vizsgálatig kielégítse a RID előírásait;
- c) soron kívüli ellenőrzést kell végeztetnie, ha a tartány vagy szerelvényei biztonságát javítás, átalakítás vagy baleset csökkentheti.

#### **1.4.3.5 Tartálykocsi üzembentartója**

A tartálykocsi üzembentartójára – az 1.4.1 szakasz figyelembevételével – különösen a következő kötelezettségek hárulnak:

- a) biztosítani kell, hogy a gyártásra, a szerelvényekre, a vizsgálatokra és a jelölésre vonatkozó követelményeknek megfeleljenek;
- b) biztosítani kell, hogy a tartányt és szerelvényeit oly módon tartsák karban, ami biztosítja, hogy rendes üzemeltetési körülmények között a tartálykocsi a következő időszakos vizsgálatig kielégítse a RID előírásait;
- c) soron kívüli ellenőrzést kell végeztetnie, ha a tartány vagy szerelvényei biztonságát javítás, átalakítás vagy baleset csökkentheti.

#### **1.4.3.6 Vasúti infrastruktúra üzemeltetője**

Az 1.4.1 szakasz alapján a vasúti infrastruktúra üzemeltetőjére különösen a következő kötelezettségek hárulnak:

- a) gondoskodnia kell arról, hogy a rendezőpályaudvarokra az 1.11 fejezet szerinti „Belső veszélyelhárítási terv” készüljön;
- b) gondoskodnia kell arról, hogy a szállítás alatt bármikor gyorsan és korlátlanul hozzáférhessen a következő információkhoz:

- a vonat összeállítása,
- a szállított veszélyes áruk UN száma,
- ezen kocsiknak a vonatban való elhelyezkedése,
- a rakomány tömege.

Ezen az információk csak azok számára közölhetők, akiknek a biztonság, a közbiztonság vagy a vészhelyzet elhárítása érdekében ezekre szükségük van.

**Megjegyzés:** *Az adatszolgáltatás rendjét és módját az infrastruktúra használatára vonatkozó szabályzatban rögzíteni kell.*

## 1.5 fejezet

### Eltérések

#### 1.5.1 Ideiglenes eltérések

- 1.5.1.1** A Tagállamok illetékes hatóságai közvetlenül egymás között megállapodhatnak abban, hogy területeiken bizonyos fuvarozásokat ideiglenesen a RID előírásaitól eltérően engedélyeznek, feltéve, hogy ez a biztonságot nem veszélyezteti. Annak a hatóságnak, amely az ideiglenes eltérést kezdeményezte, értesítenie kell az ilyen ideiglenes eltérésekről az OTIF Titkárságát, hogy az a Tagállamok tudomására hozhassa<sup>8)</sup>.

**Megjegyzés:** Az 1.7.4 szakasz szerinti „Külön megegyezés” nem tekinthető az ezen fejezet szerinti ideiglenes eltérésnek.

- 1.5.1.2** Az ideiglenes eltérés érvényességének időtartama nem lehet öt évnél hosszabb az életbe lépésétől számítva. Az ideiglenes eltérés automatikusan megszűnik a RID megfelelő módosításának életbelépési dátumától kezdve.

- 1.5.1.3** Az ideiglenes eltérések alapján végzett fuvarozás a COTIF C Függeléke értelmében fuvarozásnak minősül.

#### 1.5.2 Katonai küldemények

A katonai küldeményekre, azaz az 1 osztály anyagait és tárgyait tartalmazó olyan küldeményekre, amelyek a fegyveres erőkhez tartoznak, vagy a fegyveres erők ellenőrzése alatt állnak, eltérő rendelkezések vonatkoznak [lásd az 5.2.1.5 bekezdést, az 5.2.2.1.8, 5.3.1.1.2 és 5.4.1.2.1 f) pontot, valamint a 7.2.4 szakasz W2 különleges előírását].

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8) Az ezen szakasz alapján elfogadott ideiglenes eltérések az OTIF honlapján ([www.otif.org](http://www.otif.org)) megtekinthetők.

## 1.6 fejezet

### Átmeneti előírások

#### 1.6.1 Általános előírások

**1.6.1.1** A RID anyagai és tárgyai – más előírás hiányában – 2009. június 30-ig a RID 2008. december 31-ig érvényes előírásai<sup>9)</sup> szerint is fuvarozhatók.

*Megjegyzés:* A fuvarokmányba teendő bejegyzésekre lásd az 5.4.1.1.12 pontot.

**1.6.1.2** a) Azok a 7A, 7B, 7C, 7D és 7E számú veszélyességi bárcák, ill. nagybárcák, amelyek 2004. december 31-ig megfeleltek az akkor érvényes mintának, 2010. december 31-ig tovább használhatók.

b) Azok az 5.2 számú veszélyességi bárcák, ill. nagybárcák, amelyek 2006. december 31-ig megfeleltek az akkor érvényes mintának, 2010. december 31-ig tovább használhatók.

**1.6.1.3** Azok az 1 osztályba tartozó anyagok és tárgyak, amelyek valamely Tagállam fegyveres erőihez tartoznak és amelyeket 1990. január 1-je előtt a RID akkor érvényes előírásainak<sup>10)</sup> megfelelően csomagoltak, 1989. december 31-e után is fuvarozhatók, amennyiben a csomagolások sértetlenek és a fuvarokmányba tett bejegyzés szerint ezek 1990. január 1-je előtt csomagolt katonai áruk. Az erre az osztályra 1990. január 1-jétől érvényes egyéb előírásokat be kell tartani.

**1.6.1.4** Azok az 1 osztályba tartozó anyagok és tárgyak, amelyeket 1990. január 1-je és 1996. december 31-e között a RID ezen időszakban érvényes előírásainak<sup>11)</sup> megfelelően csomagoltak, 1996. december 31-e után is fuvarozhatók, amennyiben a csomagolások sértetlenek és a fuvarokmányba tett bejegyzés szerint ezek az 1 osztályba tartozó olyan áruk, amelyeket 1990. január 1-je és 1996. december 31-e között csomagoltak.

**1.6.1.5** Azok az IBC-k, amelyeket a 405 szélzetszám (5) bekezdésének és az 555 szélzetszám (3) bekezdés 1999. január 1-je előtt érvényes előírásai szerint gyártottak, de nem felelnek meg a 405 szélzetszám (5) bekezdésének és az 555 szélzetszám (3) bekezdés 1999. január 1-jétől érvényes előírásainak, továbbra is használhatók.

**1.6.1.6** Azok az IBC-k, amelyeket 2003. január 1-je előtt az 1612 szélzetszám (1) bekezdése 2001. június 30-ig érvényes előírásai szerint gyártottak, de a 6.5.2.1.1 pont szerinti betűk, számok és jelek magassága nem felel meg a 2001. július 1-től érvényes előírásoknak, továbbra is használhatók.

**1.6.1.7** Azok a típusjövahagyások, amelyeket a nagy vagy közepes molekulatömegű polietilénből gyártott hordókra, kannákra, ill. összetett csomagolóeszközökre a 6.1.5.2.6 pont 2004. december 31-ig érvényes előírásai alapján 2005. július 1-je előtt adtak ki, de nem felelnek meg a 4.1.1.19 bekezdés követelményeinek, 2009. december 31-ig érvényesek. Az e típusjövahagyások alapján gyártott és jelöléssel ellátott csomagolóeszközök a 4.1.1.15 bekezdésben meghatározott felhasználási időtartamuk leteltéig használhatók.

**1.6.1.8** Az 5.3.2.2 bekezdés 2004. december 31-ig érvényes követelményeinek megfelelő

9) A RID 2007. január 1-től érvényes kiadása.

10) A RID 1985. május 1-jétől érvényes kiadása.

11) A RID 1990. január 1-jétől, 1993. január 1-jétől és 1995. január 1-jétől érvényes kiadásai.

narancssárga jelölések továbbra is használhatók.

**1.6.1.9** (fenntartva)

**1.6.1.10** Azok a 2003. július 1-je előtt gyártott lítium-cellák, ill. akkumulátorok, amelyeket a 2002. december 31-ig érvényes előírások szerint bevizsgáltak, de a 2003. január 1-jétől érvényes előírások szerint nem vizsgáltak, valamint az ilyen lítium-cellákat, ill. akkumulátorokat tartalmazó készülékek 2013. június 30-ig szállíthatók, ha egyébként minden más előírásnak megfelelnek.

**1.6.1.11** Azok a típusjóvá hagyások, amelyeket 2007. július 1-e előtt, a 6.1.6.1 bekezdés a) pontjának 2006. december 31-ig érvényes követelményei alapján adtak ki nagy és közepes molekulatömegű polietilénből gyártott hordókra, kannákra, összetett csomagolóeszközökre, ill. nagy molekulatömegű polietilénből gyártott IBC-kre, de amelyek nem felelnek meg a 6.1.6.1 bekezdés a) pontjának 2007. január 1-től érvényes követelményeinek, továbbra is érvényesek.

**1.6.1.12** (fenntartva)

**1.6.1.13** A 2009. január 1-je előtt először nyilvántartásba vett vagy üzembe helyezett kocsiknál az 5.3.2.2.1 és az 5.3.2.2.2 pont azon követelményeit, amelyek szerint a táblának, a számoknak és a betűknek rögzítve kell maradniuk, bármilyen helyzetben van is a kocs, 2009. december 31-ig nem szükséges alkalmazni.

**1.6.1.14** Azok az IBC-k, amelyeket 2011. január 1-je előtt, a 2010. december 31-ig érvényes előírások szerint, olyan gyártási típus alapján gyártottak, amelyen nem végezték el a 6.5.6.13 bekezdés szerinti rázó vizsgálatot, továbbra is használhatók.

**1.6.1.15** A 2011. január 1-je előtt gyártott, átalakított, ill. javított IBC-ken nem szükséges feltüntetni a 6.5.2.2.2 pont szerinti legnagyobb megengedett halmazolási terhelést. Az ilyen IBC-k a 6.5.2.2.2 pont szerinti jelölés nélkül 2010. december 31-e után is használhatók, de ha ezen időpont után az IBC-t átalakítják vagy javítják, akkor el kell látni a 6.5.2.2.2 pont szerinti jelöléssel.

**1.6.1.16** A tenyészet esetén „A” kategóriába sorolandó (lásd a 2.2.62.1.12.2 pontot) kórokozók kivételével, a „B” kategóriájú kórokozóval fertőzött állati eredetű anyagok 2014. december 31-ig az illetékes hatóság által meghatározott előírások<sup>12)</sup> szerint szállíthatók.

**1.6.1.17** Az UN 3077 és az UN 3082 tétel alá soroltak kivételével az 1 – 9 osztályba tartozó anyagok, amelyek a 2.2.9.1.10 pont osztályozási kritériumai szerint nincsenek besorolva, és az 5.2.1.8 bekezdés és az 5.3.6 szakasz szerint nincsenek megjelölve, 2010. december 31-ig a környezetre veszélyes anyagok szállítására vonatkozó előírások betartása nélkül szállíthatók.

**1.6.1.18** A 3.4.9 – 3.4.13 szakaszok előírásait csak 2011. január 1-től kell alkalmazni.

**1.6.2 Nyomástartó tartályok és a 2 osztály anyagaihoz használt tartályok**

**1.6.2.1** Azok az 1997. január 1-je előtt gyártott tartályok, amelyek a RID 1997. január 1-jétől érvényes előírásainak nem felelnek meg, de amelyek fuvarozása a RID 1996. december 31-ig érvényes előírásai szerint engedélyezett volt, ezen időpont után is használhatók, amennyiben a P200 és a P203 csomagolási utasításban előírt időszakos vizsgálatok alapján megfelelnek.

12) Fertőzött állati tetemekre vonatkozó előírások találhatók pl. az Európai Parlament és a Tanács 1774/2002/EK (2002. október 3.) rendeletében a nem emberi fogyasztásra szánt állati melléktermékekre vonatkozó egészségügyi előírások megállapításáról (az EK Hivatalos Lapja L 273 szám, 2002. 10. 10., 1. oldal)

- 1.6.2.2** Azok az 1.2.1 szakaszban található meghatározás szerinti palackok, amelyeket első alkalommal vagy időszakosan 1997. január 1-je előtt vizsgáltak, következő töltésük vagy következő időszakos vizsgálatuk időpontjáig üres, tisztítatlan állapotban bárcák nélkül is fuvarozhatók.
- 1.6.2.3** A 2003. január 1-je előtt gyártott tartályok 2003. január 1-je után is viselhetik azokat a jelöléseket, amelyek a 2002. december 31-ig érvényes követelményeknek felelnek meg.
- 1.6.2.4** Továbbra is használhatók az olyan műszaki szabályzat szerint, korábban tervezett és gyártott nyomástartó tartályok, amelyet az illetékes hatóság a 6.2.5 szakasz értelmében már nem ismerhet el.
- 1.6.2.5** Továbbra is használhatók azok a nyomástartó tartályok, ill. zárószerkezeteik, amelyeket olyan, a gyártásukkor érvényes szabványok szerint terveztek és gyártottak (lásd a 6.2.4 szakaszt), amelyek a RID akkor érvényes előírásai szerint alkalmazhatók voltak.
- 1.6.2.6** Azok a nem a 2 osztályba tartozó anyagokhoz használt nyomástartó tartályok, amelyeket a 4.1.4.4 bekezdés 2008. december 31-ig érvényes előírásai szerint, 2009. július 1-je előtt gyártottak, és amelyek nem felelnek meg a 4.1.3.6 bekezdés 2009. január 1-től érvényes előírásainak, továbbra is használhatók, amennyiben a 4.1.4.4 bekezdés 2008. december 31-ig érvényes többi előírását is betartják.
- 1.6.2.7** 2011. június 30-áig a Tagállamok tovább alkalmazhatják a 6.2.1.4.1 – 6.2.1.4.4 pontok 2008. december 31-ig érvényes követelményeit az 1.8.6, 1.8.7 szakaszok és a 6.2.2.9, 6.2.3.6 – 6.2.3.8 bekezdések követelményei helyett.
- 1.6.3 Tartálykocsik és battériás kocsik**
- 1.6.3.1** Azok a tartálykocsik, amelyeket az 1978. október 1-jétől alkalmazható előírások életbe lépése előtt gyártottak, továbbra is használhatók, ha a tartány szerelvényei kielégítik a 6.8 fejezet követelményeit. A tartányok falvastagságát – a 2 osztály cseppfolyósított gázainak szállítására használt tartányok kivételével – szerkezeti acélból gyártott tartánynál legalább 0,4 MPa (4 bar) tervezési nyomásra (túlnyomásra), alumíniumból és alumíniumötvözetből gyártott tartánynál legalább 200 kPa (2 bar) tervezési nyomásra (túlnyomásra) kell méretezni.
- 1.6.3.2** Az időszakos vizsgálatokat az átmeneti előírások szerint tovább használt tartálykocsik esetén a 6.8.2.4 és a 6.8.3.4 bekezdés előírásai az egyes osztályokra vonatkozó különleges előírások szerint kell végrehajtani. Hacsak a korábbiakban nagyobb próbanyomás nem volt előírva, az alumíniumból és alumíniumötvözetből gyártott tartányoknál elegendő a 200 kPa (2 bar) próbanyomás (túlnyomás).
- 1.6.3.3** Azok a tartálykocsik, amelyek ezeknek az 1.6.3.1 és az 1.6.3.2 bekezdés átmeneti előírásainak megfelelnek, 1998. szeptember 30-ig tovább használhatók olyan veszélyes áruk fuvarozására, amelyekre eredetileg engedélyezve voltak. Ez az átmeneti időszak nem érvényes a 2 osztályba tartozó anyagok fuvarozására használt tartálykocsikra, sem az olyan tartálykocsikra, amelyeknek falvastagsága és szerelvényei megfelelnek a 6.8 fejezet előírásainak.
- 1.6.3.4** Azok a tartálykocsik, amelyeket az 1988. január 1-je előtt az 1987. december 31-ig érvényes előírások szerint gyártottak, de nem felelnek meg az 1988. január 1-jétől érvényes előírásoknak, továbbra is használhatók. Ez érvényes azokra a tartálykocsikra is, amelyek nincsenek ellátva az 1988. január 1-jétől a XI. Függelék 1.6.1 pontjában előírt jelöléssel a tartány anyagának feltüntetésére.



- 1.6.3.5** Azok a tartálykocsik, amelyeket az 1993. január 1-je előtt az 1992. december 31-ig érvényes előírások szerint gyártottak, de nem felelnek meg az 1993. január 1-jétől érvényes előírásoknak, továbbra is használhatók.
- 1.6.3.6** Azok a tartálykocsik, amelyeket az 1995. január 1-je előtt az 1994. december 31-ig érvényes előírások szerint gyártottak, de nem felelnek meg az 1995. január 1-jétől érvényes előírásoknak, továbbra is használhatók.
- 1.6.3.7** Azok az 55...60 °C közötti lobbanáspontú gyúlékony, folyékony anyagok szállítására szolgáló tartálykocsik, amelyeket az 1997. január 1-je előtt a XI. Függelék 1.2.7, 1.3.8 és 3.3.3 pontjának 1996. december 31-ig érvényes előírásai szerint gyártottak, de nem felelnek meg ezen pontok 1997. január 1-jétől érvényes előírásainak, továbbra is használhatók.
- 1.6.3.8** A 2 osztály anyagainak szállítására szolgáló, 1997. január 1-je előtt gyártott tartálykocsik, leszerelhető tartányos kocsik és battériás kocsik a következő időszakos vizsgálat időpontjáig viselhetik az 1996. december 31-ig érvényes előírások szerinti jelölést. Amikor a RID módosítása következtében egyes gázok helyes szállítási megnevezése módosul, a táblán, ill. a tartányon (lásd a 6.8.3.5.2, ill. a 6.8.3.5.3 pontot) nem szükséges a megnevezést módosítani, amennyiben a gáz(ok) megnevezését a tartálykocsin, leszerelhető tartányos kocsin, battériás kocsin vagy a rajtuk levő táblán [lásd a 6.8.3.5.6 b) és c) pontot] a következő időszakos vizsgálat során módosítják.
- 1.6.3.9** (fenntartva)
- 1.6.3.10** (fenntartva)
- 1.6.3.11** Azok a tartálykocsik, amelyeket 1997. január 1-je előtt az 1996. december 31-ig érvényes előírások szerint gyártottak, de nem felelnek meg a XI. Függelék 3.3.3 és 3.3.4 pontja 1997. január 1-jétől érvényes előírásainak, továbbra is használhatók.
- 1.6.3.12** Az UN 2401 piperidin szállítására szolgáló tartálykocsik, amelyeket a XI. Függelék 3.2.3 pontjának 1998. december 31-ig érvényes előírásai szerint gyártottak, de nem felelnek meg az 1999. január 1-jétől alkalmazható előírásoknak, 2009. december 31-ig tovább használhatók.
- 1.6.3.13** (törölve)
- 1.6.3.14** Azok a tartálykocsik, amelyeket 1999. január 1-je előtt a XI. Függelék 5.3.6.3 pontjának 1998. december 31-ig érvényes előírásai szerint gyártottak, de nem felelnek meg a XI. Függelék 5.3.6.3 pontja 1999. január 1-jétől érvényes előírásainak, továbbra is használhatók.
- 1.6.3.15** Azok a 2007. július 1-je előtt, a 2006. december 31-ig érvényes előírások szerint gyártott tartálykocsik, amelyek nem felelnek meg a 6.8.2.2.3 pont 2007. január 1-jétől érvényes előírásainak, a következő időszakos vizsgálatig tovább használhatók.
- 1.6.3.16** Azoknál a 2007. január 1-je előtt gyártott tartálykocsiknál és battériás kocsiknál, amelyek nem felelnek meg a 4.3.2 szakasz, a 6.8.2.3, a 6.8.2.4 és a 6.8.3.4 bekezdés tartány-vizsgálati könyvre (gépkönyvre) vonatkozó előírásainak, a tartány-vizsgálati könyvhöz (gépkönyvhöz) szükséges dokumentumokat legkésőbb a következő időszakos vizsgálat időpontjától kezdődően kell megőrizni.
- 1.6.3.17** Azok a 2007. július 1-je előtt, a 2006. december 31-ig érvényes előírások szerint gyártott tartálykocsik, amelyek a 3 osztály I csomagolási csoportjába tartozó, 50 °C-on legfeljebb 175 kPa (1,75 bar) gőznyomású (abszolút nyomás) anyagok szállítására szolgálnak és a 2006. december 31-ig érvényes előírások szerint L1.5BN tartánykód volt hozzájuk rendelve, az említett anyagok szállítására 2022. december 31-ig tovább használhatók.

- 1.6.3.18** Azok a tartálykocsik és battériás kocsik, amelyeket 2003. január 1-je előtt a 2001. június 30-ig érvényes előírások szerint gyártottak, azonban nem felelnek meg a 2001. július 1-jétől érvényes előírásoknak, továbbra is használhatók.
- A gyártási típus jóváhagyásban a tartánykód hozzárendelést és az ehhez tartozó jelölést 2011. január 1-jéig kell elkészíteni.
- A 6.8.4 szakasz szerinti különleges előírások TC, TE és TA betűkből és számokból álló kódjait a tartánykód hozzárendelésekor, vagy a 6.8.2.3 és a 6.8.2.4 bekezdésben előírt valamelyik következő időszakos vizsgálat alkalmával, de legkésőbb 2010. december 31-ig kell felvinni.
- 1.6.3.19** (fenntartva)
- 1.6.3.20** Azok a tartálykocsik, amelyeket 2003. július 1-je előtt, a 2002. december 31-ig érvényes előírások szerint gyártottak, és amelyek nem felelnek meg a 6.8.2.1.7 pont 2003. január 1-jétől érvényes követelményeinek és a 6.8.4 szakasz b) pont TE15 különleges előírása 2003. január 1-jétől 2006. december 31-ig érvényes követelményeinek, továbbra is használhatók.
- 1.6.3.21** Azok a 2003. január 1-je előtt, a 2001. június 30-ig érvényes előírások szerint gyártott tartálykocsik, amelyek megfelelnek a 6.8.2.2.10 pont előírásainak, de nincs rajtuk nyomásmérő- vagy más alkalmas jelzőeszköz, ennek ellenére a 6.8.2.4.2 pont szerinti következő időszakos vizsgálatig, de legfeljebb 2010. december 31-ig légmentesen zártnak tekinthetők.
- 1.6.3.22** Azok az alumíniumötvözetből készült tartálykocsik, amelyeket 2003. január 1-je előtt a 2002. december 31-ig érvényes előírások szerint gyártottak, de nem felelnek meg a 2003. január 1-jétől érvényes előírásoknak, továbbra is használhatók.
- 1.6.3.23** (törölve)
- 1.6.3.24** Az UN 1052, 1790 és 2073 számú anyagok és a maró gázok szállítására szolgáló, 2003. január 1-je előtt, a 2002. december 31-ig érvényes előírások szerint gyártott tartálykocsik, amelyek nem felelnek meg a 6.8.5.1.1 b) pont 2003. január 1-jétől érvényes előírásainak, továbbra is használhatók.
- 1.6.3.25** A 6.8.2.4.3 pontban előírt tömörségi vizsgálat időpontját a 6.8.2.5.1 pont szerinti tartánytáblán a 2005. január 1-je után végrehajtott első tömörségi vizsgálatig nem szükséges feltüntetni.
- A vizsgálat fajtáját („P”, ill. „L”) a 6.8.2.5.1 pont szerinti tartánytáblán a 2007. január 1-je után végrehajtott első vizsgálatig nem szükséges feltüntetni.
- A 6.8.2.5.2 pont által előírt „L” betűt a 2009. január 1-je után végrehajtott első vizsgálatig nem szükséges feltüntetni.
- 1.6.3.26** Azok a 2007. január 1-je előtt, a 2006. december 31-ig érvényes előírások szerint gyártott tartálykocsik, amelyek nem felelnek meg a külső tervezési nyomás feltüntetésére vonatkozóan a 6.8.2.5.1 pont 2007. január 1-től érvényes előírásainak, továbbra is használhatók.
- 1.6.3.27**
- a) Azok a 2005. január 1-je előtt gyártott tartálykocsik és battériás kocsik,
- amelyek a 2 osztályba, a T, TF, TC, TO, TFC vagy TOC betű(ke)t tartalmazó osztályozási kód alá tartozó gázok szállítására szolgálnak, valamint
  - a 3 – 8 osztály olyan anyagainak folyékony állapotban történő szállítására szolgálnak, amelyeknél a 3.2 fejezet „A” táblázat 12 oszlopában L15CH, L15DH

vagy L21DH tartánykód található,

és nem felelnek meg a 6.8.4 szakasz TE22 különleges előírása 2005. január 1-jétől érvényes követelményeinek, továbbra is használhatók. Legkésőbb 2010. december 31-ig utólagosan fel kell szerelni a TE22 különleges előírásban meghatározott szerkezeteket, ez esetben azonban elegendő, ha a legkisebb energiaelnyelő képesség a kocsi mindkét végén 500 kJ.

Azoknál a tartálykocsiknál és battériás kocsiknál, amelyeket 2011. január 1-je és 2012. december 31-e között kell a 6.8.2.4.2, ill. a 6.8.3.4.6 pont szerinti időszakos vizsgálatnak alávetni, ezt az utólagos felszerelést is elegendő 2012. december 31-ig elvégezni.

- b) Azok a 2007. január 1-je előtt gyártott tartálykocsik és battériás kocsik,
- amelyek a 2 osztályba, a csak F betűt tartalmazó osztályozási kód alá tartozó gázok szállítására szolgálnak, valamint
  - a 3 – 8 osztály osztály olyan anyagainak folyékony állapotban történő szállítására szolgálnak, amelyeknél a 3.2 fejezet „A” táblázat 12 oszlopában L10BH, L10CH vagy L10DH tartánykód található,
- és nem felelnek meg a 6.8.4 szakasz TE22 különleges előírása 2007. január 1-jétől érvényes követelményeinek, továbbra is használhatók.

**1.6.3.28** Azokat a 2005. január 1-je előtt, a 2004. december 31-ig érvényes előírások szerint gyártott tartálykocsikat, amelyek nem felelnek meg a 6.8.2.2.1 pont második bekezdése előírásainak, legkésőbb a következő felújításkor vagy javításkor kell átalakítani, ha ez gyakorlatilag lehetséges és az elvégzett munka a szerkezeti elemek megbontásával jár.

**1.6.3.29** Azok a 2005. január 1-je előtt gyártott tartálykocsik, amelyek nem felelnek meg a 6.8.2.2.4 pont 2005. január 1-jétől érvényes előírásainak, továbbra is használhatók.

**1.6.3.30** (fenntartva)

**1.6.3.31** Továbbra is használhatók azok a tartálykocsik és battériás kocsik elemeit képező tartányok, amelyeket olyan, a gyártásukkor érvényes műszaki szabályzat szerint terveztek és gyártottak, amelyet a 6.8.2.7 bekezdés akkor érvényes előírásai szerint az illetékes hatóság elismert.

**1.6.3.32** Azok a 2007. január 1-je előtt gyártott tartálykocsik,

- amelyek a 2 osztályba, a T, TF, TC, TO, TFC vagy TOC betű(ke)t tartalmazó osztályozási kód alá tartozó gázok szállítására szolgálnak, valamint
- a 3 – 8 osztály osztály olyan folyékony anyagainak szállítására szolgálnak, amelyeknél a 3.2 fejezet „A” táblázat 12 oszlopában L15CH, L15DH vagy L21DH tartánykód található,

és nem felelnek meg a 6.8.4 szakasz b) pontja szerinti TE25 különleges előírás 2007. január 1-jétől érvényes követelményeinek, továbbra is használhatók.

Az UN 1017 klór, az UN 1749 klór-trifluorid, az UN 2189 diklór-szilán, az UN 2901 bróm-klorid és az UN 3057 trifluor-acetil-klorid gáz szállítására szolgáló olyan tartálykocsikat, amelyeknél a fenék falvastagsága nem felel meg a TE25 különleges előírás b) pontjának, legkésőbb 2014. december 31-ig el kell látni a TE25 különleges előírás a), c) vagy d) szerinti szerkezettel.

**1.6.3.33** A 2 osztály gázainak szállítására szolgáló, 1986. január 1-je előtt, az 1985. december 31-ig érvényes előírások szerint gyártott tartálykocsik és battériás kocsik, amelyek nem felelnek meg az ütközők tekintetében a 6.8.3.1.6 pont előírásainak, továbbra is használhatók.

**1.6.3.34** (fenntartva)

**1.6.3.35** Az 1.8.6 és az 1.8.7 szakasz követelményeit, valamint a 6.8.4 szakasz TA4 és TT9 különleges előírását a Tagállamoknak 2011. július 1-je előtt nem szükséges alkalmazni.

**1.6.3.36 –**

**1.6.3.40** (fenntartva)

#### **1.6.4 Tankkonténerek, mobil tartányok és MEG-konténerek**

**1.6.4.1** Azok a tankkonténerek, amelyeket 1988. január 1-je előtt az 1987. december 31-ig érvényes előírások szerint gyártottak, és nem felelnek meg az 1988. január 1-jétől érvényes előírásoknak, továbbra is használhatók.

**1.6.4.2** Azok a tankkonténerek, amelyeket 1993. január 1-je előtt az 1992. december 31-ig érvényes előírások szerint gyártottak, és nem felelnek meg az 1993. január 1-jétől érvényes előírásoknak, továbbra is használhatók.

**1.6.4.3** Azok az 1995. január 1-je előtt gyártott tankkonténerek, amelyeket az 1994. december 31-ig érvényes előírásoknak megfelelően gyártottak, és nem felelnek meg az 1995. január 1-jétől érvényes előírásoknak, továbbra is használhatók.

**1.6.4.4** Azok az 55...60 °C közötti lobbanáspontú gyúlékony, folyékony anyagok szállítására szolgáló tankkonténerek, amelyeket 1997. január 1-je előtt a X. Függelék 1.2.7, 1.3.8 és 3.3.3 pontjának 1996. december 31-ig érvényes előírásai szerint gyártottak, de nem felelnek meg ezen pontok 1997. január 1-jétől érvényes előírásainak, továbbra is használhatók.

**1.6.4.5** Amikor a RID módosítása következtében egyes gázok helyes szállítási megnevezése módosul, a táblán, ill. a tartányon (lásd a 6.8.3.5.2 és a 6.8.3.5.3 pontot) nem szükséges a megnevezést módosítani, amennyiben a gáz(ok) megnevezését a tankkonténeren, a MEG-konténeren vagy a rajtuk levő táblán [lásd a 6.8.3.5.6 b) és c) pontot] a következő időszakos vizsgálat során módosítják.

**1.6.4.6** Azok a 2007. január 1-je előtt, a 2006. december 31-ig érvényes előírások szerint gyártott tankkonténerek, amelyek nem felelnek meg a külső tervezési nyomás feltüntetésére vonatkozóan a 6.8.2.5.1 pont 2007. január 1-jétől érvényes előírásainak, továbbra is használhatók.

**1.6.4.7** Azok a tankkonténerek, amelyeket 1997. január 1-je előtt az 1996. december 31-ig érvényes előírások szerint gyártottak, de nem felelnek meg a X. Függelék 3.3.3 és 3.3.4 pontja 1997. január 1-jétől érvényes előírásainak, továbbra is használhatók.

**1.6.4.8** Azok a tankkonténerek, amelyeket 1999. január 1-je előtt a X. Függelék 5.3.6.3 pontjának 1998. december 31-ig érvényes előírásai szerint gyártottak, de nem felelnek meg X. Függelék 5.3.6.3 pontjának 1999. január 1-jétől érvényes előírásainak, továbbra is használhatók.

**1.6.4.9** Továbbra is használhatók azok a tankkonténerek és MEG-konténerek, amelyeket olyan, a gyártásukkor érvényes műszaki szabályzat szerint terveztek és gyártottak, amelyet a 6.8.2.7 bekezdés akkor érvényes előírásai szerint az illetékes hatóság elismert.

**1.6.4.10** (törölve)

**1.6.4.11** (fenntartva)

**1.6.4.12** Azok a tankkonténerek és a MEG-konténerek, amelyeket 2003. január 1-je előtt a RID 2001. június 30-ig érvényes előírásainak megfelelően gyártottak, de nem felelnek meg a 2001. július 1-jétől érvényes előírásoknak, tovább tovább használhatók.

- 1.6.4.13** Azok a 2003. július 1-je előtt, a 2002. december 31-ig érvényes előírások szerint gyártott tankkonténerek, amelyek nem felelnek meg a 6.8.2.1.7 pont 2003. január 1-jétől érvényes követelményeinek és a 6.8.4 szakasz b) pont TE15 különleges előírása 2003. január 1-jétől 2006. december 31-ig érvényes követelményeinek, továbbra is használhatók.
- 1.6.4.14** Az UN 1052, 1790 és 2073 számú anyagok és a maró gázok szállítására szolgáló, 2003. január 1-je előtt, a 2002. december 31-ig érvényes előírások szerint gyártott tankkonténerek, amelyek nem felelnek meg a 6.8.5.1.1 b) pont 2003. január 1-jétől érvényes előírásainak, továbbra is használhatók.
- 1.6.4.15** A vizsgálat fajtáját („P”, ill. „L”) a 6.8.2.5.1 pont szerinti tartánytáblán a 2007. január 1-je után végrehajtott első vizsgálatig nem szükséges feltüntetni.
- 1.6.4.16** (törölve)
- 1.6.4.17** Azok a 2007. július 1-je előtt, a 2006. december 31-ig érvényes előírások szerint gyártott tankkonténerek, amelyek nem felelnek meg a 6.8.2.2.3 pont 2007. január 1-jétől érvényes előírásainak, a következő időszakos vizsgálatig tovább használhatók.
- 1.6.4.18** Azoknál a 2007. január 1-je előtt gyártott tankkonténereknél és MEG-konténereknél, amelyek nem felelnek meg a 4.3.2 szakasz, a 6.8.2.3, a 6.8.2.4 és a 6.8.3.4 bekezdés tartány-vizsgálati könyvre (gépkönyvre) vonatkozó előírásainak, a tartány-vizsgálati könyvhöz (gépkönyvhöz) szükséges dokumentumokat legkésőbb a következő időszakos vizsgálat időpontjától kezdődően kell megőrizni.
- 1.6.4.19** Azok a 2007. július 1-je előtt, a 2006. december 31-ig érvényes előírások szerint gyártott tankkonténerek, amelyek a 3 osztály I csomagolási csoportjába tartozó, 50 °C-on legfeljebb 175 kPa (1,75 bar) gőznyomású (abszolút nyomás) anyagok szállítására szolgálnak és a 2006. december 31-ig érvényes előírások szerint L1.5BN tartánykód volt hozzájuk rendelve, az említett anyagok szállítására 2016. december 31-ig tovább használhatók.
- 1.6.4.20** Azok a 2005. január 1-je előtt, a 2004. december 31-ig érvényes előírások szerint gyártott, hulladékok szállítására szolgáló, vákuummal üzemelő tankkonténerek, amelyek nem felelnek meg a 6.10.3.9 bekezdés 2005. január 1-jétől érvényes előírásainak, továbbra is használhatók.
- 1.6.4.21 –**  
**1.6.4.29** (fenntartva)
- 1.6.4.30** A 2007. január 1-től érvényes tervezési előírásoknak nem megfelelő, de 2008. január 1-je előtt kiadott gyártási típus bizonyítvány szerint gyártott mobil tartányok, ill. UN MEG-konténerek továbbra is használhatók.
- 1.6.4.31** Azokhoz az anyagokhoz, amelyekhez a 3.2 fejezet „A” táblázat 11 oszlopában TP35 különleges előírás van hozzárendelve, a 2008. december 31-ig érvényes RID-ben előírt T14 mobil tartány utasítás 2014. december 31-ig tovább alkalmazható.
- 1.6.4.32** Ha egy tankkonténer tartánya már 2009. január 1-je előtt válaszfalakkal vagy hullámtörő lemezekkel legfeljebb 7500 liter űrtartalmú rekeszekre volt osztva, a 6.8.2.5.1 pont által előírt adatok között az űrtartalom adatát nem kell kiegészíteni az „S” jellel mindaddig, amíg a 6.8.2.4.2 pont szerinti, következő időszakos vizsgálatot el nem végzik.
- 1.6.4.33** Azoknál a cseppfolyósított, ill. mélyhűtött, cseppfolyósított gázok szállítására szolgáló tankkonténereknél, amelyek megfelelnek a RID gyártási követelményeinek, de amelyeket 2009. július 1-je előtt válaszfalakkal vagy hullámtörő lemezekkel 7500 liternél nagyobb

űrtartalmú rekeszekre osztottak, a töltési fok – a 4.3.2.2.4 pont előírásától eltérően – a befogadóképesség 20%-ánál nagyobb és 80%-ánál kisebb is lehet.

**1.6.4.34** Az 1.8.6 és az 1.8.7 szakasz követelményeit, valamint a 6.8.4 szakasz TA4 és TT9 különleges előírását a Tagállamoknak 2011. július 1-je előtt nem szükséges alkalmazni.

**1.6.5** (fenntartva)

**1.6.6** **7 osztály**

**1.6.6.1** *Küldeménydarabok, amelyekhez a Nemzetközi Atomenergia Ügynökség 6. sz. Biztonsági sorozat 1985. évi és 1985. évi (1990-ben) módosított kiadása szerint nem szükséges a küldeménydarab-minta illetékes hatóság általi engedélyezése*

Azok az engedményes küldeménydarabok, IP-1, IP-2 és IP-3 típusú ipari küldeménydarabok és A típusú küldeménydarabok, amelyekhez nem volt szükséges a küldeménydarab-minta illetékes hatóság általi engedélyezése és kielégítik a Nemzetközi Atomenergia Ügynökség „Előírások a radioaktív anyagok biztonságos szállítására” (NAÜ 6. sz. Biztonsági sorozat) 1985. évi vagy 1985. évi (1990-ben) módosított kiadásának követelményeit, továbbra is használhatók, azzal a kikötéssel, hogy az 1.7.3 szakasz szerinti kötelező minőségbiztosítási programra, ill. a 2.2.7.2.2, 2.2.7.2.4.1, 2.2.7.2.4.4, 2.2.7.2.4.5, 2.2.7.2.4.6 pontban, a 3.3 fejezet 336 különleges előírásában és a 4.1.9.3 bekezdésben az aktivitási határértékekre és anyagkorlátozásra vonatkozó előírásokat be kell tartani.

A 2003. december 31-e után gyártott vagy átalakított csomagolóeszközöknek (kivéve hogyha az átalakítás a biztonságot növeli) meg kell felelniük az érvényben lévő RID előírásoknak. A Nemzetközi Atomenergia Ügynökség „Előírások a radioaktív anyagok biztonságos szállítására” (NAÜ 6. sz. Biztonsági sorozat) 1985. évi vagy 1985. évi (1990-ben) módosított kiadása szerint legkésőbb 2003. december 31-ig szállításra előkészített küldeménydarabok továbbra is szállíthatók. Az ezen időpont után szállításra előkészített küldeménydaraboknak meg kell felelniük az érvényben lévő RID előírásoknak.

**1.6.6.2** *Küldeménydarabok, amelyeket a Nemzetközi Atomenergia Ügynökség 6. sz. Biztonsági sorozat 1973. évi, 1973. évi módosított, 1985. évi és 1985. évi (1990-ben) módosított kiadásának előírásai szerint engedélyeztek*

**1.6.6.2.1** A Nemzetközi Atomenergia Ügynökség 6. sz. Biztonsági sorozat 1973. évi vagy 1973. évi módosított kiadásának előírásai szerint az illetékes hatóság által engedélyezett küldeménydarab mintának megfelelően gyártott csomagolóeszközök továbbra is használhatók azzal a kikötéssel, hogy a küldeménydarab minta többoldali engedélyezése szükséges, valamint az 1.7.3 szakaszban a kötelező minőségbiztosítási programra, ill. a 2.2.7.2.2, 2.2.7.2.4.1, 2.2.7.2.4.4, 2.2.7.2.4.5, 2.2.7.2.4.6 pontban, a 3.3 fejezet 337 különleges előírásában és a 4.1.9.3 bekezdésben az aktivitási határértékekre és anyagkorlátozásra vonatkozó előírásokat be kell tartani. Új gyártás beindítása nem engedélyezhető. A csomagolóeszköz minta vagy az engedélyezett radioaktív tartalom fajtájának vagy mennyiségének olyan változtatása, amely az illetékes hatóság szerint a biztonságot lényegesen befolyásolná, meg kell feleljen az érvényben lévő RID előírásainak. Minden egyes csomagolóeszközhöz az 5.2.1.7.5 pont szerinti sorozatszámot hozzá kell rendelni és a csomagolóeszköz külsején fel kell tüntetni.

**1.6.6.2.2** A Nemzetközi Atomenergia Ügynökség 6. sz. Biztonsági sorozat 1985. évi vagy 1985. évi (1990-ben) módosított kiadásának előírásai szerint az illetékes hatóság által engedélyezett küldeménydarab-mintának megfelelően gyártott csomagolóeszközök tovább használhatók,



azzal a kikötéssel, hogy a küldeménydarab-minta többoldalú engedélyezése szükséges, valamint az 1.7.3 szakaszban a kötelező minőségbiztosítási programra, ill. a 2.2.7.2.2, 2.2.7.2.4.1, 2.2.7.2.4.4, 2.2.7.2.4.5, 2.2.7.2.4.6 pontban, a 3.3 fejezet 337 különleges előírásában és a 4.1.9.3 bekezdésben az aktivitási határértékekre és anyag korlátozásra vonatkozó előírásokat be kell tartani. A csomagolóeszköz minta vagy az engedélyezett radioaktív tartalom fajtájának vagy mennyiségének olyan változtatása, amely az illetékes hatóság szerint a biztonságot lényegesen befolyásolná, meg kell feleljen az érvényben lévő ADR előírásainak. Minden csomagolóeszköznek, amelynek gyártása 2006. december 31-e után kezdődik, meg kell felelnie az érvényben lévő RID előírásoknak.

#### 1.6.6.3

***Különleges formájú radioaktív anyagok, amelyeket a Nemzetközi Atomenergia Ügynökség 6. sz. Biztonsági sorozat 1973. évi, 1973. évi módosított, 1985. évi vagy 1985. évi (1990-ben) módosított kiadásának előírásai szerint engedélyeztek***

Az olyan minta szerint gyártott különleges formájú radioaktív anyag, amelyre az illetékes hatóság a Nemzetközi Atomenergia Ügynökség 6. sz. Biztonsági sorozat 1973. évi, 1973. évi módosított, 1985. évi vagy 1985. évi (1990-ben) módosított kiadásának előírásai szerint adott ki egyoldalú engedélyt, tovább használható, ha az megfelel az 1.7.3 szakasz vonatkozó előírásai szerinti kötelező minőségbiztosítási programnak. Minden különleges formájú radioaktív anyagnak, amelyet 2003. december 31-e után gyártanak, meg kell felelnie az érvényben lévő RID előírásoknak.

## 1.7 fejezet

### Általános előírások a 7 osztályra

#### 1.7.1 Hatály és alkalmazási terület

**Megjegyzés:** 1. A radioaktív anyagok szállítása során bekövetkező baleset vagy rendkívüli esemény esetén az emberek, az anyagi javak és a környezet védelme érdekében az illetékes nemzeti, ill. nemzetközi hatóságok által megállapított veszélyhelyzeti előírásokat kell betartani. Az ilyen előírásokhoz útmutatás található a „Planning and Preparing for Emergency Response to Transport Accidents Involving Radioactive Material”, Safety Standard Series No. TS-G-1.2 (ST-3), IAEA, Vienna (2002) kiadványban.

2. A veszélyhelyzeti beavatkozásnál figyelembe kell venni, hogy a baleset során a küldemény tartalma és a környezet között bekövetkező reakció folytán egyéb veszélyes anyagok is képződhetnek.

**1.7.1.1** A RID olyan szabályokat állapít meg, amelyek által a radioaktív anyagok szállításával kapcsolatos sugárzásból, kritikusságból vagy hőhatásból eredően a személyeket, javakat vagy környezetet érő veszélyek megfelelően kezelhetők. Ezek a szabályok az Nemzetközi Atomenergia Ügynökség „Előírások a radioaktív anyagok biztonságos szállítására”, 2005. évi kiadás, Biztonsági Szabványok Sorozat, TS-R-1 kiadványon alapulnak (Bécs, 2005.). A TS-R-1 1996-os kiadásához magyarázatok találhatók az IAEA „Advisory Material for the IAEA Regulations for the Safe Transport of Radioactive Materials”, Safety Standard Series No. TS-G-1.1 (ST-2), IAEA, Vienna, (2002) kiadványban.

**1.7.1.2** A RID célja a személyek, a javak és a környezet védelme a sugárzás hatásaival szemben a radioaktív anyagok szállítása során. Ez a védelem azáltal érhető el, hogy követelményeket támaszt:

- a) a radioaktív tartalom megtartására;
- b) a külső sugárzási szint korlátozására;
- c) a kritikusság megelőzésére; és
- d) a hőhatás okozta károk megelőzésére.

Ezek a követelmények elsősorban azáltal teljesülnek, hogy a kocsik és a küldeménydarabok tartalmának határértékei, ill. a küldeménydarab minták minőségi követelményei a radioaktív tartalom veszélyességének függvényében különböző fokozatokra vannak meghatározva. Másodsorban a küldeménydarabokra, kezelésükre, a csomagolóeszköz karbantartására vonatkozó, a radioaktív tartalom fajtáját figyelembe vevő követelmények meghatározásával és végül az adminisztratív ellenőrzések előírásával, – vagy ahol szükséges – az illetékes hatóság általi jóváhagyás megkövetelésével.

**1.7.1.3** A RID előírásait a radioaktív anyagok vasúti szállítására (fuvarozására) kell alkalmazni, beleértve a radioaktív anyagok használatával együtt járó szállításokat is. A „szállítás” magában foglalja a radioaktív anyag mozgatásával kapcsolatos minden tevékenységet, a csomagolóeszköz tervezését, gyártását, karbantartását és javítását, a radioaktív rakomány előkészítését, feladását, berakását, szállítását (beleértve a közbenső tárolását), kirakását és átvételét a rendeltetési helyen. A RID által a minőségi követelmények meghatározásánál alkalmazott különböző fokozatok három súlyossági szinttel jellemezhetők:

- a) szokásos szállítási körülmények (rendkívüli esemény nélkül);



- b) kisebb balesetek fellépése során fennálló szállítási körülmények;
- c) a szállítás során bekövetkező baleseti körülmények.

**1.7.1.4**

A RID előírásait nem kell alkalmazni, ha a szállított anyagok (tárgyak) a következők:

- a) a szállítóeszköz szerves részét képező radioaktív anyagok;
- b) valamely létesítményen belül mozgatott radioaktív anyagok, amelyek a létesítményben érvényben levő, megfelelő biztonsági előírások hatálya alá esnek, és ez a mozgatás nem vesz igénybe közutat vagy vasutat;
- c) a személyekbe vagy élő állatokba diagnosztikai vagy kezelési célra bevitt vagy beültetett radioaktív anyagok;
- d) a fogyasztási cikkekben levő, hatóságilag engedélyezett radioaktív anyagok, azok végső felhasználónak történt eladását követően;
- e) a természetben előforduló radionuklidokat tartalmazó természetes anyagok és ércek, amelyek vagy természetes állapotukban vannak, vagy a radionuklidok kinyerésén kívüli egyéb célból vannak feldolgozva, és amelyeket nem szándékoznak feldolgozni a radionuklidok felhasználása céljából, amennyiben az anyag aktivitás koncentrációja nem nagyobb, mint a 2.2.7.2.2.1 b) pontban meghatározott vagy a 2.2.7.2.2.2 – 2.2.7.2.2.6 pont szerint számított érték 10-szerese;
- f) nem radioaktív szilárd tárgyak, amelyek felületükön sehol nem tartalmaznak a 2.2.7.1.2 pontban a „szennyezettség” meghatározásánál megadott határoknál nagyobb mennyiségben radioaktív anyagokat.

**1.7.1.5*****Az engedményes küldeménydarabok szállítására vonatkozó különleges előírások***

A 2.2.7.2.4.1 pont szerinti engedményes küldeménydarabokra az 5 – 7. részek előírásai közül csak a következőket kell betartani:

- a) az 5.1.2 szakaszban, az 5.1.3.2 bekezdésben, az 5.1.4 szakaszban, az 5.2.1.2 bekezdésben, az 5.2.1.7.1 – 5.2.1.7.3 pontokban, az 5.2.1.9 bekezdésben, az 5.4.1.1.1 pont a), g) és h) alpontjában és a 7.5.11 szakasz CW33 előírás 5.2) pontjában meghatározott követelményeket;
- b) a 6.4.4 szakaszban az engedményes küldeménydarabokra meghatározott követelményeket;
- c) ha az engedményes küldeménydarab hasadóanyagot tartalmaz, akkor a 2.2.7.2.3.5 pontban szereplő, hasadóanyag mentesítési feltételek egyikének meg kell felelnie és a 6.4.7.2 bekezdés előírásait be kell tartani.

A RID összes többi részének vonatkozó előírását az engedményes küldeménydarabokra be kell tartani.

**1.7.2****Sugárvédelmi program****1.7.2.1**

A radioaktív anyagok fuvarozásához sugárvédelmi program szükséges, amely a sugárvédelmi követelmények kellő figyelembevételét célzó intézkedéseket tartalmaz.

**1.7.2.2**

A személyek sugárterhelése nem haladhatja meg az erre meghatározott dóziskorlátokat. A védelmet és biztonságot optimálni kell annak érdekében, hogy az egyéni dózisok nagysága, a sugárzásnak kitett személyek száma és a sugárterhelés valószínűsége az ésszerűen elérhető

legalacsonyabb szinten maradjon. Az optimalizáláskor tekintettel kell lenni a gazdasági és társadalmi tényezőkre, azzal, hogy az egyéni dózisok megállapításánál figyelembe kell venni a dózismegszorításokat. Rendszerszemléletű megközelítést kell alkalmazni, amely figyelembe veszi a szállítás és az egyéb tevékenységek kapcsolatát.

**1.7.2.3** A programban alkalmazott intézkedések jellegét és mértékét a sugárterhelés nagyságához és valószínűségéhez kell igazítani. A programnak tartalmaznia kell az 1.7.2.2, az 1.7.2.4 és az 1.7.2.5 bekezdés követelményeit. A program dokumentumait ellenőrzés céljából, kérésre az illetékes hatóság rendelkezésére kell bocsátani.

**1.7.2.4** Amennyiben a szállítási tevékenység során a foglalkozási sugárterhelésből eredő effektív dózis:

- a) valószínűleg évi 1 és 6 mSv között van, akkor a munkahely sugárellenőrzésén vagy az egyéni sugárterhelés ellenőrzésén alapuló dózis értékelési programot kell működtetni;
- b) valószínűleg meghaladja az évi 6 mSv-et, akkor egyéni sugárterhelési ellenőrzést kell végezni.

Az egyéni sugárterhelési ellenőrzések, ill. a munkahely sugárellenőrzésének adatairól megfelelő nyilvántartást kell vezetni.

**Megjegyzés:** Amennyiben a szállítási tevékenység során a foglalkozási sugárterhelésből eredő effektív dózis nagy valószínűséggel nem haladja meg az évi 1 mSv-et, akkor nincs szükség sem különleges munkarendre, sem részletes megfigyelésre, sem dózisértékelési programra, ill. egyéni nyilvántartás vezetésére.

**1.7.2.5** A dolgozókat (lásd a 7.5.11 szakasz CW33 előírása 3. megjegyzését) megfelelő sugárvédelmi képzésben kell részesíteni, amely kiterjed az őket érő foglalkozási sugárterhelés, ill. a tevékenységük folytán esetleg másokat érő sugárterhelés korlátozása érdekében betartandó óvintézkedésekre.

### **1.7.3 Minőségbiztosítás**

A RID előírásainak való megfelelés biztosítása érdekében a különleges formájú radioaktív anyagok, a kis mértékben diszpergálódó radioaktív anyagok és a küldeménydarabok tervezésére, gyártására, vizsgálatára, dokumentációjára, használatára, karbantartására, felügyeletére, valamint a szállításra és a szállítás közbeni átmeneti tárolásra az illetékes hatóság által elfogadott, nemzetközi, nemzeti vagy egyéb szabványokon alapuló minőségbiztosítási programot kell kialakítani és működtetni. Annak a tanúsítványnak, hogy a gyártási mintára vonatkozó követelményeket teljes mértékben teljesítették, az illetékes hatóság rendelkezésére kell állnia. A gyártónak, a feladónak és a felhasználónak – kérésre – az illetékes hatóság számára rendelkezésre kell bocsátania a gyártás vagy a használat ellenőrzéséhez szükséges berendezéseket és minden illetékes hatóság számára bizonyítani kell, hogy

- a) az alkalmazott gyártási eljárások és a használt anyagok összhangban vannak az engedélyezett mintadarab specifikációival; és
- b) minden csomagolóeszközt rendszeresen megvizsgálják és – szükség esetén – oly módon állítanak helyre és tartanak jó állapotban, hogy azok az ismételt felhasználás után is megfelelnek a vonatkozó előírásoknak és specifikációknak.

Amennyiben az illetékes hatóság engedélye szükséges, ezen engedély kiadása a minőségbiztosítási program alkalmasságának függvénye.

#### 1.7.4 Külön megegyezés

**1.7.4.1** A külön megegyezés az illetékes hatóság által jóváhagyott előírásokat jelenti, amelyek betartásával a RID radioaktív anyagokra vonatkozó követelményeinek nem mindenben megfelelő küldemény szállítható.

***Megjegyzés:** A külön megegyezés nem tekinthető az 1.5.1 szakasz szerinti ideiglenes eltérésnek.*

**1.7.4.2** Azok a küldemények, amelyeknél a 7 osztályra vonatkozó valamely előírást nem lehet betartani, csak külön megegyezés alapján fuvarozhatók. Az illetékes hatóság akkor engedélyezheti egy küldemény vagy egy előre tervezett küldemény sorozat külön megegyezés alapján történő fuvarozását, ha megbizonyosodott arról, hogy a RID előírásait valóban nem lehet betartani és a RID által megkövetelt biztonsági szintet más eszközökkel el lehet érni. A teljes szállítási biztonságnak legalább olyan szintűnek kell lennie, mintha minden vonatkozó előírást betartottak volna. Az ilyen típusú nemzetközi küldeményekhez többoldalú engedélyre van szükség.

#### 1.7.5 Egyéb veszélyes tulajdonságokkal bíró radioaktív anyag

A radioaktív és hasadó tulajdonságokon kívül a küldeménydarab tartalmának minden járulékos veszélyét, így a robbanásveszélyt, gyúlékonyságot, piroforosságot, vegyi mérgezőképességet és maró hatást ugyancsak figyelembe kell venni az okmányokban, a csomagolásnál, a bárcázásnál, a feliratozásnál, a nagybárcák elhelyezésnél, az átmeneti tárolásnál, az elkülönítésnél és a szállításnál, hogy a RID veszélyes árukra vonatkozó minden előírása teljesüljön.

#### 1.7.6 Hiányosságok

**1.7.6.1** A RID-ben előírt, a sugárzási szintre, ill. a szennyezettségre vonatkozó határértékek túllépése esetén:

- a) erről a hiányosságról értesítenie kell a feladót
  - i) a fuvarozónak, ha ezt a szállítás alatt észleli; ill.
  - ii) a címzettnek, ha átvételkor észleli;
- b) a fuvarozónak, a feladónak, ill. a címzettnek:
  - i) azonnal intézkednie kell az ebből eredő következmények elhárítására;
  - ii) ki kell vizsgálnia az okokat, körülményeket és következményeket;
  - iii) megfelelő intézkedéseket kell tennie azoknak az okoknak és körülményeknek a kiküszöbölésére, amelyek ehhez a hiányossághoz vezettek, és meg kell akadályoznia a hasonló körülmények ismételt előfordulását; és
  - iv) az illetékes hatóság(ka)t tájékoztatnia kell a hiányosság okairól és a végrehajtott vagy végrehajtandó elhárító, ill. megelőző tevékenységről; és
- c) a hiányosságról a feladót, ill. az illetékes hatóság(ka)t lehetőleg minél hamarabb kell tájékoztatni, de ha besugárzás szempontjából veszélyhelyzet alakult ki vagy van kialakulóban, azonnal tájékoztatni kell őket.

## **1.8 fejezet**

### **Biztonsági követelmények betartását biztosító ellenőrzések, ill. a biztonságot elősegítő egyéb intézkedések**

#### **1.8.1 A veszélyes áruk hatósági ellenőrzése**

##### **1.8.1.1** A Tagállamok illetékes hatóságai illetékességi területükön bármikor ellenőrizhetik, hogy a veszélyes áru szállítással kapcsolatos előírásokat, beleértve a közbiztonsági intézkedésekre vonatkozókat is az 1.10.1.5 bekezdés szerint, betartják-e.

Az ellenőrzést azonban úgy kell végezni, hogy az ne veszélyeztessen sem személyeket, sem javakat, sem a környezetet, ill. ne zavarja jelentősen a vasúti forgalmat.

##### **1.8.1.2** A veszélyes áruk fuvarozásában résztvevőknek (lásd 1.4 fejezet) az ellenőrzéshez szükséges minden, saját feladataikra vonatkozó információt haladéktalanul az illetékes hatóság vagy képviselője rendelkezésére kell bocsátaniuk.

##### **1.8.1.3** A veszélyes áruk fuvarozásában résztvevő vállalkozások (lásd 1.4 fejezet) telephelyén történő ellenőrzés céljából az illetékes hatóságok helyszíni vizsgálatot is tarthatnak, megnézhetik a szükséges okmányokat, a veszélyes áruból, ill. a csomagolóeszközből vizsgálat céljából mintát vehetnek, feltéve, hogy mindezzel nem veszélyeztetik a biztonságot. A veszélyes áruk fuvarozásában résztvevőknek (lásd 1.4 fejezet) ellenőrzés céljára a kocsikat, a kocsik alkatrészeit, a felszereléseket és a berendezéseket is hozzáférhetővé kell tenni, amennyiben az lehetséges, ill. ésszerű. Amennyiben a hatóság szükségesnek ítéli, kijelölhet valakit a vállalkozástól, hogy elkísérje az illetékes hatóság képviselőjét.

##### **1.8.1.4** Amennyiben az illetékes hatóságok azt tapasztalják, hogy a RID előírásait nem tartották be, megtilthatják a küldemény feladását vagy megszakíthatják a fuvarozást, amíg a tapasztalt hiányosságokat ki nem küszöbölik, ill. más, megfelelő intézkedést is hozhatnak. A feltartóztatás történhet a helyszínen vagy biztonsági okokból a hatóságok által kiválasztott más helyen. Ezek az intézkedések azonban nem zavarhatják jelentősen a vasúti közlekedést.

#### **1.8.2 Hivatali együttműködés**

##### **1.8.2.1** A Tagállamok hivatalainak együtt kell működniük a RID végrehajtásában.

##### **1.8.2.2** Ha egy Tagállam területén a veszélyes áruk szállításának biztonságát egy olyan vállalkozás nagyon súlyos vagy ismételt szabálytalansága veszélyezteti, amelynek székhelye egy másik Tagállam területén van, az ilyen szabálytalanságról értesítenie kell a másik Tagállam illetékes hatóságát. Azon Tagállam illetékes hatóságai, amelynek területén a súlyos vagy ismételt szabálytalanságot megállapították, felkérhetik azon Tagállam illetékes hatóságát, amelyben a vállalkozás székhelye van, hogy hozzanak megfelelő intézkedéseket a szabálytalanság elkövetője vagy elkövetői ellen. A személyekre vonatkozó adatok nem adhatók át, hacsak nem súlyos vagy ismételt szabálytalanság miatti büntetőeljáráshoz van rá szükség.

##### **1.8.2.3** Az értesített illetékes hatóságoknak a vállalkozással szemben hozott intézkedéseikről – ha ilyenre szükség volt – értesíteniük kell azon Tagállam illetékes hatóságait, amelyben a szabálytalanságot megállapították.

**1.8.3 Biztonsági tanácsadó**

**1.8.3.1** Minden vállalkozásnak, amely veszélyes árut vasúton szállít, fuvaroz vagy ahhoz kapcsolódó csomagolást, berakást, töltést vagy kirakást végez, egy vagy több veszélyes áru szállítási biztonsági tanácsadót kell kineveznie, aki azért felelős, hogy segítse megelőzni, hogy e tevékenységek veszélyeztessék az embereket, az anyagi javakat vagy a környezetet.

**1.8.3.2** A Tagállamok illetékes hatóságai rendelkezhetnek úgy, hogy ezeket a követelményeket nem kell alkalmazni azon vállalkozások esetében:

- a) amelyek szóban forgó tevékenysége a veszélyes áruk szállítása terén olyan szállítóeszközökre terjed ki, amelyek a véderők tulajdonát képezik vagy a véderők felelősségi körébe tartoznak; vagy
- b) amelyek tevékenysége olyan mennyiségekre terjed ki, melyek szállítóegységenként nem haladják meg az 1.1.3.6 és az 1.7.1.4 bekezdésben, valamint a 3.3, 3.4 és 3.5 fejezetben meghatározott értékeket; vagy
- c) amelyek fő vagy kiegészítő tevékenységi körébe nem tartozik a veszélyes áru szállítás, ill. az ezzel kapcsolatos be- és kirakás, de esetenként részt vesznek olyan veszélyes áruk belföldi szállításában vagy az ehhez kapcsolódó be- és kirakásában, amelyek csak kisebb veszélyt vagy környezeti kockázatot jelentenek.

**1.8.3.3** A tanácsadó fő feladata, hogy a vállalkozás vezetőjének felelőssége mellett minden lehetséges módon és ténykedéssel elősegítse, hogy a vállalkozás az érintett tevékenységét a hatályos szabályoknak megfelelően és a lehető legbiztonságosabb módon végezze.

A tanácsadónak a vállalkozás tevékenységére vonatkozóan a következők a feladatai:

- annak figyelemmel kísérése, hogy betartják-e a veszélyes áruk szállítását szabályozó előírásokat;
- tanácsadás a vállalkozás számára a veszélyes áruk szállítását illetően;
- éves jelentés készítése a vállalkozás vezetősége, vagy adott esetben a helyi hatóság számára a vállalkozás veszélyes áruk szállításával kapcsolatos tevékenységéről. Az éves jelentéseket öt évig meg kell őrizni, és a hatóság kérésére be kell mutatni.

A tanácsadónak ezen kívül kötelessége figyelemmel kísérni a vállalkozás érintett tevékenységére vonatkozóan a következők gyakorlati végrehajtását és az ezzel kapcsolatos eljárásokat:

- a szállítandó veszélyes áruk azonosítására vonatkozó szabályok betartását;
- azt, hogy a vállalkozás figyelembe veszi-e a szállítóeszközök vásárlásánál a szállítandó veszélyes áruval kapcsolatos különleges követelményeket;
- a veszélyes áruk szállítására, be- és kirakására használt felszerelések ellenőrzésére szolgáló eljárásokat;
- a vállalkozás alkalmazottainak megfelelő képzését, és a képzésről szóló jelentések, okmányok őrzését, nyilvántartását;
- a szállítás vagy a be- és kirakás biztonságát veszélyeztető baleset vagy rendkívüli esemény esetén a megfelelő veszélyelhárítási eljárások alkalmazását;
- a szállítás vagy a be- és kirakás alatt észlelt súlyos balesetek, rendkívüli események vagy súlyos szabálytalanságok okának felderítését, vagy amennyiben szükséges, jelentés készítését;

- a balesetek, rendkívüli események vagy súlyos szabálytalanságok ismétlődésének megakadályozását célzó megfelelő eljárások alkalmazását;
- az alvállalkozók vagy harmadik felek kiválasztásakor és igénybevételekor a veszélyes áruk fuvarozásával kapcsolatos jogi előírások és különleges követelmények figyelembevételét;
- annak ellenőrzését, hogy a veszélyes áruk szállításában, be- és kirakásában résztvevő alkalmazottak részletes technológiai utasítást és oktatást kapnak;
- a veszélyes áruk szállításakor, be- és kirakásakor fennálló veszélyek tudatosítását szolgáló intézkedések meghozatalát;
- olyan ellenőrzési eljárások fogantatását, melyek azt hivatottak biztosítani, hogy a járműveken a kötelező okmányok és biztonsági felszerelések a szabályoknak megfelelő formában megtalálhatók;
- olyan ellenőrzési eljárások fogantatását, melyek a be- és kirakással kapcsolatos szabályok betartását biztosítják;
- az 1.10.3.2 bekezdésben meghatározott közbiztonsági terv meglétét.

**1.8.3.4** A tanácsadó lehet a vállalkozás vezetője is, a vállalkozásban más feladatkört is ellátó személy vagy a vállalkozás közvetlen alkalmazásában nem álló személy, amennyiben alkalmas a tanácsadó feladatainak ellátására.

**1.8.3.5** Minden érintett vállalkozásnak az illetékes hatóság vagy az egyes Tagállamok által e célra kijelölt testület kérésére közölnie kell, hogy ki a tanácsadója.

**1.8.3.6** Ha egy szállítás, ill. az áruk be- vagy kirakása közben bekövetkezett baleset személyeket, anyagi javakat vagy a környezetet érinti, vagy bennük kárt okoz, az érintett vállalkozás tanácsadójának a lényeges információk összegyűjtése után baleseti jelentést kell készítenie a vállalkozás vezetősége vagy adott esetben a helyi hatóság részére. Ez a jelentés azonban nem helyettesíti a vállalkozás vezetésének jelentését, amely bármilyen más nemzetközi vagy belföldi szabályozás alapján szükséges.

**1.8.3.7** A tanácsadónak a vasúti szállításra érvényes bizonyítvánnyal kell rendelkeznie. A bizonyítványt az illetékes hatóságnak vagy az egyes Tagállamok által e célra kijelölt testületnek kell kiadnia.

**1.8.3.8** A bizonyítvány megszerzéséhez a jelöltnek képzésben kell részt vennie, és a Tagállam illetékes hatósága által jóváhagyott vizsgát kell tennie.

**1.8.3.9** A képzés fő célja, hogy a jelölt megfelelő tudást szerezzen a veszélyes áruk szállításában rejlő veszélyekről, az adott szállítási módra vonatkozó jogszabályokról, rendeletekről és hatósági előírásokról, valamint az 1.8.3.3 bekezdés szerinti feladatokról.

**1.8.3.10** A vizsgát az illetékes hatóságnak vagy az általa kinevezett vizsgáztató szervezetnek kell megszerveznie. Képzőszerv nem lehet vizsgáztató szervezet.

A vizsgáztató szervezetet írásban kell kinevezni. A kinevezést, amely korlátozott időtartamú is lehet, a következő kritériumok alapján kell kiadni:

- a vizsgáztató szervezet szakmai alkalmassága;
- a vizsgáztató szervezet által javasolt vizsgáztatási forma részletes leírása;
- a vizsgáztatás pártatlanságának biztosítására vonatkozó intézkedések;
- a szervezet függetlensége bármely, biztonsági tanácsadót alkalmazó természetes vagy

jogi személytől.

#### 1.8.3.11

A vizsga célja meggyőződni arról, hogy a jelölt az 1.8.3.7 bekezdésben előírt bizonyítvány megszerzéséhez elegendő szintű tudással rendelkezik-e a tanácsadóra háruló, az 1.8.3.3 bekezdésben felsorolt feladatok ellátásához. A vizsgának a következő témákra kell kiterjednie:

- a) A veszélyes árukkal kapcsolatos balesetek lehetséges következményeinek és a balesetek fő okainak ismerete;
- b) A belföldi jog, a nemzetközi megállapodások és egyezmények előírásai, különös tekintettel az alábbiakra:
  - a veszélyes áruk besorolása (az oldatok és keverékek besorolási eljárása, az anyagfelsorolás felépítése, a veszélyes áru osztályok és az osztályba sorolás elvei, a szállított veszélyes áruk jellemzői, fizikai, kémiai és toxikológiai (mérgező) tulajdonságai);
  - általános csomagolási előírások, a tartányokra és tankkonténerekre vonatkozó előírások (típusok, kódolás, jelölés, szerkezeti felépítés, első alkalommal végzett és időszakos vizsgálatok);
  - feliratozás, bárcázás, nagybárcák és narancssárga tábla elhelyezése (a küldeménydarabok jelölése és bárcázása, a nagybárcák és a narancssárga táblák elhelyezése és eltávolítása);
  - bejegyzések a fuvarokmányokba (szükséges információk);
  - a feladási módok és a feladási korlátozások (kocsirakomány, teljes rakomány, ömlesztett fuvarozás, fuvarozás IBC-kben, fuvarozás konténerekben, fuvarozás rögzített és leszerelhető tartányokban);
  - utasok szállítása;
  - együvé rakási tilalmak és elővigyázatossági intézkedések az együvé rakáskor;
  - az áruk elkülönítése;
  - a szállított mennyiség korlátozása és a mentesített mennyiségek;
  - árukezelés és rakományrögzítés (be- és kirakás – töltési fok –, átmeneti tárolás és elkülönítés);
  - berakás előtti és kirakás utáni tisztítás, illetve gáztalanítás;
  - személyzet, illetve kísérők képzése;
  - árukísérő okmányok (fuvarokmány, az esetleges eltérések vagy kivételek másolatai, egyéb okmányok);
  - környezetszennyező anyagok működés közbeni kibocsátása vagy véletlen kifolyása;
  - szállítóeszközökre vonatkozó követelmények.

#### 1.8.3.12 A vizsga

**1.8.3.12.1** A vizsgának írásbelinek kell lennie, ami kiegészíthető szóbeli vizsgával is.

**1.8.3.12.2** A nemzetközi és a belföldi szabályzatokon kívül egyéb segédanyagot az írásbeli vizsgán nem szabad használni.



**1.8.3.12.3** Elektronikus eszközöket csak akkor szabad használni, ha a vizsgáztató szervezet bocsátja rendelkezésre. Az elektronikus eszköz csak olyan lehet, amelybe a vizsgázó nem tud további adatokat bevinni, csak a feltett kérdésre tud válaszolni.

**1.8.3.12.4** Az írásbeli vizsgának két részből kell állnia:

- a) A jelöltnek egy kérdőívet kell kapnia. A kérdőívnek legalább 20 kiegészítendő kérdést kell tartalmaznia, amelyek legalább az 1.8.3.11 bekezdésben felsorolt témákra terjednek ki. Feleletválasztós kérdéseket is lehet alkalmazni, ez esetben két feleletválasztós kérdés egyenértékű egy kiegészítendő kérdéssel. A témák között különös figyelmet kell szentelni a következőknek:
- általános megelőző és biztonsági intézkedések;
  - a veszélyes áruk besorolása;
  - általános csomagolási előírások, beleértve a tartányokra, a tankkonténerekre és a tartálykocsikra vonatkozó előírásokat;
  - a veszély jelölése és a veszélyességi bárcák;
  - a fuvarokmányban levő bejegyzések;
  - árukezelés és rakodás;
  - a személyzet szakképzése;
  - árukísérő okmányok és fuvarokmányok;
  - a szállítóeszközökre és felszerelésükre vonatkozó előírások.
- b) A jelöltnek egy esettanulmányt is ki kell dolgoznia a tanácsadó 1.8.3.3 bekezdésben felsorolt feladataira vonatkozóan, amivel bizonyítja, hogy képes a tanácsadó feladatainak ellátására.

**1.8.3.13** A Tagállamok rendelkezhetnek úgy, hogy azok a jelöltek, akik olyan vállalkozásnál kívánnak dolgozni, amely bizonyos veszélyes áruk szállítására szakosodott, csak az e tevékenységgel kapcsolatos témákból vizsgázzanak. Ezek a veszélyes árucsoportok a következők lehetnek:

- 1 osztály;
- 2 osztály;
- 7 osztály;
- 3, 4.1, 4.2, 4.3, 5.1, 5.2, 6.1, 6.2, 8 és 9 osztály;
- az UN 1202, 1203, 1223, 3475 számú anyagok, és az UN 1268 és 1863 alá tartozó repülőgép tüzelőanyagok.

Az 1.8.3.7 bekezdésben előírt bizonyítványból egyértelműen ki kell tűnnie, hogy csak azokra, az e bekezdésben foglalt árucsoport(ok)ra érvényes, amelyekből a jelölt az 1.8.3.12 bekezdés szerinti követelményeknek megfelelően vizsgát tett.

Azok a veszélyes áru szállítási biztonsági tanácsadói bizonyítványok, amelyeket 2009. január 1-je előtt bocsátottak ki és az UN 1202, 1203 és 1223 számú anyagokra érvényesek, az UN 3475 számú anyagra, valamint az UN 1268 és 1863 alá tartozó repülőgép tüzelőanyagokra is érvényesek.

**1.8.3.14** Az illetékes hatóságnak vagy a vizsgáztató szervezetnek a vizsgakérdésekből gyűjteményt kell készítenie.



- 1.8.3.15** Az 1.8.3.7 bekezdésben előírt bizonyítványt az 1.8.3.18 bekezdés szerinti formában kell kiállítani. A bizonyítványt minden Tagállam köteles elismerni.
- 1.8.3.16** *A bizonyítvány érvényessége és megújítása*
- 1.8.3.16.1** A bizonyítvány öt évig érvényes. A bizonyítvány érvényességi idejét meg kell hosszabbítani, esetenként az érvényességének lejártától számított öt évvel, ha tulajdonosa a bizonyítvány érvényességének lejártá előtti egy éven belül sikeres vizsgát tett. A vizsgáztatást az illetékes hatóságnak jóvá kell hagynia.
- 1.8.3.16.2** A vizsga célja meggyőződni arról, hogy a bizonyítvány tulajdonosa rendelkezik-e az 1.8.3.3 bekezdésben felsorolt feladatok ellátásához szükséges ismeretekkel. A szükséges ismeretek az 1.8.3.11 b) pontban vannak felsorolva, amely ismereteknek ki kell terjedniük a bizonyítvány kiadása (legutóbbi meghosszabbítása) óta eltelt időben az előírásokban bekövetkezett változásokra is. A vizsgát az 1.8.3.10 és 1.8.3.12 – 1.8.3.14 bekezdésben előírtak szerint kell szervezni és felügyelni. A bizonyítvány tulajdonosának azonban nem kell az 1.8.3.12.4 b) pontban említett esettanulmányt kidolgoznia.
- 1.8.3.17** Az 1.8.3.1 – 1.8.3.16 bekezdés követelményei teljesítettnek tekinthetők, ha a veszélyes áruk közúti, vasúti és belvízi szállításánál alkalmazandó biztonsági tanácsadó kinevezéséről és szakmai képzéséről szóló, a Tanács 1996. június 3-i 96/35/EK Irányelvének<sup>13)</sup>, ill. a veszélyes áruk közúti, vasúti és belvízi szállítási biztonsági tanácsadó minimum vizsgakövetelményeiről szóló, az Európai Parlament és a Tanács 2000. április 17-i 2000/18/EK Irányelvének<sup>14)</sup> előírásait alkalmazzák.

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13) Az EK Hivatalos Lapja, L 145. szám, 1996. 06. 19., 10. o.

14) Az EK Hivatalos Lapja, L 118. szám, 2000. 05. 19., 41. o.

**1.8.3.18 A bizonyítvány mintája**

*A veszélyes áru szállítási biztonsági tanácsadó képzésének bizonyítványa*

A bizonyítvány száma: .....

A bizonyítványt kiállító állam megkülönböztető jele: .....

Vezetéknév: .....

Keresztnév (-nevek): .....

Születési idő és hely: .....

Állampolgárság: .....

A tulajdonos aláírása: .....

Érvényes: .....-ig

veszélyes árut

☐ közúton

☐ vasúton

☐ belvízi úton

szállító, fuvarozó, ill. az ehhez kapcsolódó be- és kirakást végző vállalkozások esetében.

Kiállította: .....

Dátum: ..... Aláírás: .....

Meghosszabbítva: .....-ig .....által

Dátum: ..... Aláírás: .....

**1.8.4 Az illetékes hatóságok és az általuk kijelölt szervezetek jegyzéke**

A Tagállamoknak közölniük kell az OTIF Titkárságával az általuk kijelölt azon hatóságok és szervezetek címét, amelyek a RID végrehajtására vonatkozó belföldi jogszabályaik szerint illetékesek. Minden esetben meg kell adni a RID azon előírásait, amelyre vonatkozóan illetékesek, ill. azt a címet, amelyre a kérelmeket be lehet nyújtani.

Az OTIF Titkársága a kapott információk alapján jegyzéket állít össze és azt napra kész állapotban tartja. Ezt a jegyzéket és annak módosításait elküldi a Tagállamoknak.

**1.8.5 A veszélyes árukkal kapcsolatos eseményekről szóló jelentés**

**1.8.5.1** Amennyiben a veszélyes áru szállítása, berakása, töltése vagy kirakása során valamely Tagállam területén jelentős baleset vagy káresemény következett be, a fuvarozónak, a berakónak, a töltőnek, ill. a címzettnek vagy adott esetben a vasúti infrastruktúra üzemeltetőjének meg kell győződnie arról, hogy az érintett Tagállam illetékes hatósága számára az 1.8.5.4 bekezdésben szereplő minta szerinti jelentés készül.

**1.8.5.2** A Tagállamnak szükség esetén ugyancsak jelentést kell készítenie az OTIF Titkárságának a többi Tagállam informálása céljából.

**1.8.5.3**

Az 1.8.5.1 bekezdés szerinti jelentést akkor kell elkészíteni, ha a következő események közül egy vagy több bekövetkezett: a veszélyes áru kiszabadult vagy kiszabadulásának közvetlen veszélye állt fenn, személyi sérülés, anyagi kár vagy a környezet károsodása következett be, vagy a hatóságok beavatkoztak. Ennek megítélésénél a következő kritériumokat kell alkalmazni:

A „személyi sérülés” olyan esemény, amelyben a szállított veszélyes áruval közvetlenül kapcsolatba hozható sérülés vagy haláleset következik be, és a sérülés:

- a) intenzív orvosi kezelést igényel,
- b) legalább egy napos kórházi tartózkodást igényel, vagy
- c) legalább három, egymást követő napig munkaképtelenséget okoz.

A „veszélyes áru kiszabadulás”

- a) a 0 vagy az 1 szállítási kategóriába tartozó veszélyes árunak legalább 50 kg vagy 50 l mennyiségben,
- b) a 2 szállítási kategóriába tartozó veszélyes árunak legalább 333 kg vagy 333 l mennyiségben, vagy
- c) a 3 vagy a 4 szállítási kategóriába tartozó veszélyes árunak legalább 1000 kg vagy 1000 l mennyiségben

történő szabaddá válása.

A „veszélyes áru kiszabadulás” kritériuma akkor is teljesül, ha a veszélyes áru kiszabadulásának közvetlen veszélye állt fenn az előzőekben említett mennyiségekben. Ezt rendszerint akkor kell feltételezni, ha a szerkezeti sérülés következtében a csomagolóeszköz nem alkalmas a további szállításra, vagy ha bármilyen más okból a megfelelő biztonsági szint már nem áll fenn (pl. a tartányok vagy konténerek deformálódása, a tartány felborulása vagy a közvetlen közelben levő tűz miatt).

A 6.2 osztály veszélyes áru esetén a jelentési kötelezettség a mennyiségtől függetlenül fennáll.

Ha az eset a 7. osztály anyagával történik, a „veszélyes áru kiszabadulás” kritériumai a következők:

- a) radioaktív anyag bármilyen kiszabadulása a küldeménydarabból;
- b) olyan sugárterhelés bekövetkezése, amely meghaladja a dolgozók és a lakosság ionizáló sugárzással szembeni védelmét szabályozó előírások határértékeit (NAÜ 115. sz. Biztonsági Sorozat, II. Rész – „Nemzetközi alapvető biztonsági szabványok az ionizáló sugárzással szembeni védelemre és a sugárforrások biztonságára”); vagy
- c) ha okkal feltételezhető, hogy a küldeménydarab valamelyik biztonsági funkciójának (megtartás, árnyékolás, hővédelem vagy kritikusság) jelentős csökkenése következett be, ami a küldeménydarabot alkalmatlanná teszi a további szállításra kiegészítő biztonsági intézkedések nélkül.

**Megjegyzés:** Azon küldeményekre, amelyek nem szolgáltatathatók ki, lásd a 7.5.11 szakasz CW33 előírás 6) bekezdését.

Az „anyagi kár” vagy a „környezet károsodása” a veszélyes áru kiszabadulását jelenti, függetlenül annak mennyiségétől, ha a kár becsült értéke meghaladja az 50 000 eurót. A veszélyes árut tartalmazó szállítóeszközben és a közlekedési infrastruktúrában keletkezett kárt ebből a szempontból figyelmen kívül kell hagyni.

A „hatósági beavatkozás” a hatóságok vagy kárelhárító szolgálatok közvetlen beavatkozása a veszélyes áruval kapcsolatos eseménybe, és személyek legalább három órára történő evakuálása vagy közforgalmú közlekedési útvonalak (utak, vasútvonalak) legalább három órára történő lezárása a veszélyes áru által okozott veszélyhelyzet miatt.

Szükség esetén az illetékes hatóság további, érdemi információt kérhet.

**1.8.5.4**

*A veszélyes áruk szállítása során bekövetkezett eseményekről készítendő jelentés mintája*

**A veszélyes áruk szállítása során bekövetkezett eseményekről készítendő jelentés a  
RID/ADR 1.8.5 szakasza szerint**

A szállító/a fuvarozó/a vasúti infrastruktúra üzemeltetője .....
.....
.....
Cím: .....
.....
A kapcsolattartó neve:.....Telefon: .....Fax: .....

*(Ezt a fedlapot az illetékes hatóságnak a jelentés továbbítása előtt el kell távolítania.)*

<b>1. Közlekedési alágazat</b>	
Vasút Kocsiszám (nem kötelező megadni) .....	Közút Jármű rendszám (nem kötelező megadni) .....
<b>2. Az esemény ideje és helye</b>	
Év: ..... Hónap: ..... Nap: ..... Időpont: .....	
Vasút Állomás Rendezőpályaudvar Berakóhely/kirakóhely/átrakóhely Helység/ország: ..... vagy Nyílt pálya A vonal megnevezése:..... Kilométerszelvény: .....	Közút Lakott területen Berakóhely/kirakóhely/átrakóhely Lakott területen kívül Helység/ország: .....
<b>3. Topográfia</b>	
Emelkedő/lejtő Alagút Híd/aluljáró Kereszteződés	
<b>4. Különleges időjárási körülmények</b>	
Eső Hó Jég Köd Felhőszakadás Vihar Hőmérséklet: ..... °C	
<b>5. Az esemény leírása</b>	
Kisiklás/az útpálya elhagyása Összeütközés Eldőlés/felborulás Tűz Robbanás Szivárgás Műszaki hiba Az esemény kiegészítő leírása: ..... ..... ..... ..... ..... .....	

6. Az érintett veszélyes áruk						
UN szám <sup>1)</sup>	Osz- tály	Csomagó- lási csoport	A szabadba jutott termék becsült meny- nyisége (kg vagy l) <sup>2)</sup>	Az árut befogadó eszköz <sup>3)</sup>	Az árut befogadó eszköz anyaga	Az árut befogadó eszköz meghibá- sodásának típusa <sup>4)</sup>
1) Gyűjtőmegnevezések alá tartozó veszélyes áruk esetén, amelyekre a 274 különleges előírás vonatkozik, a műszaki megnevezést is meg kell adni.				2) A 7 osztálynál az értéket az 1.8.5.3 bekezdés kritériumai szerint kell megadni.		
3) A megfelelő számot kell feltüntetni: 1 Csomagolóeszköz 2 IBC 3 Nagycsomagolás 4 Kiskonténer 5 Vasúti kocsi 6 Jármű 7 Tartálykocsi 8 Tartányjármű 9 BATTERIÁS kocsi 10 BATTERIÁS jármű 11 Vasúti kocsi leszerelhető tartánnyal 12 Leszerelhető tartány 13 Nagykonténer 14 Tankkonténer 15 MEG-konténer 16 Mobil tartány				4) A megfelelő számot kell feltüntetni: 1 Szivárgás 2 Tűz 3 Robbanás 4 Szerkezeti hiba		
7. Az esemény oka (ha egyértelműen ismert)						
Műszaki hiba Hibás rakomány rögzítés Üzemi ok (vasútüzem) Egyéb: .....						
8. Az esemény következménye						
A veszélyes áruval kapcsolatba hozható személyi sérülés: Halott(ak) (száma: .....) Sérült(ek) (száma: .....) A veszélyes áru kiszabadulása: Igen Nem A veszélyes áru kiszabadulásának közvetlen veszélye Áru/környezeti kár: A kár becsült értéke ≤ 50 000 euró A kár becsült értéke > 50 000 euró Hatósági beavatkozás: Történt                      Személyek evakuálására volt szükség legalább három órára a veszélyes áru miatt A közforgalmi közlekedési útvonalak lezárására volt szükség legalább három órára a veszélyes áru miatt Nem történt						

*Szükség esetén az illetékes hatóság további, érdemi információt kérhet.*

**1.8.6 Az 1.8.7 szakaszban leírt megfelelésértékelés, időszakos és soron kívüli vizsgálatok hatósági felügyelete**

**1.8.6.1** Az illetékes hatóság az 1.8.7 szakaszban meghatározott megfelelésértékelés, időszakos és soron kívüli vizsgálat, valamint az üzemi vizsgálóhely felügyelete céljából vizsgáló szervezeteket hagyhat jóvá.

**1.8.6.2** Az illetékes hatóságnak gondoskodnia kell a vizsgáló szervezet felügyeletéről, és ha azt állapítja meg, hogy a jóváhagyott szervezet nem felel meg a jóváhagyásban vagy az 1.8.6.4 bekezdésben foglaltaknak, vagy nem követi a RID előírásaiban meghatározott eljárás(oka)t, a jóváhagyást vissza kell vonnia vagy korlátoznia kell az érvényességét.

**1.8.6.3** Ha egy jóváhagyást visszavontak vagy az érvényességét korlátozták, vagy a vizsgáló szervezet felhagyott a tevékenységgel, az illetékes hatóságnak meg kell tennie a szükséges lépéseket, hogy az iratokat vagy egy másik vizsgáló szervezet kezelje vagy biztosítani kell, hogy az iratok továbbra is hozzáférhetőek legyenek.

**1.8.6.4** A vizsgáló szervezetnek:

- a) szervezetbe integrált, alkalmas, hozzáértő, szakképzett és gyakorlott személyzettel kell rendelkeznie, hogy műszaki feladatait megfelelő módon végezhesse;
- b) alkalmas és elegendő berendezésnek és felszerelésnek kell rendelkezésére állnia;
- c) részrehajlás nélkül kell működnie, és minden olyan hatástól mentesnek kell lennie, ami ebben akadályozhatná;
- d) a gyártók és más szervezetek kereskedelmi és tulajdonjogi védelmet élvező tevékenységeit üzleti titokként kell kezelnie;
- e) egyértelműen el kell különítenie a vizsgáló szervezeti funkcióit és az ezzel nem kapcsolatos tevékenységet;
- f) dokumentált minőségbiztosítási rendszerrel kell rendelkeznie;
- g) biztosítani kell, hogy a vonatkozó szabványokban és a RID-ben szereplő vizsgálatokat elvégezzék; és
- h) az 1.8.7 szakaszban foglaltak szerinti célszerű és megfelelő jegyzőkönyvezési és okirat nyilvántartási rendszert kell működtetni.

A vizsgáló szervezetet az EN ISO/IEC 17020:2004 szabvány szerint akkreditálni is kell, a 6.2.3.6 bekezdés és a 6.8.4 szakasz TA4 és TT9 különleges előírásának megfelelően.

Az új tevékenységet kezdő vizsgáló szervezetet ideiglenesen is jóvá lehet hagyni. Az ideiglenes kijelölés előtt az illetékes hatóságnak meg kell győződnie arról, hogy a vizsgáló szervezet megfelel az EN ISO/IEC 17020:2004 szabvány követelményeinek. Annak érdekében, hogy a vizsgáló szervezet tovább folytathassa ezt az új tevékenységet, a tevékenység első évében akkreditálni kell.

**1.8.7 A megfelelésértékelésre és az időszakos vizsgálatokra vonatkozó előírások**

**Megjegyzés:** E szakasz alkalmazásában az „illetékes szervezet” az a szervezet, amelyet az UN nyomástartó tartályok tanúsítására a 6.2.2.9 bekezdés, a nem UN nyomástartó tartályok jóváhagyására a 6.2.3.6 bekezdés, valamint a 6.8.4 szakasz TA4 és TT9 különleges előírása határoz meg.



**1.8.7.1** *Általános előírások*

**1.8.7.1.1** Az 1.8.7 szakasz szerinti eljárásokat a nem UN nyomástartó tartályok engedélyezése során a 6.2.3.6 bekezdés táblázata, a tartányok, a battériás kocsik és a MEG-konténerek jóváhagyása során a 6.8.4 szakasz TA4 és TT9 különleges előírása szerint kell alkalmazni.

Az 1.8.7 szakasz szerinti eljárásokat az UN nyomástartó tartályok tanúsítása során a 6.2.2.9 bekezdés táblázata szerint lehet alkalmazni.

**1.8.7.1.2** A kérelmező

- a) az 1.8.7.2 bekezdés szerinti típusjóváhagyás;
- b) az 1.8.7.3 bekezdés szerinti gyártás felügyelet és az 1.8.7.4 bekezdés szerinti üzembe helyezés előtti vizsgálat;
- c) az 1.8.7.5 bekezdés szerinti időszakos és soron kívüli vizsgálat

iránti kérelmét a saját választása szerinti, egyetlen illetékes hatósághoz, ill. megbízottjához vagy egyetlen jóváhagyott vizsgáló szervezethez nyújthatja be.

**1.8.7.1.3** A kérelemnek a következőket kell tartalmaznia:

- a) a kérelmező nevét és székhelyét;
- b) megfelelőség-értékelés esetén, ha a kérelmező nem azonos a gyártóval, akkor a gyártó nevét és székhelyét;
- c) írásos nyilatkozatot arról, hogy másik illetékes hatósághoz, ill. megbízottjához vagy más vizsgáló szervezethez nem nyújtottak be ugyanilyen kérelmet;
- d) az 1.8.7.7 bekezdésben leírt műszaki dokumentációt;
- e) nyilatkozatot arról, hogy az illetékes hatóságnak, ill. megbízottjának vagy a vizsgáló szervezetnek vizsgálati célból szabad belépést biztosít a gyártó-, vizsgáló- és tárolóhelyekre és rendelkezésére bocsát minden szükséges információt.

**1.8.7.1.4** Ha a kérelmező az illetékes hatóság, ill. az általa megbízott vizsgáló szervezet részére meggyőzően bizonyítani tudja, hogy megfelel az 1.8.7.6 bekezdésben foglaltaknak, akkor üzemi vizsgálóhelyet létesíthet azokra a vizsgálatokra (vagy azok egy részére), amelyekre a 6.2.2.9, ill. a 6.2.3.6 bekezdés megengedi.

**1.8.7.2** *Típusjóváhagyás***1.8.7.2.1** A kérelmezőnek

- a) nyomástartó tartályok esetén: a gyártani tervezett nyomástartó tartály mintadarabját az illetékes szervezet rendelkezésére kell bocsátania. Az illetékes szervezet további mintadarabokat is kérhet, ha a vizsgálati program úgy kívánja;
- b) tartányok, battériás kocsik és MEG-konténerek esetén: a prototípust hozzáférhetővé kell tennie a típusvizsgálat elvégzése céljából.

**1.8.7.2.2** Az illetékes szervezetnek

- a) meg kell vizsgálnia az 1.8.7.7.1 pont szerinti műszaki dokumentációt, hogy ellenőrizze, hogy a típus megfelel a vonatkozó RID előírásoknak, a prototípust vagy prototípus sorozatot a műszaki dokumentáció szerint gyártották és reprezentálja a típust;

- b) el kell végeznie a vizsgálatokat, ill. a RID-ben előírt próbák elvégzésénél jelen kell lennie, annak megállapítására, hogy az előírásokat alkalmazták és betartották, valamint a gyártó által alkalmazott eljárások megfelelnek a követelményeknek;
- c) felül kell vizsgálnia az (alap)anyag gyártó(k) által kiadott bizonylatokat a RID vonatkozó előírásai alapján;
- d) jóvá kell hagynia a szerkezeti elemek állandó kötéseinek kialakítására szolgáló eljárásokat, ill. ellenőriznie kell, hogy már jóváhagyták-e, valamint azt, hogy a szerkezeti elemek állandó kötését és a roncsolásmentes vizsgálatokat arra jogosult (képzett, ill. minősített) alkalmazottak végzik-e;
- e) meg kell állapodnia a kérelmezővel abban, hogy hol és milyen vizsgáló berendezésekkel hajtják végre a vizsgálatokat és a szükséges próbákat.

Az illetékes szervezetnek a kérelmező számára típusvizsgálati jegyzőkönyvet kell kiállítania.

**1.8.7.2.3** Az illetékes hatóságnak, ill. megbízottjának vagy a vizsgáló szervezetnek típusjóváhagyási bizonyítványt kell kiállítania, ha a típus megfelel az összes vonatkozó előírásnak.

A bizonyítványban fel kell tüntetni:

- a) a kiállító nevét és székhelyét;
- b) a gyártó nevét és székhelyét;
- c) arra való utalást, hogy a típusvizsgálat során a RID melyik változatát és mely szabványokat alkalmazták;
- d) a vizsgálatokból származó követelményeket,
- e) a megfelelő szabványokban meghatározott, a típus, ill. a típusváltozat azonosításához szükséges adatokat; és
- f) a típusvizsgálati jegyzőkönyv(ek)re való hivatkozást.

A bizonyítványhoz mellékelni kell a műszaki dokumentáció vonatkozó részeinek felsorolását (lásd az 1.8.7.7.1 pontot)

### **1.8.7.3** *A gyártás felügyelete*

**1.8.7.3.1** Annak biztosítására, hogy a terméket a típusjóváhagyás előírásai szerint gyártják, az illetékes szervezetnek felügyelnie kell a gyártási folyamatot.

**1.8.7.3.2** A kérelmezőnek minden szükséges intézkedést meg kell tennie annak biztosítására, hogy a gyártási folyamat megfelel a vonatkozó RID előírásoknak, valamint a típusjóváhagyási bizonyítvány, ill. mellékletei előírásainak.

**1.8.7.3.3** Az illetékes szervezetnek:

- a) ellenőriznie kell az 1.8.7.7.2 pontban leírt műszaki dokumentációnak való megfelelőséget;
- b) ellenőriznie kell, hogy a gyártási folyamatban olyan termékek készülnek, amelyek a rájuk vonatkozó követelményeknek és dokumentációnak megfelelnek;
- c) ellenőriznie kell az anyagok nyomonkövethetőségét, valamint a specifikációk alapján az (alap)anyag bizonylatokat;

- d) ellenőriznie kell, hogy a szerkezeti elemek állandó kötését és a roncsolásmentes vizsgálatokat arra jogosult (képzett, ill. minősített) alkalmazottak végzik-e;
- e) meg kell állapodnia a kérelmezővel a helyszínen, ahol a vizsgálatokat és a szükséges próbákat elvégzik; és
- f) az ellenőrzés eredményét jegyzőkönyvbe kell foglalnia.

#### **1.8.7.4** *Az üzembe helyezés előtti vizsgálat*

##### **1.8.7.4.1** A kérelmezőnek

- a) a RID-ben előírt jelölést fel kell vinnie; és
- b) az illetékes szervezet rendelkezésére kell bocsátania az 1.8.7.7 bekezdésben leírt műszaki dokumentációt.

##### **1.8.7.4.2** Az illetékes szervezetnek:

- a) el kell végeznie a szükséges vizsgálatokat és méréseket, annak ellenőrzésére, hogy a terméket a típusjóváhagyásnak és a vonatkozó előírásoknak megfelelően gyártották;
- b) az üzemi szerelvények gyártói által rendelkezésre bocsátott tanúsítványok alapján ellenőriznie kell az üzemi szerelvényeket;
- c) az elvégzett vizsgálatokra, ellenőrzésekre, valamint az átvizsgált műszaki dokumentációra vonatkozóan az üzembe helyezés előtti vizsgálatról jegyzőkönyvet kell kiállítania a kérelmező számára; és
- d) ha a gyártás megfelel az előírásoknak, akkor a gyártás megfelelőségére vonatkozó írásbeli tanúsítványt kell kiállítania, és el kell látnia az illetékes szervezet jelével.

A tanúsítvány és a jegyzőkönyv több, azonos típusú tételre is vonatkozhat (csoportos tanúsítvány vagy csoportos jegyzőkönyv).

##### **1.8.7.4.3** A bizonyítványban legalább a következőket kell feltüntetni:

- a) az illetékes szervezet nevét és székhelyét;
- b) a gyártó nevét és székhelyét, és ha nem a gyártó a kérelmező, akkor a kérelmező nevét és székhelyét is;
- c) arra való utalást, hogy az üzembe helyezés előtti vizsgálat során a RID melyik változatát és mely szabványokat alkalmazták;
- d) a vizsgálatok eredményét;
- e) a vizsgált termék(ek) azonosításához szükséges adatokat, de legalább a sorozatszámot, ill. nem újratölthető palackoknál a gyártási tétel számát, és
- f) a típusjóváhagyás számát.

#### **1.8.7.5** *Időszakos és soronkívüli vizsgálatok*

Az illetékes szervezetnek:

- a) el kell végeznie az azonosítást és ellenőriznie kell a dokumentációnak való megfelelőséget;

- b) végre kell hajtania a vizsgálatokat és jelen kell lennie a próbáknál, hogy ellenőrizze, hogy a követelményeket betartották;
- c) a vizsgálatokról és a próbákról jegyzőkönyvet kell kiállítania, a jegyzőkönyv több tételre is vonatkozhat; és
- d) biztosítania kell, hogy az előírt jelölést felvigyék.

#### **1.8.7.6** *A kérelmező üzemi vizsgálóhelyének felügyelete*

##### **1.8.7.6.1** A kérelmezőnek

- a) az üzemi vizsgálóhelyet az 1.8.7.7.5 pont szerint dokumentált, a vizsgálatokra vonatkozó minőségbiztosítási rendszer szerint kell kialakítani és felügyelni;
- b) teljesítenie kell a jóváhagyott minőségbiztosítási rendszerből eredő kötelezettségeit, és biztosítani kell, hogy a minőségbiztosítási rendszer megfelelő és hatékony maradjon;
- c) az üzemi vizsgálatra képzett és hozzáértő személyzetet kell kijelölnie;
- d) ahol szükséges, el kell helyeznie a vizsgáló szervezet jelét.

##### **1.8.7.6.2** A vizsgáló szervezetnek kezdeti auditálást kell végeznie, és ha ez kielégítő, legfeljebb három évig tartó időszakra szóló engedélyt kell kiadnia. Ennek során a következő előírásokat kell betartani:

- a) az audittal igazolni kell, hogy a termék vizsgálata a RID követelményei szerint történik;
- b) a vizsgáló szervezet felhatalmazhatja a kérelmező üzemi vizsgálóhelyét, hogy a vizsgáló szervezet jelét elhelyezze minden ellenőrzött termékre;
- c) az engedély a lejáta előtti utolsó évben végzett, kielégítő eredménnyel járó audit után megújítható. Az új érvényességi időszak az előző engedély lejárataól számít;
- d) a vizsgáló szervezet auditorainak kellő szakértelemmel kell rendelkezniük ahhoz, hogy elvégezzék azon termékek megfelelőség-értékelését, amelyre a minőségbiztosítási rendszer kiterjed.

##### **1.8.7.6.3** Az engedély érvényességi ideje alatt a vizsgáló szervezetnek időszakos felülvizsgálatokat kell tartania, hogy megbizonyosodjék, hogy a kérelmező továbbra is fenntartja és alkalmazza a minőségbiztosítási rendszert. Ennek során a következő előírásokat kell betartani:

- a) egy 12 hónapos időszakon belül legalább két felülvizsgálatot kell tartani;
- b) a vizsgáló szervezet további szemléket, képzést, műszaki változtatásokat, vagy a minőségbiztosítási rendszer módosítását írhatja elő, ill. a kérelmező által végezhető vizsgálatok körét korlátozhatja vagy megtilthatja.
- c) a vizsgáló szervezetnek a minőségbiztosítási rendszerben bekövetkezett minden változást értékelnie kell, és meg kell vizsgálnia, hogy a megváltozott minőségbiztosítási rendszer megfelel-e a kezdeti audit követelményeinek vagy teljes újraértékelés szükséges;
- d) a vizsgáló szervezet auditorainak kellő szakértelemmel kell rendelkezniük ahhoz, hogy elvégezzék azon termékek megfelelőség-értékelését, amelyre a minőségbiztosítási rendszer kiterjed; és
- e) a vizsgáló szervezetnek a szemléről, ill. felülvizsgálatról, és ha próbákat végeztek, azok eredményéről jegyzőkönyvet kell készítenie a kérelmező számára.

**1.8.7.6.4** A vizsgáló szervezetnek gondoskodnia kell arról, hogy amennyiben a vonatkozó követelményeknek nem felelnek meg, a kijavításhoz szükséges intézkedések megtörténjenek. Ha a kijavításhoz szükséges intézkedések mégsem történnek meg kellő időben, az üzemi vizsgálóhely tevékenységére vonatkozó engedélyt a vizsgáló szervezet visszavonhatja vagy felfüggesztheti. A visszavonásról, ill. felfüggesztésről értesíteni kell az illetékes hatóságot. A vizsgáló szervezet döntésének részletes indokait a kérelmező számára jegyzőkönyvbe kell foglalni.

**1.8.7.7** *Dokumentáció*

A műszaki dokumentációnak alkalmasnak kell lennie arra, hogy belőle a vonatkozó követelményeknek való megfelelés megállapítható legyen.

**1.8.7.7.1** *A típusjóváhagyáshoz szükséges dokumentumok*

A kérelmezőnek – értelemszerűen – a következő dokumentumokat kell rendelkezésre bocsátania:

- a) a tervezésnél és a gyártásnál alkalmazott szabványok jegyzékét;
- b) a típus és a típusvariánsok leírását ;
- c) a 3.2 fejezet „A” táblázat vonatkozó oszlopában található utasításokat vagy a csak bizonyos anyagok szállítására szolgáló termékeknek az anyagok felsorolását ;
- d) az általános összeállítási rajzo(ka)t;
- e) a megfelelés-értékeléséhez szükséges részletrajzokat, amelyeken fel vannak tüntetve a számításokhoz használt méretek, a szerkezeti és az üzemi szerelvények, a jelölések és/vagy bárcák;
- f) a számításokat, az eredményeket és következtetéseket;
- g) az üzemi szerelvények jegyzékét a műszaki adataikkal, a biztonsági szerkezetekre vonatkozó információt a lefúvási teljesítmény számításával;
- h) a szabványok által a szerkezeti elemek, azok részei, a bevonatok, burkolatok, a szerkezeti és az üzemi szerelvények gyártásához előírt anyagok jegyzékét, a megfelelő anyagspecifikációkat vagy a RID-nek való megfelelést igazoló nyilatkozatot;
- i) az állandó kötések kialakítására szolgáló jóváhagyott eljárásokat;
- j) a hőkezelési eljárás(ok) leírását; és
- k) a típusjóváhagyásra és a gyártásra a szabványokban, ill. a RID-ben felsorolt minden vonatkozó vizsgálat végrehajtásának módját, leírását és jegyzőkönyveit.

**1.8.7.7.2** *A gyártás felügyeletéhez szükséges dokumentumok*

A kérelmezőnek – értelemszerűen – a következő dokumentumokat kell rendelkezésre bocsátania:

- a) az 1.8.7.7.1 pontban felsorolt dokumentumokat;
- b) a gyártási és a vizsgálati eljárások dokumentációját;
- c) a gyártási naplót;
- d) állandó kötések kivitelező alkalmazottak jogosultságát;

- e) a roncsolásmentes vizsgálatokat végző alkalmazottak jogosultságát;
- f) a roncsolásos és a roncsolásmentes vizsgálatok jegyzőkönyveit;
- g) a hőkezelési eljárások jegyzőkönyveit; és
- h) a hitelesítési jegyzőkönyveket.

**1.8.7.7.3** *Az üzembe helyezés előtti vizsgálatokhoz szükséges dokumentumok*

A kérelmezőnek – értelemszerűen – a következők dokumentumokat kell rendelkezésre bocsátania:

- a) az 1.8.7.7.1 és az 1.8.7.7.2 pontban felsorolt dokumentumokat;
- b) a termék és alkatrészeinek anyagbizonylatait;
- c) az üzemi szerelvények anyagbizonylatait és a megfelelőségi nyilatkozatokat;
- d) megfelelőségi nyilatkozatot, beleértve a termék és a típusbizonyítványban szereplő típusvariánsok leírását.

**1.8.7.7.4** *Az időszakos és a soron kívüli vizsgálatokhoz szükséges dokumentumok*

A kérelmezőnek – értelemszerűen – a következők dokumentumokat kell rendelkezésre bocsátania:

- a) nyomástartó tartályoknál, ha a gyártásra és az időszakos vizsgálatokra vonatkozó szabványok előírják, a különleges követelményekre vonatkozó dokumentációt;
- b) tartályoknál:
  - i) tartály-vizsgálati könyvet (gépkönyvet); és
  - ii) az 1.8.7.7.1 – 1.8.7.7.3 pontban említett, egy vagy több dokumentumot.

**1.8.7.7.5** *Az üzemi vizsgálóhely értékeléséhez szükséges dokumentumok*

Az üzemi vizsgálóhely kérelmezőjének a – értelemszerűen – a minőségbiztosítási rendszer következő dokumentumait kell rendelkezésre bocsátania:

- a) a szervezeti felépítést és a felelőségek megoszlását;
- b) a vizsgálatokra, a minőségellenőrzésre, a minőségbiztosításra és a munkafolyamatokra vonatkozó, megfelelő utasításokat, és a rendszeresen végzendő tevékenységeket;
- c) a minőségügyi nyilvántartást, pl. a vizsgálati jegyzőkönyveket, a vizsgálati eredményeket és hitelesítési adatokat, ill. tanúsítványokat;
- d) a vezetői felülvizsgálatokat az 1.8.7.6 bekezdés szerinti auditálás alapján a minőségbiztosítási rendszer hatékony működésének biztosításához;
- e) a vevők igényeinek kielégítését és a jogszabályok követelményeinek betartását szolgáló eljárások leírását;
- f) a dokumentáció ellenőrzési és karbantartási eljárását,
- g) nem megfelelő termékekkel kapcsolatos eljárást;
- h) az érintett személyekre vonatkozó képzési programot és minősítési eljárást.

**1.8.7.8*****A szabvány szerint gyártott, jóváhagyott és vizsgált termékek***

Az 1.8.7.7 bekezdés követelményei a következő szabványok alkalmazása esetén teljesítettnek tekinthetők.

<b>A vonatkozó bekezdés, ill. pont</b>	<b>Hivatkozás</b>	<b>A dokumentum címe</b>
1.8.7.7.1 – 1.8.7.7.4	EN 12972:2007	Veszélyes anyagok szállítótartályai. A fém szállítótartályok vizsgálata, ellenőrzése és megjelölése

## 1.9 fejezet

### A fuvarozás korlátozása az illetékes hatóságok által

**1.9.1** Bármely Tagállam a veszélyes áruk területén történő nemzetközi vasúti fuvarozására kiegészítő előírásokat hozhat olyan kérdésekben, amelyekről a RID nem rendelkezik, feltéve, hogy ezek a kiegészítő előírások

- összhangban vannak az 1.9.2 szakasz előírásaival;
- nem állnak ellentétben az 1.1.2 b) bekezdés előírásaival;
- a Tagállam belföldi jogrendjének részét képezik, és egyaránt érvényesek a veszélyes áruknak a Tagállam területén történő belföldi vasúti fuvarozására is;
- nem tiltják a hatályuk alá tartozó veszélyes áruk vasúti fuvarozását a Tagállam teljes területén.

**1.9.2** Az 1.9.1 szakasz hatálya alá eső kiegészítő előírások a következők:

- a) kiegészítő biztonsági követelmények vagy a biztonságot szolgáló korlátozások olyan fuvarozásokra,
  - amelyek során bizonyos építményeket, pl. hidakat vagy alagutakat<sup>15)</sup> használnak;
  - amelyek során kombinált fuvarozási eszközöket, pl. átrakóberendezéseket használnak; vagy
  - amelyek kikötőkben, pályaudvarokon vagy más közlekedési terminálokon kezdődnek vagy végződnek;
- b) olyan előírások, amelyek meghatározott veszélyes áruk fuvarozását a különleges és helyi kockázattal járó vonalszakaszokon, pl. a lakott területeken, környezetvédelmi szempontból érzékeny területeken, kereskedelmi központokon, veszélyes berendezéseket tartalmazó ipari övezeteken áthaladó szakaszokon tiltják vagy különleges feltételek, pl. vasútiüzemi intézkedések (sebességkorlátozás, meghatározott fuvarozási időszak, találkozási tilalom stb.) betartásához kötik. Az illetékes hatóságnak – amennyiben lehetséges – meg kell határoznia azokat a vonalakat, amelyek a tiltott vagy csak különleges feltételek betartásával használható vonalszakaszok helyett használhatók;
- c) kizárt vagy előírt vonalszakaszokat meghatározó különleges előírások, ill. a szélsőséges időjárási viszonyok, földrengés, baleset, sztrájk, állampolgári zavargások vagy háborús cselekmények miatti átmeneti várakozások esetén betartandó előírások.

**1.9.3** Az 1.9.2 a) és b) bekezdés szerinti kiegészítő előírások alkalmazása feltételezi, hogy az illetékes hatóság az intézkedések szükségességét bizonyítja<sup>16)</sup>.

**1.9.4** Azon Tagállam illetékes hatóságának, amely a területén az 1.9.2 a) és b) bekezdés szerinti kiegészítő előírásokat alkalmaz, ezekről az előírásokról előzetesen értesítenie kell az OTIF Titkárságát, hogy az a Tagállamok tudomására hozhassa.

15) Csatorna Alagúton, ill. hasonló adottságokkal rendelkező egyéb alagutakon keresztüli fuvarozásra lásd a Tanács veszélyes áruk vasúti fuvarozására vonatkozó 96/49/EK Irányelve (az EK Hivatalos Lapja, L 235. szám, 1996.09.17., 25. o.) 5 cikkének 2 a) és b) bekezdését.

16) Iránymutatóként használható a RID Szakértő Bizottság 2005. november 24-i ülésén jóváhagyott „The Generic Guideline for the Calculation of Risk inherent in the Carriage of Dangerous Goods by Rail” (Általános Útmutató a veszélyes áruk vasúti szállításában rejlő kockázatok elemzéséhez), mely elérhető az OTIF weboldalán ([www.otif.org](http://www.otif.org)).



**1.9.5**

A Tagállamok – függetlenül az előző szakaszok előírásaitól – a veszélyes áruk nemzetközi vasúti fuvarozására különleges biztonsági előírásokat is hozhatnak, amennyiben a szóbanforgó kérdést a RID nem szabályozza; különösen:

- a vasúti forgalomra;
- a fuvarozott veszélyes árukra vonatkozó adatok kezelésére;
- a szállítási tevékenységekkel kapcsolatos vasútüzemi szabályokra, pl. kocsirendezésre vagy kocsi félreállításra;

feltéve, hogy ezek az előírások a Tagállam belföldi jogrendjének részét képezik, és egyaránt érvényesek a veszélyes árukra a Tagállam területén történő belföldi vasúti fuvarozására is.

Ezek a különleges előírások azonban nem vonatkozhatnak a RID hatálya alá tartozó területekre, és különösen nem az 1.1.2 a) és 1.1.2 b) bekezdésben meghatározottakra.

## 1.10 fejezet

### Közbiztonsági előírások

**Megjegyzés:** E fejezet alkalmazásában a „közbiztonság” alatt értendők azok a rendszabályok és óvintézkedések, amelyek célja, hogy a lehető legkevesebbre csökkentsék a veszélyes áruk eltulajdonítását, ill. a velük való visszaéléseket, amelyek az embereket, az anyagi javakat vagy a környezetet veszélyeztetik.

#### 1.10.1 Általános előírások

**1.10.1.1** Mindenkinnek, aki a veszélyes áru szállításával kapcsolatba kerül, felelősségéhez mérten figyelembe kell vennie az ebben a fejezetben meghatározott közbiztonsági követelményeket.

**1.10.1.2** Veszélyes áru szállításával csak megfelelően azonosított fuvarozó bízható meg.

**1.10.1.3** Az átmeneti tárolóhelyeken, ill. terminálokon, jármű telephelyeken, kikötőkön és rendezőpályaudvarokon belül a veszélyes áruk szállítása során átmeneti tárolásra használt területeket megfelelően biztosítani kell, jól meg kell világítani és ha lehetséges és indokolt, az illetéktelenek elől el kell zárni.

**1.10.1.4** A veszélyes árut szállító vonat személyzetének a szállítás alatt fényképes személyazonosító okmányt kell magánál tartania.

**1.10.1.5** Az 1.8.1 szakasz szerinti biztonsági ellenőrzéseknek ki kell terjedniük a megfelelő közbiztonsági intézkedésekre is.

#### 1.10.2 Közbiztonsági képzés

**1.10.2.1** Az 1.3 fejezetben meghatározott képzésnek és ismeretfelújító oktatásnak a közbiztonsági szempontok tudatosítására is ki kell terjedniük. A közbiztonsággal kapcsolatos ismeretfelújító oktatást nem kell feltétlenül a szabályozásban bekövetkezett változások oktatásával összekapcsolni.

**1.10.2.2** A közbiztonsági szempontok tudatosítása során foglalkozni kell a közbiztonsági kockázat jellegével, a közbiztonsági kockázat felismerésével, a kockázatkezelés és -csökkentés módszereivel és a közbiztonság megsértése esetén teendő intézkedésekkel. Ha közbiztonsági terv szükséges, foglalkozni kell annak tudatosításával is, a résztvevők felelősségének és feladatainak, ill. a közbiztonsági terv végrehajtásában való részvételüknek arányában.

#### 1.10.3 A nagy közbiztonsági kockázattal járó veszélyes árukra vonatkozó előírások

**1.10.3.1** „Nagy közbiztonsági kockázattal járó veszélyes áruk” azok, amelyekkel terrorista cselekmények során vissza lehet élni, ami súlyos következményekkel járhat, pl. tömeges balesetet vagy tömegpusztítást idézhet elő. A nagy közbiztonsági kockázattal járó veszélyes árukat az 1.10.5 táblázat sorolja fel.

#### 1.10.3.2 Közbiztonsági terv

**1.10.3.2.1** A nagy közbiztonsági kockázattal járó áruk (lásd az 1.10.5 táblázatot) szállításában részt vevő, az 1.4.2 és az 1.4.3 szakaszban meghatározott szállítóknak, fuvarozóknak, feladóknak

és többi résztvevőnek olyan közbiztonsági tervet kell készíteniük, bevezetniük és annak megfelelően eljárniuk, amely legalább az 1.10.3.2.2 pontban meghatározott elemeket tartalmazza.

**1.10.3.2.2** A közbiztonsági tervnek legalább a következő elemekből kell állnia:

- a) a közbiztonsági rendszabályokért és óvintézkedésekért viselt felelősség részletes megosztása megfelelő hatáskörrel és képesítéssel rendelkező személyek között;
- b) az érintett veszélyes áruk, ill. veszélyes áru fajták nyilvántartása;
- c) a folyamatban levő tevékenységek felülvizsgálata és a közbiztonsági kockázat értékelése, beleértve a szállítási műveletek szükség szerinti megszakítását, a veszélyes áruk vasúti kocsiban, tartányban vagy konténerben tartását a szállítás előtt, alatt és után, ill. a veszélyes áruk átmeneti tárolását az intermodális szállítás vagy az egységek közötti átrakás során;
- d) a résztvevők felelősségével és feladatával arányban álló intézkedések egyértelmű meghatározása, amelyeket a közbiztonsági kockázat csökkentéséhez meg kell tenni, beleértve:
  - a képzést;
  - a közbiztonsági eljárásokat (pl. teendők súlyos fenyegetettség esetén; új, ill. áthelyezett alkalmazottak ellenőrzése stb.);
  - az üzemi eljárásokat [pl. útvonalak kiválasztása/használata, ahol ismeretes; hozzáférés a veszélyes árukhoz az átmeneti tárolóhelyeken (mint azt a c) pont meghatározza); érzékeny infrastruktúra közelsége stb.];
  - a közbiztonsági kockázat csökkentéséhez használandó eszközöket és forrásokat;
- e) hatékony, naprakész eljárások a közbiztonsági fenyegetettség, a közbiztonság megsértése, ill. a közbiztonságot érintő rendkívüli események kezelésére és jelentésére;
- f) a közbiztonsági terv értékelésére, ellenőrzésére, valamint a rendszeres felülvizsgálatára és korszerűsítésére vonatkozó eljárás;
- g) a közbiztonsági tervben szereplő szállítási információk fizikai védelmének biztosítására szolgáló intézkedések;
- h) intézkedések annak biztosítására, hogy a közbiztonsági tervben szereplő szállítási információkhoz csak az érdekeltek juthassanak hozzá. Ezek az intézkedések azonban nem akadályozhatják a RID-ben máshol előírt információk megadását.

**Megjegyzés:** *A fuvarozónak, a feladónak és a címzettnek együtt kell működniük egymással és az illetékes hatóságokkal\* a fenyegetésre vonatkozó információk kicserélésében, a megfelelő közbiztonsági intézkedések alkalmazásában és a közbiztonságot érintő rendkívüli események kezelésében.*

**1.10.3.3** Olyan készüléket, berendezést kell alkalmazni, ill. olyan intézkedést kell foganatosítani, amely megakadályozza, hogy a nagy közbiztonsági kockázattal járó veszélyes árut (lásd az 1.10.5 táblázatot) szállító vonatot, kocsit, ill. rakományát eltulajdonítsák, és biztosítani kell, hogy ezek az eszközök mindig jól működjenek. Az óvintézkedések azonban nem akadályozhatják a vészhelyzet elhárítását.

\* Magyarországon lásd a 62/2007. (XII. 23.) IRM rendeletet.

**Megjegyzés:** *A nagy közbiztonsági kockázattal járó veszélyes áruk (lásd az 1.10.5 táblázatot) mozgásának ellenőrzésére a közlekedési telemetriai vagy egyéb nyomkövető módszereket kell alkalmazni, amennyiben arra alkalmasak és a hozzá szükséges eszközök rendelkezésre állnak, ill. fel vannak szerelve.*

- 1.10.4** Nem kell betartani az 1.10.1, az 1.10.2 és az 1.10.3 szakasz követelményeit, ha a küldeménydarabokban szállított mennyiség vasúti kocsinként, ill. nagykonténerenként nem haladja meg az 1.1.3.6.3 pontban meghatározott mennyiséget, kivéve az 1. osztály 1.4 alosztályába tartozó, UN 0104, 0237, 0255, 0267, 0289, 0361, 0365, 0366, 0440, 0441, 0455, 0456 és 0500 számú tárgyakat. Ezen kívül az 1.10.1, az 1.10.2 és az 1.10.3 szakasz követelményeit akkor sem kell betartani, ha az előző mondatban említett kocsinkénti/konténerenkénti mennyiséget tartányban vagy ömlesztve szállítják.
- 1.10.5** A következő táblázatban felsorolt és a megadottnál nagyobb mennyiségben szállított áruk nagy közbiztonsági kockázattal járó árunak minősülnek.

1.10.5 táblázat: A nagy közbiztonsági kockázattal járó veszélyes áruk felsorolása

Osz- tály	Alosz- tály	Anyag vagy tárgy	Mennyiség		
			Tartányban (l) <sup>c)</sup>	Ömlesztve (kg) <sup>d)</sup>	Küldemény- darabban (kg)
1	1.1	Robbanóanyagok és -tárgyak	a)	a)	0
	1.2	Robbanóanyagok és -tárgyak	a)	a)	0
	1.3	C összeférhetőségi csoportba tartozó robbanóanyagok és -tárgyak	a)	a)	0
	1.4	UN 0104, 0237, 0255, 0267, 0289, 0361, 0365, 0366, 0440, 0441, 0455, 0456 és 0500 alá tartozó robbanótárgyak	a)	a)	0
	1.5	Robbanóanyagok	0	a)	0
2		Gyúlékony gázok (a csak F betűt tartalmazó osztályozási kódok)	3000	a)	b)
		Mérgező gázok (T, TF, TC, TO, TFC vagy TOC betű(ke)t tartalmazó osztályozási kódok), az aeroszolok kivételével	0	a)	0
3		I és II csomagolási csoportba tartozó gyúlékony folyékony anyagok	3000	a)	b)
		Érzéketlenített robbanóanyagok	0	a)	0
4.1		Érzéketlenített robbanóanyagok	a)	a)	0
4.2		I csomagolási csoportba tartozó anyagok	3000	a)	b)
4.3		I csomagolási csoportba tartozó anyagok	3000	a)	b)
5.1		I csomagolási csoportba tartozó, gyújtó hatású, folyékony anyagok	3000	a)	b)
		Perklorátok, ammónium-nitrát, ammónium-nitrát műtrágyák és ammónium-nitrát emulziók, szuszpenziók vagy gélek	3000	3000	b)
6.1		I csomagolási csoportba tartozó mérgező anyagok	0	a)	0
6.2		„A” kategóriába tartozó fertőző anyagok (UN 2814 és 2900)	a)	0	0
7		Radioaktív anyagok	3000A <sub>1</sub> (különleges formájú), ill. 3000A <sub>2</sub> aktivitás B(U), B(M) vagy C típusú küldeménydarabban		
8		I csomagolási csoportba tartozó maró anyagok	3000	a)	b)

a) Tárgytalan.

b) Az 1.10.3 szakasz előírásait nem kell alkalmazni, akármennyi is a szállított mennyiség.

c) Az ebben az oszlopban megadott értékeket csak akkor kell alkalmazni, ha a 3.2 fejezet „A” táblázat 10 vagy 12 oszlopa szerint a tartányban való szállítás megengedett. Azokra az anyagokra vonatkozóan, amelyek tartányban való szállítása nem megengedett, ezen oszlop utasítása tárgytalan.

d) Az ebben az oszlopban megadott értékeket csak akkor kell alkalmazni, ha a 3.2 fejezet „A” táblázat 10 vagy 17 oszlopa szerint az ömlesztett szállítás megengedett. Azokra az anyagokra vonatkozóan, amelyek ömlesztett szállítása nem megengedett, ezen oszlop utasítása tárgytalan.

- 1.10.6**      Radioaktív anyagok esetén e fejezet előírásai teljesítettnek tekinthetők, ha betartják a Nukleáris anyagok fizikai védelméről szóló Egyezmény\*, valamint az IAEA INFCIRC/225(Rev.4) kiadvány előírásait.

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\*      Magyarországon kihirdette az 1987. évi 8. tvr.

## **1.11 fejezet**

### **Belső veszélyelhárítási terv rendezőpályaudvarokra**

A veszélyes áruk szállításához a rendezőpályaudvarokon belső veszélyelhárítási tervet kell készíteni.

A veszélyelhárítási terv célja, hogy a rendezőpályaudvarokon baleset vagy rendkívüli esemény alkalmával a résztvevők megfelelően működjenek együtt és a baleset vagy rendkívüli esemény emberekre vagy a környezetre gyakorolt hatása lehetőleg kis mértékű maradjon.

Ezen fejezet előírásai az UIC 201 Döntvény<sup>17)</sup> (Veszélyes áru szállítás – Útmutató a rendezőpályaudvarok veszélyelhárítási terve készítésére) alkalmazása esetén teljesítettnek tekinthetők.

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17) A 2003. március 1-i kiadás.

## **2. Rész**

### **Osztályozás**



## 2.1 fejezet

### Általános előírások

#### 2.1.1 Bevezetés

##### 2.1.1.1 A RID szerint a veszélyes áruk osztályai a következők:

1 osztály	Robbanóanyagok és -tárgyak
2 osztály	Gázok
3 osztály	Gyúlékony folyékony anyagok
4.1 osztály	Gyúlékony szilárd anyagok, önreaktív anyagok és érzéketlenített, szilárd robbanóanyagok
4.2 osztály	Öngyulladásra hajlamos anyagok
4.3 osztály	Vízzel érintkezve gyúlékony gázokat fejlesztő anyagok
5.1 osztály	Gyújtó hatású (oxidáló) anyagok
5.2 osztály	Szerves peroxidok
6.1 osztály	Mérgező anyagok
6.2 osztály	Fertőző anyagok
7 osztály	Radioaktív anyagok
8 osztály	Maró anyagok
9 osztály	Különféle veszélyes anyagok és tárgyak.

##### 2.1.1.2 Az osztályokban minden tételhez UN szám van hozzárendelve. A következő tétel típusok használatosak:

- A. Egyedi tételek: egy-egy pontosan meghatározott anyagra vagy tárgyra vonatkozó tételek, beleértve az olyan tételeket is, amelyek egy anyag izomerjeire vonatkoznak, pl.:
- UN 1090 ACETON  
UN 1104 AMIL-ACETÁTOK  
UN 1194 ETIL-NITRIT OLDAT
- B. Generikus tételek: anyagok vagy tárgyak pontosan meghatározott csoportjára vonatkozó tételek, amelyek azonban nem m.n.n. tételek, pl.:
- UN 1133 RAGASZTÓK  
UN 1266 PARFÜM KÉSZÍTMÉNYEK  
UN 2757 SZILÁRD, MÉRGEZŐ KARBAMÁT PESZTICID  
UN 3101 B TÍPUSÚ, FOLYÉKONY SZERVES PEROXID
- C. Speciális m.n.n. tételek: meghatározott kémiai vagy műszaki tulajdonságokkal bíró, „másként meg nem nevezett” anyagok vagy tárgyak csoportjára vonatkozó tételek, pl.:
- UN 1477 SZERVETLEN NITRÁTOK, M.N.N.  
UN 1987 ALKOHOLOK, M.N.N.
- D. Általános m.n.n. tételek: egy vagy több veszélyes tulajdonsággal bíró, „másként meg nem nevezett” anyagok vagy tárgyak csoportjára vonatkozó tételek, pl.:
- UN 1325 GYÚLÉKONY, SZERVES, SZILÁRD ANYAG, M.N.N.

## UN 1993 GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.

A B., a C. és a D. pontban meghatározott tételeket gyűjtőmegnevezésnek nevezzük.

**2.1.1.3** Csomagolási szempontból az anyagok – az 1, a 2, az 5.2, a 6.2 és a 7 osztály anyagai, valamint a 4.1 osztály önreaktív anyagai kivételével – az általuk képviselt veszély mértéke szerint csomagolási csoportokhoz vannak hozzárendelve:

- |                         |                                |
|-------------------------|--------------------------------|
| I csomagolási csoport   | – nagyon veszélyes anyagok;    |
| II csomagolási csoport  | – közepesen veszélyes anyagok; |
| III csomagolási csoport | – kevésbé veszélyes anyagok.   |

A csomagolási csoporto(ka)t, amely(ek)hez egy anyag hozzá van rendelve, a 3.2 fejezet „A” táblázata tartalmazza.

**2.1.2 Az osztályozás alapelvei**

**2.1.2.1** Az egyes osztályok fogalmkörébe tartozó anyagok meghatározása az adott osztály 2.2.x.1 bekezdése szerinti tulajdonságaikon alapul. A veszélyes áruk hozzárendelése valamely osztályhoz és csomagolási csoporthoz az ugyanezen 2.2.x.1 bekezdésben szereplő kritériumok alapján történik. Egy vagy több járulékos veszély hozzárendelése a veszélyes anyagokhoz és tárgyakhoz az ezen veszélyeknek megfelelő osztály vagy osztályok 2.2.x.1 bekezdésében található kritériumai alapján történik.

**2.1.2.2** Minden veszélyes áru tétel a 3.2 fejezet „A” táblázatában van felsorolva az UN számok sorrendjében. Ez a táblázat tartalmazza a felsorolt árukra vonatkozó, lényeges információkat, így a megnevezést, az osztályt, a csomagolási csoporto(ka)t, a szükséges veszélyességi bárcá(ka)t, a csomagolási és szállítási előírásokat.

***Megjegyzés:** A tételek betűrendes jegyzékét a 3.2 fejezet „B” táblázata tartalmazza.*

**2.1.2.3** Az egyes osztályok 2.2.x.2 bekezdésében felsorolt vagy meghatározott veszélyes áruk a fuvarozásból ki vannak zárva.

**2.1.2.4** A név szerint nem említett árukat, vagyis azokat, amelyek sem egyedi tételként nem szerepelnek a 3.2 fejezet „A” táblázatában, sem az előzőekben említett 2.2.x.2 bekezdésekben nincsenek felsorolva vagy meghatározva, a 2.1.3 szakaszban lévő eljárás szerint kell a megfelelő osztályba sorolni. Ezen kívül meg kell határozni az esetleges járulékos veszélyt, illetve a csomagolási csoportot. Az osztály és az esetleges járulékos veszély, illetve csomagolási csoport eldöntése után a megfelelő UN számot kell meghatározni. A megfelelő gyűjtőmegnevezés (UN szám) kiválasztásának paramétereit az osztályok végén, a 2.2.x.3 bekezdésekben levő döntési fák (gyűjtőmegnevezések felsorolása) jelzik. Az anyag vagy tárgy tulajdonságait lefedő gyűjtőmegnevezések közül minden esetben a legjellegzetesebbet kell választani a 2.1.1.2 bekezdés B., C. és D. pontja szerinti rangsor alapján. Akkor és csak akkor sorolható egy anyag vagy tárgy a 2.1.1.2 bekezdés szerinti valamely D. típusú tételhez, ha sem B., sem C. típusú tételhez nem sorolható.

**2.1.2.5** A 2.3 fejezet vizsgálati eljárásai és az osztályok 2.2.x.1 bekezdésében meghatározott kritériumok alapján – amennyiben ezek között szerepel ez a lehetőség – az is megállapítható, hogy egyes osztályokban valamely anyag, keverék vagy oldat nem rendelkezik az adott osztály kritériumaival, annak ellenére, hogy a 3.2 fejezet „A” táblázatában név szerint szerepel. Ilyen esetben ez az anyag, keverék vagy oldat nem tekintendő az adott osztályhoz tartozónak.

**2.1.2.6** A besorolás szempontjából a 101,3 kPa nyomáson 20 °C vagy ez alatti olvadáspontú vagy olvadás kezdőpontú anyagokat kell folyékonyknak tekinteni. Azokat a viszkózus anyagokat,

amelyeknél határozott olvadáspont nem állapítható meg, az ASTM D 4359-90 szabvány szerinti vizsgálati eljárásnak vagy a 2.3.4 szakaszban leírt folyékonyság meghatározási vizsgálatnak (penetrométer eljárásnak) kell alávetni.

**2.1.3      A név szerint nem említett anyagok, oldatok és keverékek (készítmények és hulladékok) besorolása**

**2.1.3.1**      A név szerint nem említett anyagokat, oldatokat és keverékeket az egyes osztályok 2.2.x.1 bekezdésében található kritériumok alapján, az általuk képviselt veszély mértéke szerint kell besorolni. Az anyag által képviselt veszély(eke)t annak fizikai, kémiai jellemzői és fiziológiai tulajdonságai alapján kell meghatározni. Ezeket a jellemzőket és tulajdonságokat kell akkor is figyelembe venni, ha a tapasztalatok szigorúbb hozzárendeléshez vezetnek.

**2.1.3.2**      Azokat az anyagokat, amelyek nincsenek a 3.2 fejezet „A” táblázatában név szerint feltüntetve és csak egyetlen veszélyt képviselnek, a megfelelő osztályba, az adott osztály 2.2.x.3 bekezdésében felsorolt valamely gyűjtőmegnevezés alá kell besorolni.

**2.1.3.3**      Azokat az oldatokat vagy keverékeket, amelyek valamely, a 3.2 fejezet „A” táblázatában név szerint felsorolt veszélyes anyagot egy vagy több nem veszélyes anyaggal együtt tartalmazznak, mint a név szerint felsorolt veszélyes anyagokat kell tekinteni, kivéve, ha:

- a) az oldat vagy keverék név szerint fel van sorolva a 3.2 fejezet „A” táblázatában; vagy
- b) a veszélyes anyagra vonatkozó tételből egyértelműen kitűnik, hogy az csak a tiszta, vagy a technikailag tiszta anyagra alkalmazható; vagy
- c) az oldat vagy keverék osztálya, fizikai állapota vagy csomagolási csoportja különbözik a veszélyes anyagétól.

Az előző b) vagy c) bekezdésben hivatkozott esetekben az oldatot vagy a keveréket, a megfelelő osztályban név szerint nem említett anyagként, az adott osztály 2.2.x.3 bekezdésében felsorolt valamely gyűjtőmegnevezés alá kell besorolni, figyelembe véve az oldat vagy keverék által esetleg képviselt járulékos veszély(eke)t. Ha azonban az oldat vagy a keverék egyik osztály kritériumaival sem rendelkezik, akkor nem tartozik a RID hatálya alá.

**2.1.3.4**      A 2.1.3.4.1 és a 2.1.3.4.2 pontban említett tételek bármelyikének anyagát tartalmazó oldatokat és keverékeket e pontok előírásai szerint kell besorolni.

**2.1.3.4.1**      A következő, név szerint feltüntetett anyagok bármelyikét tartalmazó oldatokat és keverékeket ugyanazon tétel alá kell besorolni, mint ahová maga az anyag tartozik, kivéve, ha a 2.1.3.5.3 pontban említett tulajdonságokkal rendelkeznek:

– 3 osztály

UN 1921 PROPILÉN-IMIN, STABILIZÁLT;

UN 2481 ETIL-IZOCIANÁT;

UN 3064 NITROGLICERIN ALKOHOLOS OLDATBAN, 1%-nál több, de legfeljebb 5% nitroglicerinnel tartalommal

– 6.1 osztály

UN 1051 HIDROGÉN-CIANID, STABILIZÁLT, 3%-nál kevesebb víztartalommal;

UN 1185 ETILÉN-IMIN, STABILIZÁLT;

UN 1259 NIKKEL-TETRAKARBONIL;

UN 1613 HIDROGÉN-CIANID VIZES OLDAT (CIÁN-HIDROGÉNSAV VIZES OLDAT) legfeljebb 20% hidrogén-cianid tartalommal;

UN 1614 HIDROGÉN-CIANID, STABILIZÁLT, 3%-nál kevesebb víztartalommal és inert porózus anyagban abszorbeálva;  
UN 1994 VAS-PENTAKARBONIL;  
UN 2480 METIL-IZOCIANÁT;  
UN 3294 HIDROGÉN-CIANID ALKOHOLOS OLDAT legfeljebb 45% hidrogén-cianid tartalommal

– 8 osztály

UN 1052 HIDROGÉN-FLUORID, VÍZMENTES;  
UN 1744 BRÓM vagy UN 1744 BRÓM OLDAT;  
UN 1790 FLUOR-HIDROGÉNSAV 85%-nál több hidrogén-fluorid tartalommal;  
UN 2576 OLVASZTOTT FOSZFOR-OXI-BROMID

#### **2.1.3.4.2** A 9 osztályba tartozó

UN 2315 FOLYÉKONY POLIKLÓROZOTT BIFENILEK;  
UN 3151 FOLYÉKONY POLIHALOGÉNEZETT BIFENILEK;  
UN 3151 FOLYÉKONY POLIHALOGÉNEZETT TERFENILEK;  
UN 3152 SZILÁRD POLIHALOGÉNEZETT BIFENILEK  
UN 3152 SZILÁRD POLIHALOGÉNEZETT TERFENILEK; vagy  
UN 3432 SZILÁRD POLIKLÓROZOTT BIFENILEK

tételek bármelyikének anyagát tartalmazó oldatokat és keverékeket mindig a 9 osztály ugyanazon tétele alá kell besorolni, amennyiben:

- a 3, a 4.1, a 4.2, a 4.3, az 5.1, a 6.1, ill. a 8 osztály III csomagolási csoportjaiba tartozó anyagokon kívül további veszélyes alkotórészt nem tartalmaznak; és
- nem rendelkeznek a 2.1.3.5.3 pontban említett veszélyes tulajdonságokkal.

**2.1.3.5** Azokat az anyagokat, amelyek a 3.2 fejezet „A” táblázatában nincsenek név szerint feltüntetve, de egynél több veszélyes tulajdonsággal rendelkeznek, valamint azokat az oldatokat és keverékeket, amelyekben többféle veszélyes anyag van, a veszélyes tulajdonságaik alapján a megfelelő osztályba, valamely gyűjtőmegnevezéshez (lásd a 2.1.2.4 bekezdést) és csomagolási csoporthoz kell sorolni. A veszélyes tulajdonságokon alapuló besorolást a következő módon kell végrehajtani:

**2.1.3.5.1** A fizikai, kémiai jellemzőket és a fiziológiai tulajdonságokat méréssel vagy számítással kell meghatározni, az anyagot, oldatot vagy keveréket az egyes osztályok 2.2.x.1 bekezdésében meghatározott kritériumok szerint kell besorolni.

**2.1.3.5.2** Amennyiben ez a meghatározás aránytalanul nagy költséggel és munkaráfordítással járna (pl. bizonyos hulladékoknál), akkor az oldatokat és keverékeket a döntő veszélyt képviselő összetevő osztályába kell besorolni.

**2.1.3.5.3** Ha egy anyag, oldat vagy keverék veszélyességi jellemzője a következőkben felsorolt osztályok vagy anyagcsoportok közül egynél többnek is megfelel, akkor ezt az anyagot, oldatot vagy keveréket a döntő veszélynek megfelelő osztályba vagy anyagcsoportba kell besorolni, a következő elsőbbségi sorrend alapján:

- a) a 7 osztály anyagai (kivéve a radioaktív anyagokat engedményes küldemény-darabokban, ahol az egyéb veszélyességi tulajdonságok elsőbbséget élveznek);
- b) az 1 osztály anyagai;
- c) a 2 osztály anyagai;
- d) a 3 osztály érzéketlenített, folyékony robbanóanyagai;

- e) a 4.1 osztály önreaktív anyagai és érzéketlenített, szilárd robbanóanyagai;
- f) a 4.2 osztály piroforos anyagai;
- g) az 5.2 osztály anyagai;
- h) a 6.1 vagy a 3 osztály anyagai, amelyek belélegzési mérgezőképességük alapján az I csomagolási csoportba vannak sorolva [A 8 osztályba sorolás kritériumait kielégítő anyagokat, amennyiben por és köd belélegzési mérgezőképességük ( $LC_{50}$ ) az I csomagolási csoport tartományába esik, de lenyelés vagy bőrön át való felszívódás esetén a mérgezőképességük csak a III csomagolási csoport tartományába esik vagy annál kevésbé mérgezőek, a 8 osztályba kell sorolni.];
- i) a 6.2 osztály fertőző anyagai.

**2.1.3.5.4** Ha egy anyag veszélyes tulajdonságai az előző 2.1.3.5.3 pontban fel nem sorolt több osztályhoz vagy anyagcsoporthoz tartoznak, az anyagot ugyanilyen eljárással kell besorolni, de a megfelelő osztályt a 2.1.3.10 bekezdésben levő, a veszélyességi rangsort tartalmazó táblázat alapján kell megválasztani.

**2.1.3.5.5** Ha a szállítandó anyag olyan hulladék, melynek pontos összetétele nem ismert, a 2.1.3.5.2 pont szerint az UN tételhez és csomagolási csoporthoz való hozzárendelését a feladó ismeretei alapján rendelkezésre álló adatok (beleértve a hatályos biztonsági és környezetvédelmi jogszabályok<sup>1)</sup> által megkövetelt biztonsági és műszaki adatokat) alapján is el lehet végezni.

Kétség esetén a legnagyobb veszélyességi szintet kell alkalmazni.

Amennyiben a hulladék összetételére vonatkozó ismeretek és az azonosított összetevők fizikai és kémiai tulajdonságai alapján bizonyítható, hogy a hulladék tulajdonságai nem felelnek meg az I csomagolási csoportba való soroláshoz szükséges tulajdonságoknak, a hulladékot további vizsgálat nélkül a II csomagolási csoportba lehet sorolni, a legalkalmasabb m.n.n. tételen belül.

Ez az eljárás nem alkalmazható azokra a hulladékokra, amelyek a 2.1.3.5.3 pont alatt említett anyagokat, vagy a 4.3 osztály anyagait, vagy a 2.1.3.7 bekezdésben említett esetben szereplő anyagokat, vagy olyan anyagokat tartalmaznak, amelyek a 2.2.x.2 bekezdések szerint a szállításhoz ki vannak zárva.

**2.1.3.6** Mindig a legjellegzetesebb, ráillő gyűjtőmegnevezést (lásd a 2.1.2.4 bekezdést) kell használni, azaz általános m.n.n. tétel csak akkor használható, ha generikus tétel vagy speciális m.n.n. tétel nem használható.

**2.1.3.7** A gyűjtő hatású anyagok oldatai és keverékei, ill. a járulékos gyűjtőhatással bíró anyagok robbanásveszélyesek is lehetnek. Ebben az esetben csak akkor szállíthatók, ha megfelelnek az 1 osztály feltételeinek.

**2.1.3.8** Az UN 3077 és az UN 3082 tétel alá soroltak kivételével azokat az 1 – 9 osztályba tartozó anyagokat, amelyek megfelelnek a 2.2.9.1.10 pont kritériumainak, az 1 – 9 osztályra

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1) Ilyen jogszabályok például: a Bizottság 2000/532/EK határozata (2000. május 3.) a hulladékjegyzéknek a hulladékokról szóló 75/442/EGK tanácsi irányelv [felváltotta a 2006/12/EK parlamenti és tanácsi irányelv (az EK Hivatalos Lapja L 114 szám, 2006. 04. 27., 9. oldal)] 1. cikkének a) pontja értelmében történő meghatározásáról szóló 94/3/EK határozat, valamint a veszélyes hulladékok jegyzékének a veszélyes hulladékokról szóló 91/689/EGK tanácsi irányelv 1. cikkének (4) bekezdése értelmében történő meghatározásáról szóló 94/904/EK tanácsi határozat felváltásáról (az EK Hivatalos Lapja, L 226 szám, 2000. 09. 06., 3. o.). Magyarországon lásd még 2000. évi XLIII. tv-t a hulladékgazdálkodásról és a 16/2001. (VII. 18.) KöM rendeletet a hulladékok jegyzékéről.

jellemző veszélyeken túlmenően környezetre veszélyesnek is kell tekinteni. A többi olyan anyagot, amely megfelel a 2.2.9.1.10 pont kritériumainak, az UN 3077, ill. az UN 3082 tétel alá kell sorolni.

**2.1.3.9**

A Veszélyes hulladékok országhatárokat átlépő szállításának ellenőrzéséről és ártalmatlanításáról szóló Bázeli Egyezmény\* hatálya alá tartozó azon hulladékok is szállíthatók az UN 3077, ill. az UN 3082 tétel alatt, amelyek nem felelnek meg az 1 – 9 osztályba sorolás kritériumainak.

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\* Magyarországon kihirdette a 101/1996.(VII.12.) Korm. rendelet.

2.1.3.10 Veszélyességi rangsor táblázat																		
Osztály és csomagolási csoport	4.1, II	4.1, III	4.2, II	4.2, III	4.3, I	4.3, II	4.3, III	5.1, I	5.1, II	5.1, III	6.1, I Dermal.	6.1, I Oral.	6.1, II	6.1, III	8, I	8, II	8, III	9
3, I	Szil.:4.1 Foly.:3. I	Szil.:4.1 Foly.:3. I	Szil.:4.2 Foly.:3. I	Szil.:4.2 Foly.:3. I	4.3, I	4.3, I	4.3, I	Szil.:5.1, I Foly.:3. I	Szil.:5.1, I Foly.:3. I	Szil.:5.1, I Foly.:3. I	3, I	3, I	3, I	3, I	3, I	3, I	3, I	3, I
3, II	Szil.:4.1 Foly.:3. II	Szil.:4.1 Foly.:3. II	Szil.:4.2 Foly.:3. II	Szil.:4.2 Foly.:3. II	4.3, I	4.3, II	4.3, II	Szil.:5.1, I Foly.:3. I	Szil.:5.1, II Foly.:3. II	Szil.:5.1, II Foly.:3. II	3, I	3, I	3, II	3, II	8, I	3, II	3, II	3, II
3, III	Szil.:4.1 Foly.:3. II	Szil.:4.1 Foly.:3. III	Szil.:4.2 Foly.:3. II	Szil.:4.2 Foly.:3. III	4.3, I	4.3, II	4.3, III	Szil.:5.1, I Foly.:3. I	Szil.:5.1, II Foly.:3. II	Szil.:5.1, III Foly.:3. III	6.1, I	6.1, I	6.1, II	3, III *)	8, I	8, II	3, III	3, III
4.1, II			4.2, II	4.2, II	4.3, I	4.3, II	4.3, II	5.1, I	4.1, II	4.1, II	6.1, I	6.1, I	Szil.:4.1, II Foly.:6.1, II	Szil.:4.1, II Foly.:6.1, II	8, I	Szil.:4.1, II Foly.:8, II	Szil.:4.1, II Foly.:8, II	4.1, II
4.1, III			4.2, II	4.2, III	4.3, I	4.3, II	4.3, III	5.1, I	4.1, II	4.1, III	6.1, I	6.1, I	6.1, II	Szil.:4.1, III Foly.:6.1, III	8, I	8, II	Szil.:4.1, III Foly.:8, III	4.1, III
4.2, II					4.3, I	4.3, II	4.3, II	5.1, I	4.2, II	4.2, II	6.1, I	6.1, I	4.2, II	4.2, II	8, I	4.2, II	4.2, II	4.2, II
4.2, III					4.3, I	4.3, II	4.3, III	5.1, I	5.1, II	4.2, III	6.1, I	6.1, I	6.1, II	4.2, III	8, I	8, II	4.2, III	4.2, III
4.3, I								5.1, I	4.3, I	4.3, I	6.1, I	4.3, I	4.3, I	4.3, I	4.3, I	4.3, I	4.3, I	4.3, I
4.3, II								5.1, I	4.3, II	4.3, II	6.1, I	4.3, I	4.3, II	4.3, II	8, I	4.3, II	4.3, II	4.3, II
4.3, III								5.1, I	5.1, II	4.3, III	6.1, I	6.1, I	6.1, II	4.3, III	8, I	8, II	4.3, III	4.3, III
5.1, I											5.1, I	5.1, I	5.1, I	5.1, I	5.1, I	5.1, I	5.1, I	5.1, I
5.1, II											6.1, I	5.1, I	5.1, II	5.1, II	8, I	5.1, II	5.1, II	5.1, II
5.1, III											6.1, I	6.1, I	6.1, II	5.1, III	8, I	8, II	5.1, III	5.1, III
6.1, I Dermal.															Szil.:6.1, I Foly.:8, I	6.1, I	6.1, I	6.1, I
6.1, I Oral.															Szil.:6.1, I Foly.:8, I	6.1, I	6.1, I	6.1, I
6.1, II Inhal.															Szil.:6.1, I Foly.:8, I	6.1, II	6.1, II	6.1, II
6.1, II Dermal.															Szil.:6.1, I Foly.:8, I	Szil.:6.1, II Foly.:8, II	6.1, II	6.1, II
6.1, II Oral.															8, I	Szil.:6.1, II Foly.:8, II	6.1, II	6.1, II
6.1, III															8, I	8, II	8, III	6.1, III
8, I																		8, I
8, II																		8, II
8, III																		8, III

Szil. = szilárd anyagok és keverékek

Foly. = folyékony anyagok, oldatok és keverékek

Dermal. = mérgezőképesség bőrön át való felszívódás esetén

Oral. = mérgezőképesség lenyelés esetén

Inhal. = mérgezőképesség belélegzés esetén

\*/ Peszticideknél 6.1 osztály

**Megjegyzés: 1. Példa a táblázat használatára:**

**Egyedi anyag besorolása**

*A besorolandó anyag leírása:*

A 3 osztály II csomagolási csoportjának, valamint a 8 osztály I csomagolási csoportjának kritériumait kielégítő, név szerint nem említett amin.

*Eljárás:*

A 3, II sornak a 8, I oszloppal való keresztezésénél 8, I található. Ezért ezt az ament a 8 osztályba a következők alá kell besorolni:

UN 2734 FOLYÉKONY, MARÓ, GYÚLÉKONY AMINOK, M.N.N. vagy  
UN 2734 FOLYÉKONY, MARÓ, GYÚLÉKONY POLIAMINOK, M.N.N., I csomagolási csoport.

**Keverék besorolása**

*A besorolandó keverék leírása:*

A 3 osztály III csomagolási csoportjába tartozó gyúlékony folyékony anyagból, a 6.1 osztály II csomagolási csoportjába tartozó mérgező anyagból és a 8 osztály I csomagolási csoportjába tartozó maró anyagból álló keverék.

*Eljárás:*

A 3, III sornak a 6.1, II oszloppal való keresztezésénél 6.1, II található.  
A 6.1, II sornak a 8, I oszloppal való keresztezésénél folyadékra 8, I található.

Ezt a közelebbről nem meghatározott keveréket tehát a 8 osztályba, a következő tétel alá kell besorolni: UN 2922 MÉRGEZŐ, MARÓ FOLYÉKONY ANYAG, M.N.N., I csomagolási csoport.

**2. Példák a keverékek és oldatok osztályba és csomagolási csoportba történő besorolására:**

A 6.1 osztály II csomagolási csoportjába tartozó fenolt a 3 osztály II csomagolási csoportjába tartozó benzolban oldva a 3 osztály II csomagolási csoportjába kell besorolni; ezt az oldatot a fenol mérgező volta miatt a 3 osztály II csomagolási csoportjába, az UN 1992 GYÚLÉKONY, MÉRGEZŐ, FOLYÉKONY ANYAG, M.N.N. tétel alá kell besorolni.

A 6.1 osztály II csomagolási csoportjába tartozó nátrium-arsenát és a 8 osztály II csomagolási csoportjába tartozó nátrium-hidroxid szilárd keverékét a 6.1 osztály II csomagolási csoportjába, az UN 3290 MARÓ, SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N. tétel alá kell besorolni.

A 4.1 osztály III csomagolási csoportjába tartozó nyers vagy finomított naftalint a 3 osztály II csomagolási csoportjába tartozó benzinben oldva a 3 osztály II csomagolási csoportjába, az UN 3295 FOLYÉKONY SZÉNHIDROGÉNEK, M.N.N. tétel alá kell besorolni.

A 3 osztály III csomagolási csoportjába tartozó szénhidrogének és a 9 osztály II csomagolási csoportjába tartozó poliklórozott bifénilek (PCB-k) keverékeit a 9 osztály II csomagolási csoportjába, az UN 2315 FOLYÉKONY POLIKLÓROZOTT BIFENILEK vagy az UN 3432 SZILÁRD POLIKLÓROZOTT BIFENILEK tétel alá kell besorolni.

A 3 osztályba tartozó propilén-imin és a 9 osztály II csomagolási csoportjába tartozó poliklórozott bifénilek (PCB-k) keverékét a 3 osztályba, az UN 1921 PROPILÉN-IMIN, STABILIZÁLT tétel alá kell besorolni.



## **2.1.4            Minták besorolása**

**2.1.4.1**            Amennyiben egy anyag osztálya bizonytalan, ezért további vizsgálat céljából szállítják, akkor ideiglenes osztályt, helyes szállítási megnevezést és UN számot kell hozzárendelni a feladónak az anyagra vonatkozó ismeretei és

- a)    a 2.2 fejezet osztályozási kritériumai; és
- b)    e fejezet előírásai alapján.

A választott helyes szállítási megnevezéshez tartozó legszigorúbb csomagolási csoportot kell alkalmazni.

Ha ezt az előírást használjuk, a helyes szállítási megnevezést ki kell egészíteni a „minta” szóval (pl. UN 1993 gyúlékony folyékony anyag, m.n.n., minta). Abban az esetben, ha egy bizonyos besorolási kritériumoknak megfelelő anyagmintára létezik speciális helyes szállítási megnevezés (pl. UN 3167 túlnyomás nélküli, gyúlékony gázminta, m.n.n.), akkor ezt kell használni. Ha a minta szállításához m.n.n. tételt használnak, a helyes szállítási megnevezést nem kell kiegészíteni a műszaki megnevezéssel, amint azt a 3.3 fejezet 274 különleges előírása megköveteli.

**2.1.4.2**            Az anyag mintákat az ideiglenesen hozzárendelt helyes szállítási megnevezéshez tartozó előírások szerint kell szállítani, amennyiben:

- a)    az anyag nem tekinthető a 2.2 fejezet 2.2.x.2 bekezdései vagy a 3.2 fejezet alapján a fuvarozásból kizárt anyagnak;
- b)    az anyag nem tekinthető az 1 osztály kritériumait kielégítő anyagnak, ill. fertőző vagy radioaktív anyagnak;
- c)    ha az anyag önreaktív anyag, illetve szerves peroxid, akkor megfelel a 2.2.41.1.15 pont, ill. a 2.2.52.1.9 pont előírásainak;
- d)    az anyagot kombinált csomagolásban szállítják, és a nettó tömege nem haladja meg a 2,5 kg-ot küldeménydarabonként;

a minta nincs más áruval egybecsomagolva.

## 2.2 fejezet

### Az egyes osztályokra vonatkozó előírások

#### 2.2.1 1 osztály Robbanóanyagok és -tárgyak

##### 2.2.1.1 *Kritériumok*

##### 2.2.1.1.1 Az 1 osztály fogalmkörébe tartozó anyagok:

- a) *Robbanóanyagok:* szilárd vagy folyékony halmazállapotú anyagok vagy keverékek, amelyek kémiai reakció révén képesek arra, hogy olyan sebességgel fejlesszenek gázt, ami elegendő hőmérsékletű és akkora nyomáshullámot hoz létre, hogy a környezetében károsodást idéz elő.

*Pirotechnikai anyagok:* anyagok vagy keverékek, amelyeknek az a rendeltetése, hogy robbanás nélküli, önfenntartó exoterm kémiai reakció révén hőt fejlesszenek, fényt keltsenek, hanghatást váltsanak ki, gázt vagy füstöt fejlesszenek, vagy e hatások valamilyen kombinációját fejtsék ki.

**Megjegyzés:** 1. Azok az anyagok, amelyek önmagukban véve nem robbanóanyagok, de amelyek robbanásveszélyes gáz-, gőz- vagy porkeverékeket képezhetnek, nem tartoznak az 1 osztály anyagai közé.

2. Szintén nem tartoznak az 1 osztályba azok a víz- és alkoholtartalmú robbanóanyagok, amelyek víz-, ill. alkoholtartalma a megadott határértékeket meghaladja és azok, amelyek plasztifikáló anyagot tartalmaznak – ezek a robbanóanyagok a 3 vagy a 4.1 osztályba vannak besorolva –, valamint azok a robbanóanyagok, amelyek a bennük rejlő alapvető veszély miatt az 5.2 osztályba vannak besorolva.

- b) *Robbanótárgyak:* olyan tárgyak, amelyek egy vagy több robbanóanyagot vagy pirotechnikai anyagokat tartalmaznak.

**Megjegyzés:** Nem tartoznak az 1 osztály előírásainak hatálya alá azok a szerkezetek, amelyek olyan jellegű vagy olyan kis mennyiségű robbanó vagy pirotechnikai anyagokat tartalmaznak, amelyek szállítás közbeni véletlenszerű vagy gondatlanság miatt bekövetkező meggyulladás vagy beindulása csak olyan reakciót idéz elő, amely nem jár kívülről észlelhető repeszhatással, tűzzel, köd-, füst- vagy hőfejlődéssel vagy erős hanghatással.

- c) Azok az előzőekben nem említett anyagok és tárgyak, amelyek arra a célra készültek, hogy gyakorlati hatásukat robbanás vagy pirotechnikai jelenség formájában fejtsék ki.

##### 2.2.1.1.2 Minden anyagot vagy tárgyat, amelynek robbanó tulajdonsága van vagy robbanó tulajdonsága lehet, az 1 osztályba való besorolás szempontjából meg kell vizsgálni a „Vizsgálatok és kritériumok kézikönyv” I. Részében meghatározott vizsgálatok, próbák és kritériumok szerint.

Az 1 osztályba sorolt valamely anyag vagy tárgy csak akkor fuvarozható, ha a 3.2 fejezet „A” táblázatában található valamely megnevezéshez vagy m.n.n. tételhez hozzá lett rendelve, és a „Vizsgálatok és kritériumok kézikönyv” feltételeinek megfelelően.

##### 2.2.1.1.3 Az 1 osztály anyagait és tárgyait a 3.2 fejezet „A” táblázata szerint valamely UN szám és megnevezés vagy m.n.n. tétel alá kell besorolni. A 3.2 fejezet „A” táblázatában található megnevezésének értelmezése a 2.2.1.1.8 pontban található szójegyzéken alapul.

Az új vagy már régebben létező robbanóanyagok vagy robbanótárgyak mintái – az indító robbanóanyagok kivételével –, amelyeket többek között kísérleti, besorolási, kutatási és fejlesztési vagy minőségellenőrzési célból, vagy mint kereskedelmi mintát szállítanak, az „UN 0190 ROBBANÓANYAG MINTA” tételhez is besorolhatók.

A 3.2 fejezet „A” táblázatában név szerint nem említett robbanóanyagoknak és -tárgyaknak az 1 osztály valamely m.n.n. tételéhez vagy az „UN 0190 ROBBANÓANYAG MINTA” tételéhez való hozzárendelését, valamint bizonyos meghatározott anyagok besorolását, amelyek fuvarozása a 3.2 fejezet „A” táblázat 6 oszlopában szereplő különleges előírás alapján az illetékes hatóság külön engedélyéhez van kötve, a származási ország illetékes hatóságának kell elvégeznie. Ezen anyagok és tárgyak szállítási feltételeit szintén írásban kell az illetékes hatóságnak engedélyeznie. Ha a származási ország nem valamely COTIF Tagállam, akkor a besorolást és a szállítási feltételeket a küldemény által érintett első COTIF Tagállam illetékes hatóságának kell elismernie.

**2.2.1.1.4** Az 1 osztály anyagait és tárgyait a 2.2.1.1.5 pont szerinti valamelyik alosztályhoz és a 2.2.1.1.6 pont szerinti valamelyik összeférhetőségi csoporthoz kell hozzárendelni. Az alosztályt a 2.3.0 és 2.3.1 szakaszban leírt vizsgálatok eredményei alapján kell meghatározni, felhasználva a 2.2.1.1.5 pont definícióit. Az összeférhetőségi csoportot a 2.2.1.1.6 pont definíciói alapján kell meghatározni. Az alosztály sorszáma és az összeférhetőségi csoport betűjele együtt alkotják az osztályozási kódot.

**2.2.1.1.5** *Az alosztályok meghatározása*

- 1.1 alosztály Olyan anyagok és tárgyak, amelyeknél fennáll a teljes tömeg felrobbanásának veszélye. (A teljes tömeg felrobbanása olyan robbanás, ami gyakorlatilag egyidejűleg csaknem az egész rakománytömeget érinti.)
- 1.2 alosztály Olyan anyagok és tárgyak, amelyek a kivetés veszélyével járnak, de az egész tömeg felrobbanásának veszélyével nem.
- 1.3 alosztály Olyan anyagok és tárgyak, amelyek tűzveszélyesek és robbanás vagy kivetés vagy ezek együttes fellépésének csekély veszélyével járnak, de az egész mennyiség felrobbanásának veszélye nélkül,
  - a) így azok az anyagok, amelyek égése jelentős sugárzó hőt eredményez; vagy
  - b) amelyek egymásután úgy égnek el, hogy csak kismértékű robbanással vagy kivetéssel, vagy ezek egyidejű fellépésével járnak.
- 1.4 alosztály Olyan anyagok és tárgyak, amelyek csak csekély robbanásveszélyt jelentenek szállítás közbeni meggyulladásuk vagy beindulásuk esetén. A hatások lényegében a küldeménydarabra korlátozódnak, és általában nem következik be jelentősebb méretű repeszdarabok keletkezése vagy a repeszdarabok nagyobb távolságra való szétröpülése. Kívülről ható tűz nem vonja maga után a küldeménydarab teljes tartalmának gyakorlatilag azonnali felrobbanását.
- 1.5 alosztály Rendkívül kis mértékben érzékeny, tömegrobbanás veszélyét magukba rejtő anyagok, amelyek érzéketlensége olyan, hogy normális szállítási körülmények között beindulásuk vagy égésük robbanásba való átmenetének valószínűsége rendkívül csekély. Minimális követelmény ezen anyagokra nézve, hogy a külső tűz hatásának vizsgálata során nem szabad felrobbanniuk.
- 1.6 alosztály Rendkívül érzéketlen tárgyak, amelyeknél nem áll fenn a teljes tömeg felrobbanásának veszélye. Az ilyen tárgyak csak rendkívül érzéketlen robbanóanyagokat tartalmaznak, és bizonyítottan elhanyagolható a véletlen iniciálásuk vagy beindulásuk valószínűsége.

**Megjegyzés:** Az 1.6 alosztály tárgyaitól kiinduló veszély egyetlen tárgy felrobbanására korlátozódik.

**2.2.1.1.6**

*Az anyagok és tárgyak összeférhetőségi csoportjainak meghatározása*

- A Primer robbanóanyag.
- B Primer robbanóanyaggal töltött tárgy kettőnél kevesebb hatékony biztonsági szerkezettel. Egyes tárgyak, így a detonátorok robbantáshoz, detonátor-szerkezetek robbantáshoz és gyutacsszelencék ide tartoznak, bár ezek nem tartalmaznak primer robbanóanyagot.
- C Tolóhatású robbanóanyag vagy egyéb másodlagos deflagráló robbanóanyag vagy ilyen robbanóanyaggal töltött tárgy.
- D Szekunder detonáló robbanóanyag vagy feketelőpor vagy szekunder detonáló robbanóanyagot tartalmazó tárgy, minden esetben gyújtóeszköz és hajtótöltet nélkül, vagy primer robbanóanyagot tartalmazó tárgy legalább két hatékony biztonsági szerkezettel.
- E Szekunder detonáló robbanóanyagot tartalmazó tárgy indítószerkezet nélkül, de hajtótöltettel (gyúlékony folyadékot, gél vagy hipergolokat tartalmazó töltetek kivételével).
- F Szekunder detonáló robbanóanyagot tartalmazó tárgy saját indítószerkezettel, hajtótöltettel (gyúlékony folyadékot, gél vagy hipergolokat tartalmazó töltetek kivételével) vagy hajtótöltet nélkül.
- G Pirotechnikai anyag vagy pirotechnikai anyagot tartalmazó tárgy vagy olyan tárgy, amely egyben robbanóanyagot és gyújtó-, világító-, könnyfakasztó- vagy ködképző-anyagot is tartalmaz (a vízzel aktiválható tárgyak, valamint a fehérfoszfort, foszfidokat, piroforos anyagot, gyúlékony folyadékot, gél vagy hipergolokat tartalmazó tárgyak kivételével).
- H Robbanóanyagot és fehérfoszfort együtt tartalmazó tárgy.
- J Robbanóanyagot és gyúlékony folyadékot vagy gél együtt tartalmazó tárgy.
- K Robbanóanyagot és mérgező vegyianyagot együtt tartalmazó tárgy.
- L Olyan robbanóanyag vagy robbanóanyagot tartalmazó tárgy, amely különleges kockázattal jár (pl. víz hatására történő aktiválódás miatt vagy hipergolok, foszfidok vagy piroforos anyag jelenléte miatt) és így minden egyes típus elkülönítése szükséges.
- N Csak rendkívül érzéketlen robbanóanyagokat tartalmazó tárgyak.
- S Olyan anyag vagy tárgy, amely úgy van csomagolva vagy kialakítva, hogy a nem szándékos reakció révén bekövetkező minden hatás a küldeménydarab belsejére korlátozódik, kivéve, ha tűz esetén maga a küldeménydarab károsodik. Ebben az esetben a robbanási és kivetési hatásoknak olyan mértékűre kell korlátozódniuk, hogy ne akadályozzák a tűz leküzdését vagy más rendkívüli intézkedések végrehajtását a küldeménydarab közvetlen közelében.

**Megjegyzés:** 1. Valamely anyag vagy tárgy meghatározott csomagolásban csak egyetlen összeférhetőségi csoportba sorolható. Mivel az S összeférhetőségi csoport feltételei tapasztalati jellegűek, az ezen csoportba való sorolás szükségszerűen valamely osztályozási kód hozzárendelésére szolgáló próbához kötött.

- 2. A D és az E összeférhetőségi csoportok tárgyait el lehet látni, vagy egybe lehet csomagolni saját gyújtószerkezetiükkel azzal a feltétellel, hogy ezeknek az eszközöknek legalább két olyan hatásos biztonsági szerkezetük van, amelyek megakadályozzák a robbanás bekövetkeztét a gyújtószerkezet nem szándékos aktiválódása esetén. Az ilyen küldeménydarabok a D vagy az E

össze férhetőségi csoportba tartoznak.

3. A D és az E összeférhetőségi csoportok tárgyait egybe lehet csomagolni olyan saját indítószervezetükkel, amelyeknek nincs két hatásos biztonsági szerkezetük (azaz olyan indítószervezetek, amelyek a B összeférhetőségi csoportba tartoznak), feltéve, hogy a 4.1.10 szakasz MP21 egybecsomagolási előírásainak megfelelnek. Az ilyen küldeménydarabok a D vagy az E összeférhetőségi csoportba tartoznak.
4. A tárgyakat el lehet látni vagy egybe lehet csomagolni saját gyújtószervezetükkel, feltéve, hogy a gyújtószervezetek normális szállítási körülmények között nem tudnak működésbe lépni.
5. A C, a D és az E összeférhetőségi csoportba tartozó tárgyakat egybe lehet csomagolni. Az ilyen küldeménydarabokat az E összeférhetőségi csoporthoz kell hozzárendelni.

**2.2.1.1.7** A tűzijáték testek alosztályba sorolása

**2.2.1.1.7.1** A tűzijáték testeket rendes körülmények között a „Vizsgálatok és kritériumok kézikönyv” I. Rész 16. fejezet 6. vizsgálati sorozat próbái során nyert adatok alapján kell az 1.1, az 1.2, az 1.3 vagy az 1.4 alosztályba sorolni. Mivel azonban ezeknek a termékeknek a választéka rendkívül nagy, viszont a vizsgáló berendezések korlátozottan állnak rendelkezésre, az alosztályt a 2.2.1.1.7.2 pontban ismertetett eljárással is meg lehet határozni.

**2.2.1.1.7.2** A tűzijáték testeket az UN 0333, az UN 0334, az UN 0335 és az UN 0336 tételek alá a 6 vizsgálati sorozat próbáinak elvégzése nélkül, hasonlóság alapján is be lehet sorolni, a 2.2.1.1.7.5 pontban található, „tűzijáték testek vizsgálat hiányában történő besorolásának táblázata” szerint, az illetékes hatóság egyetértése esetén. A táblázatban nem szereplő tételeket a 6 vizsgálati sorozat próbái során nyert adatok alapján kell besorolni.

**Megjegyzés:** 1. A 2.2.1.1.7.5 pont táblázatának első oszlopát csak akkor lehet más típusú tűzijáték testtel kiegészíteni, ha a teljes vizsgálat eredményeit már benyújtották az ENSZ Veszélyes áru szállítási szakértő albizottságnak (UN Sub-Committee of Experts on the Transport of Dangerous Goods).

2. Ha a 2.2.1.1.7.5 pont táblázatának negyedik oszlopában meghatározott tűzijáték testekre vonatkozóan valamely illetékes hatóságtól származó vizsgálati eredmények megerősítik a 2.2.1.1.7.5 pont táblázatának ötödik oszlopában szereplő besorolást vagy annak ellentmondanak, erről az ENSZ Veszélyes áru szállítási szakértő albizottságát (UN Sub-Committee of Experts on the Transport of Dangerous Goods) értesíteni kell.

**2.2.1.1.7.3** Ha különböző alosztályokba tartozó tűzijáték testeket csomagolnak egy küldeménydarabba, azt a küldeménydarabban levő legveszélyesebb alosztály alapján kell besorolni, kivéve, ha a 6 vizsgálati sorozat próbái más eredményre vezetnek.

**2.2.1.1.7.4** A 2.2.1.1.7.5 pont táblázatában lévő besorolás csak olyan tárgyakra érvényes, amelyek (4G kódjelű) papírlemez ládában vannak.

**2.2.1.1.7.5** *Tűzijáték testek vizsgálat hiányában történő besorolásának táblázata<sup>2)</sup>*

**Megjegyzés:** 1. Ellentétes meghatározás hiányában a táblázatban a százalékra történő hivatkozás az összes pirotechnikai elegy tömegére vonatkozik (pl. rakéta motorok, lökő töltet, bontó töltet és effekt anyag).

2. A „villanó elegy” a táblázatban olyan pirotechnikai elegyre utal, amely a tűzijáték testben por formában vagy töltetegységként van jelen, és amelyet levegőben durranó effekt keltéséhez, bontó töltethez vagy lökőtöltethez használnak, kivéve, ha a „Vizsgálatok és kritériumok kézikönyv” 2 vizsgálati sorozat 2 c) i) „Idő/nyomás” próbája során a nyomás-növekedéshez szükséges idő 0,5 g pirotechnikai elegy esetén 8 ms-nál több.
3. A mm-ben kifejezett méretek a következőket jelentik:
- gömb és etázs bombáknál a bomba gömbjének átmérője;
  - hengeres bombánál a bombának a hossza;
  - csőben lévő bombánál, római gyertyánál, egylövéses római gyertyánál, vagy mozsárnál a tűzijáték testet tartalmazó cső belső átmérője;
  - hengeres mozsárnál a mozsárhoz használni kívánt cső belső átmérője.

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2) A táblázat azokat a tűzijáték test besorolásokat tartalmazza, amelyeket a 6 vizsgálati sorozat hiányában is lehet alkalmazni (lásd a 2.2.1.1.7.2 pontot).

Típus	Tartalom/szinonima	Meghatározás	Részletes leírás	Besorolás
Gömb és hengeres alakú tűzijáték bombák	<i>Gömb-bombák:</i> csillagos bombák, nappali bombák, több effektus bombák, vízre ugró bombák, ejtőernyős bombák, füst bombák; <i>durranós/villanós bombák:</i> jelző-, durranó-, fűtőülő-, villanóbombák	Csőből való kilövésre tervezett eszköz lökőtöltettel vagy anélkül, késleltetővel és bontó töltettel, pirotechnikai töltetegységekkel vagy laza pirotechnikai eleggyel	Mindenféle durranós bomba	1.1G
			Csillagos bomba: $\geq 180$ mm	1.1G
			Csillagos bombák: $< 180$ mm, $> 25\%$ laza por formájú villanó eleggyel és/vagy durranó effekttel	1.1G
			Csillagos bombák: $< 180$ mm, $\leq 25\%$ laza por formájú villanó eleggyel és/vagy durranó effekttel	1.3G
			Csillagos bombák: $\leq 50$ mm vagy $\leq 60$ g pirotechnikai eleggyel, $\leq 2\%$ laza por formájú villanó eleggyel és/vagy durranó effekttel	1.4G
	Etázs bombák	Két vagy több gömb-bombából egybe rögzített, azonos lökőtöltettel, de elválasztott külső késleltetővel rendelkező eszköz	A besorolást a legveszélyesebb gömb-bomba határozza meg.	
	Előre töltött csövek, csőben lévő bombák	Kilövésre tervezett, a csőbe előre telepített gömb- vagy hengeres bomba	Mindenféle durranós bomba	1.1G
			Csillagos bombák: $\geq 180$ mm	1.1G
			Csillagos bombák: $> 25\%$ laza por formájú villanó eleggyel és/vagy durranó effekttel	1.1G
			Csillagos bombák: $> 50$ mm és $< 180$ mm	1.2G
			Csillagos bombák: $\leq 50$ mm vagy $\leq 60$ g pirotechnikai eleggyel, $\leq 25\%$ laza por formájú villanó eleggyel és/vagy durranó effekttel	1.3G
	Bombák a bombában (gömb) (a „bombák a bombában” esetén a százalékra történő hivatkozás a tűzijáték test teljes tömegére vonatkozik)	Csőből való kilövésre tervezett eszköz lökőtöltet nélkül, késleltetővel és bontó töltettel, amely durranós bombákat és inert anyagokat tartalmaz	$> 120$ mm	1.1G
		Csőből való kilövésre tervezett eszköz lökőtöltet nélkül, késleltetővel és bontó töltettel, amely töltetegységenként $\leq 25$ g villanó elegyet tartalmazó durranós bombákat tartalmaz, valamint $\leq 33\%$ villanó elegyet és $\geq 60\%$ inert anyagot	$\leq 120$ mm	1.3G
		Csőből való kilövésre tervezett eszköz lökőtöltet nélkül, késleltetővel és bontó töltettel, amely csillagos bombákat és/vagy pirotechnikai töltetegységeket tartalmaz	$> 300$ mm	1.1G



Típus	Tartalom/szinonima	Meghatározás	Részletes leírás	Besorolás
		Csőből való kilövésre tervezett eszköz lökőtöltet nélkül, késleltetővel és bontó töltettel, amely $\leq 70$ mm csillagos bombákat és/vagy pirotechnikai töltetegységeket tartalmaz, valamint $\leq 25\%$ villanó elegyet és $\leq 60\%$ pirotechnikai elegyet	$> 200$ mm és $\leq 300$ mm	1.3G
		Csőből való kilövésre tervezett eszköz lökőtöltettel, késleltetővel és bontó töltettel, amely $\leq 70$ mm csillagos bombákat és/vagy pirotechnikai töltetegységeket tartalmaz, valamint $\leq 25\%$ villanó elegyet és $\leq 60\%$ pirotechnikai elegyet	$\leq 200$ mm	1.3G
Telepek/ Kombinációk	Telepek, finálé telepek, bombetta telepek	Több, megszerelt elem, amely egyforma vagy különböző, de az ebben a táblázatban felsorolt valamely tűzijáték testnek megfelelő típusú tűzijáték testet tartalmaz, egy vagy két indítási ponttal	A besorolást a legveszélyesebb tűzijáték test típus határozza meg.	
Római gyertyák	Római gyertyák	Olyan pirotechnikai töltetegységek sorozatát tartalmazó cső, amelyek változó pirotechnikai effekteket, lökőtölteteket és késleltetőket tartalmaznak	$\geq 50$ mm belső átmérővel, villanó eleggyel, vagy $< 50$ mm belső átmérővel és $> 25\%$ villanó eleggyel	1.1G
			$\geq 50$ mm belső átmérővel, villanó elegy nélkül	1.2G
			$< 50$ mm belső átmérővel és $\leq 25\%$ villanó eleggyel	1.3G
			$\leq 30$ mm belső átmérővel, minden pirotechnikai töltetegység $\leq 25$ g és $\leq 5\%$ villanó eleggyel	1.4G
Egylövéses római gyertyák	Egylövéses római gyertyák, kis, előre töltött csövek	Olyan pirotechnikai töltetegységet tartalmazó cső, amely pirotechnikai effektet, lökőtöltetet tartalmaz, késleltetővel vagy anélkül	$\leq 30$ mm belső átmérővel és $> 25$ g pirotechnikai töltetegységgel vagy $> 5\%$ és $\leq 25\%$ villanó eleggyel	1.3G
			$\leq 30$ mm belső átmérővel, $\leq 25$ g pirotechnikai töltetegységgel és $\leq 5\%$ villanó eleggyel	1.4G
Rakéták	Jelző rakéták, fűtyülő rakéták, nem pálcás rakéták	Levegőben való repülésre tervezett, pirotechnikai elegyet és/vagy pirotechnikai töltetegységet tartalmazó cső, vezető pálcával/pálcákkal vagy más, repülés stabilizáló eszközzel felszerelve	Csak villanó elegy tartalommal	1.1G
			A pirotechnikai elegy tartalomtól a villanó elegy tartalom $> 25\%$	1.1G
			$> 20$ g pirotechnikai elegy tartalommal és $\leq 25\%$ villanó elegy tartalommal	1.3G
			$\leq 20$ g pirotechnikai elegy tartalommal, fekete löpor bontó töltettel és durranó betétenként $\leq 0,13$ g, de összesen $\leq 1$ g villanó eleggyel	1.4G



Típus	Tartalom/szinonima	Meghatározás	Részletes leírás	Besorolás
Tűzijáték mozsár	Tűzijáték mozsár, cső nélküli mozsár	Földre való állításra vagy földbe való rögzítésre tervezett, lökőtöltetet és pirotechnikai töltetegységet tartalmazó cső. A fő effekt az összes pirotechnikai töltetegység egy kifújásban való kilövése által a levegőben nagymértékben szétterjedő vizuális és/vagy hang effekt létrehozása; vagy: Vetőcsőben való elhelyezésre és mozsárként való működésre tervezett, szövet vagy papír zacskó, ill. szövet vagy papír henger, ami lökőtöltetet és pirotechnikai töltetegységeket tartalmaz.	> 25% laza por formájú villanó eleggyel és/vagy durranó effekttel	1.1G
			$\geq 180$ mm, $\leq 25\%$ laza por formájú villanó eleggyel és/vagy durranó effekttel	1.1G
			$< 180$ mm, $\leq 25\%$ laza por formájú villanó eleggyel és/vagy durranó effekttel	1.3G
			$\leq 150$ g pirotechnikai elegy $\leq 5\%$ laza por formájú villanó eleggyel és/vagy durranó effekttel. Minden töltetegység $\leq 25$ g, minden durranó effekt $< 2$ g; minden fűtőülő, ha van $\leq 3$ g	1.4G
Szikraszökőkút	Vulkánok, szikraszóró petárdák, vízesés, bengálégők, bengáli tüzek, hengeres szikraszökőkutak, világító/színes fáklyák	Nem fém burkolatú, préselt vagy szilárd, szikrát vagy lángot produkáló pirotechnikai elegyet tartalmazó eszköz	$\geq 1$ kg pirotechnikai eleggyel	1.3G
			$< 1$ kg pirotechnikai eleggyel	1.4G
Csillagszóró	Kézi csillagszóró, nem kézi csillagszóró	Merev drót részlegesen (az egyik végén) bevonva lassan égő pirotechnikai eleggyel, gyújtó véggel vagy anélkül	Perklorát alapú csillagszóró: darabonként $> 5$ g vagy csomagonként $> 10$ darab	1.3G
			Perklorát alapú csillagszóró: darabonként $\leq 5$ g és csomagonként $\leq 10$ darab; Nitrát alapú csillagszóró: darabonként $\leq 30$ g	1.4G
Bengálgyufa	Bengálfáklya, vihargyufa	Kézben való tartásra tervezett, nem fém rúd részlegesen (az egyik végén) bevonva lassan égő pirotechnikai eleggyel	Perklorát alapú eszköz: darabonként $> 5$ g vagy csomagonként $> 10$ darab	1.3G
			Perklorát alapú eszköz: darabonként $\leq 5$ g és csomagonként $\leq 10$ darab; Nitrát alapú eszköz: darabonként $\leq 30$ g	1.4G
Kis veszélyességű tűzijáték testek és újdonságok	Asztali bombák, recsegő szemcsék, füstök, ködök, pirotechnikai szerpentinek (angolul: party poppers), durranó egérkék (angolul: throwdowns, snaps)	Nagyon korlátozott látvány és hang kibocsátásra tervezett eszközök, amelyek kis mennyiségben tartalmaznak pirotechnikai elegyet és/vagy robbanó összetevőt	A „throwdowns” és a „snaps” tartalmazhat legfeljebb 1,6 mg ezüst fulminátot; A „snaps” és a „party poppers” tartalmazhat legfeljebb 16 mg kálium-klorát és vörös foszfor keveréket; A többi eszköz tartalmazhat legfeljebb 5 g pirotechnikai elegyet, de villanóelegyet nem.	1.4G

Típus	Tartalom/szinonima	Meghatározás	Részletes leírás	Besorolás
Forgók	Légi forgók, lepkék, földi forgók	Szikrát vagy gázt termelő pirotechnikai elegyet tartalmazó nem fém cső vagy csövek zajkeltő (fütyülő) eleggyel vagy a nélkül, szárnyakkal vagy szárnyak nélkül	Eszközönként > 20 g pirotechnikai eleggyel, amely ≤ 3% villanó elegyet, mint durranó effektet tartalmaz, vagy ≤ 5 g fütyülő elegyet tartalmaz	1.3G
			Eszközönként ≤ 20 g pirotechnikai eleggyel, amely ≤ 3% villanó elegyet, mint durranó effektet tartalmaz, vagy ≤ 5 g fütyülő elegyet tartalmaz	1.4G
Forgók	Katalin-kerék, szász-kerék	Pirotechnikai elegyet tartalmazó, megszerelt hajtóművek csatlakozó eszközzel úgy felszerelve, hogy el tudjon forogni	≥ 1 kg összes pirotechnikai eleggyel, durranó effekt nélkül, minden fütyülő (ha van) ≤ 25 g és a fütyülő elegy kerekenként ≤ 50 g	1.3G
			< 1 kg összes pirotechnikai eleggyel, durranó effekt nélkül, minden fütyülő (ha van) ≤ 5 g és a fütyülő elegy kerekenként ≤ 10 g	1.4G
Légi forgók	Repülő szász-kerék, UFO-k, korona	Hajtótöltetet és szikrát, lángot termelő és/vagy zajkeltő pirotechnikai elegyeket tartalmazó csövek. A csövek tartó-gyűrűre vannak rögzítve.	Az összes pirotechnikai elegy > 200 g vagy a pirotechnikai elegy hajtóművenként > 60 g, ≤ 3% villanó elegyet, mint durranó effektet tartalmaz, minden fütyülő (ha van) ≤ 25 g és a fütyülő elegy forgónként ≤ 50 g	1.3G
			Az összes pirotechnikai elegy ≤ 200 g és a pirotechnikai elegy hajtóművenként ≤ 60 g, ≤ 3% villanó elegyet, mint durranó effektet tartalmaz minden fütyülő (ha van) ≤ 5 g és a fütyülő elegy forgónként ≤ 10 g	1.4G
Vegyes csomag	Vegyes tűzijátékok	Az ebben a táblázatban felsorolt tűzijáték testeknek megfelelő típusú, többféle tűzijáték testek egy csomagban	A besorolást a legveszélyesebb tűzijáték test típus határozza meg.	
Petárda füzér	Petárda füzér	Megszerelt (papírból vagy kartonpapírból készült) csövek gyújtószállal összekötve, minden cső hangeffekt keltésére szolgál	Minden cső ≤ 140 mg villanó eleggyel vagy ≤ 1 g fekete löporral	1.4G
Petárda	Petárda	Nem fém csőben elhelyezett villanó elegy, amely hangeffekt keltésére szolgál	eszközönként > 2 g villanó eleggyel	1.1G
			eszközönként ≤ 2 g és belső csomagolásonként ≤ 10 g villanó eleggyel	1.3G
			eszközönként ≤ 1 g és belső csomagolásonként ≤ 10 g villanó eleggyel, vagy eszközönként ≤ 10 g fekete löporral	1.4G

**2.2.1.1.8**

*A megnevezések szójegyzéke*

- Megjegyzés:** 1. A szójegyzékben található meghatározások nem helyettesíthetik sem a vizsgálati eljárásokat, sem az 1 osztályba tartozó valamely anyag vagy tárgy veszélyesség szempontjából való osztályozását. A termékeknek a megfelelő alosztályhoz való hozzárendelését és annak eldöntését, hogy az S összeférhetőségi csoporthoz kell-e sorolni, a „Vizsgálatok és kritériumok kézikönyv” I. Része szerint végzett vizsgálat, vagy már megvizsgált és a „Vizsgálatok és kritériumok kézikönyv” eljárása alapján besorolt, hasonló termékek analógiája alapján kell elvégezni.
2. A nevek után álló számok a megfelelő UN számra utalnak (3.2 fejezet „A” táblázat 1 oszlop). Az osztályozási kódra lásd a 2.2.1.1.4 pontot.

**AKNÁK** robbanótöltettel: UN 0136, 0294

Ezek a tárgyak detonáló robbanóanyaggal töltött fém vagy kombinált anyagú tartályból állnak olyan gyújtószerkezettel, amely nincs ellátva két vagy több hatékony biztonsági szerkezettel. A tárgyak arra szolgálnak, hogy hajók, járművek vagy emberek elhaladásakor lépjenek működésbe. Ide tartoznak un. „Bangalori torpedók” is.

**AKNÁK** robbanótöltettel: UN 0137, 0138

Ezek a tárgyak detonáló robbanóanyaggal töltött fém vagy kombinált anyagú tartályból állnak, gyújtószerkezet nélkül vagy olyan gyújtószerkezettel, amely legalább két hatékony biztonsági szerkezettel van ellátva. A tárgyak arra szolgálnak, hogy hajók, járművek vagy emberek elhaladásakor lépjenek működésbe. Ide tartoznak un. „Bangalori torpedók” is.

**A TÍPUSÚ ROBBANTÓANYAG:** UN 0081

Ezek az anyagok folyékony szerves nitrátokat, pl. nitroglicerint vagy ilyen anyagokból álló olyan keveréket tartalmaznak, melyekben a következő alkotórészek közül egy vagy több található: nitrocellulóz; ammónium-nitrát vagy más szervetlen nitrátok; aromás nitrovegyületek vagy éghető anyagok, pl. faliszt vagy alumíniumpor. Ezenkívül tartalmazhatnak inert alkotórészeket, pl. kovaföldet vagy kis mennyiségű adalékanyagokat, pl. színezékeket vagy stabilizátorokat is. A robbantóanyagok porszerű, zselatinszerű vagy elastikus konzisztenciájúak legyenek. Ide tartoznak a dinamitok, a robbanó zselatinok és a plasztikus dinamitok.

**BOMBÁK GYÚLÉKONY FOLYADÉK TARTALOMMAL,** robbanótöltettel: UN 0399, 0400

Ezek olyan tárgyak, amelyeket légi járművekről dobnak le, és gyúlékony folyadékot tartalmazó tartályból és robbanóanyag-töltetből állnak.

**BOMBÁK** robbanótöltettel: UN 0033, 0291

Robbanóanyagot tartalmazó tárgyak, amelyeket légi járművekről dobnak le. Olyan gyújtószerkezetet tartalmaznak, amely nincs ellátva két vagy több hatékony biztonsági szerkezettel.

**BOMBÁK** robbanótöltettel: UN 0034; 0035

Ezek olyan robbanóanyagot tartalmazó tárgyak, amelyeket légi járművekről dobnak le. Vagy nem tartalmaznak gyújtószerkezetet vagy olyan gyújtószerkezetük van, amely legalább két hatékony biztonsági szerkezettel van ellátva.

**BOMBÁK VILLANÓFÉNY TÖLTETTEL:** UN 0037

Ezek olyan, robbanóanyagot tartalmazó tárgyak, amelyeket légi járművekről dobnak le, hogy

rövid ideig ható, intenzív fényforrásul szolgáljanak fényképészeti célokra. Detonáló robbanóanyag-töltetet tartalmaznak olyan gyújtószerkezettel, amely nincs ellátva két vagy több hatékony biztonsági szerkezettel.

**BOMBÁK VILLANÓFÉNY TÖLTETTEL: UN 0038**

Ezek olyan, robbanóanyagot tartalmazó tárgyak, amelyeket légi járművekről dobnak le, hogy rövid ideig ható, intenzív fényforrásul szolgáljanak fényképészeti célokra. Detonáló robbanóanyag-töltetet tartalmaznak gyújtószerkezet nélkül, vagy gyújtószerkezettel, amely legalább két hatékony biztonsági szerkezettel van ellátva.

**BOMBÁK VILLANÓFÉNY TÖLTETTEL: UN 0039, 0299**

Ezek olyan robbanóanyagot tartalmazó tárgyak, amelyeket légi járművekről dobnak le, hogy rövid ideig ható, intenzív fényforrásul szolgáljanak fényképészeti célokra. Villanóanyag-töltetet tartalmaznak.

**B TÍPUSÚ ROBBANTÓANYAG: UN 0082, 0331**

Ezek az anyagok, amelyek vagy

- a) ammónium-nitrát vagy más szervesetlen nitrát robbanóanyagokkal, pl. trinitro-toluollal (TNT-vel), alkotott keverékből állnak, amelyek más anyagokat is, pl. falisztet és alumíniumport is tartalmazhatnak; vagy
- b) ammónium-nitrátból vagy más szervesetlen nitrátból és más éghető, nem robbanó anyagok keverékből állnak.

Mindkét esetben a robbantóanyagok tartalmazhatnak inert alkotórészeket, pl. kovaföldet és kis mennyiségű adalékanyagokat, pl. színezékeket vagy stabilizátorokat. Ezek a robbantóanyagok nem tartalmazhatnak sem nitroglicerint vagy hasonló folyékony szerves nitrátokat, sem pedig klorátokat.

**C TÍPUSÚ ROBBANTÓANYAG: UN 0083**

Ezek az anyagok kálium- vagy nátrium-klorát vagy kálium-, nátrium- vagy ammónium-perklorát és szerves nitrovegyületek vagy éghető anyagok, pl. faliszt, alumíniumpor vagy szénhidrogén keverékből állnak. Ezenkívül inert alkotórészeket, pl. kovaföldet és kis mennyiségű adalékanyagokat, pl. színezékeket vagy stabilizátorokat, is tartalmazhatnak. Ezek a robbantóanyagok nem tartalmazhatnak nitroglicerint vagy hasonló folyékony szerves nitrátokat.

**DETONÁTORSZERKEZETEK, NEMVILLAMOSAK, robbantáshoz: UN 0360, 0361, 0500**

Nemvillamos indítók, amelyek gyújtózsínórral, ütőgyújtóval, robbanózsínórral vagy gyújtócsővel vannak összekötve, és amelyeket ezekkel hoznak működésbe, késleltetővel ellátva, vagy anélkül. Ide értendők a relével szerelt robbanózsínók is.

**D TÍPUSÚ ROBBANTÓANYAG: UN 0084**

Ezek az anyagok szerves nitrovegyületek és éghető anyagok, pl. faliszt, szénhidrogének és -alumíniumpor keverékből állnak. Ezenkívül inert alkotórészeket, pl. kovaföldet és kis mennyiségű adalékanyagokat, pl. színezékeket vagy stabilizátorokat is tartalmazhatnak. Ezek a robbantóanyagok nem tartalmazhatnak sem nitroglicerint vagy hasonló folyékony szerves nitrátokat, sem pedig klorátokat, sem pedig ammónium-nitrátot. Ide tartoznak általában a plasztik robbantóanyagok.

**E TÍPUSÚ ROBBANTÓANYAG: UN 0241, 0332**

Ezek az anyagok vízből mint fő alkotórészből és nagy mennyiségű olyan ammónium-

nitrátból vagy más oxidálószerből állnak, amelyek teljes egészében vagy részben oldott állapotban vannak. A további alkotórészek lehetnek nitrovegyületek, pl. trinitro-toluol, szénhidrogének vagy alumíniumpor. Ezenkívül inert alkotórészeket, pl. kovaföldet és kis mennyiségű adalékanyagokat, pl. színezékeket vagy stabilizátorokat is tartalmazhatnak. Ide tartoznak az emulziós robbantóanyagok, a robbantószuszpenziók és a „vízgél”.

**FEKETE LŐPOR (PUSKAPOR)**, szemcsés vagy por alakú: UN 0027

Ez az anyag faszénből vagy más szénfajtából és kálium-nitrátból vagy nátrium-nitrátból, kénnel vagy anélkül alkotott belsőseges keverék.

**FEKETE LŐPOR (PUSKAPOR), SAJTOLT** vagy  
**FEKETE LŐPOR (PUSKAPOR), PELLETT**: UN 0028

Ez a termék formázott fekete lőporból áll.

**FORMÁZOTT TÖLTETEK** detonátor nélkül: UN 0059, 0439, 0440, 0441

Ezek a tárgyak gyújtószer nélküli detonáló robbanóanyagból álló töltetet tartalmaznak. A robbanóanyag-töltet üreges kialakítású, ami szilárd anyaggal van kitöltve. A tárgyak arra szolgálnak, hogy erős romboló hatást fejtsenek ki.

**FÜSTJELZŐK**: UN 0196, 0197, 0313, 0487, 0507

Ezek a tárgyak pirotechnikai anyagot tartalmaznak, amely füstöt fejleszt. Ezenkívül tartalmazhatnak hallható hang keltésére szolgáló szerkezetet is.

**FÜSTKÉPZŐ LŐSZER, FEHÉRFOSZFOR TARTALMÚ**, robbanó-, kidobó- vagy hajtótöltettel: UN 0245, 0246

Olyan lőszer, amelyek füstképző anyagként fehérfoszfort tartalmaznak. A következő alkotórészekből is tartalmaznak egyet vagy többet: hajtótöltet gyutaccsal és indítótöltettel; gyújtók robbanó- vagy kidobótöltettel. E fogalom ködgránátokat is tartalmaz.

**FÜSTKÉPZŐ LŐSZER**, robbanó-, kidobó- vagy hajtótöltettel vagy anélkül: UN 0015, 0016, 0303

Olyan lőszer, amelyek füstképző anyagokat, pl. klór-szulfonsav keveréket vagy titán-tetrakloridot, vagy hexaklór-etán vagy vörösfoszfor alapú füstképző pirotechnikai keveréket tartalmaznak. Amennyiben a füstképző anyag maga nem robbanóanyag, akkor a lőszer a következő alkotórészekből is tartalmaz egyet vagy többet: hajtótöltet gyutaccsal és gyújtótöltettel; gyújtók robbanó- vagy kidobótöltettel. E fogalom ködgránátokat is tartalmaz.

*Megjegyzés: A FÜSTJELZŐK nem tartoznak ide. Ezek a jelen szójegyzékben külön vannak feltüntetve.*

**FÜST NÉLKÜLI LŐPOR**: UN 0160, 0161

Nitrocellulóz alapon felépített anyag, amelyet lőporként használnak. A fogalom alá tartozik az egybázisú, füst nélküli lőpor [nitrocellulóz (NC) önállóan], a kétbázisú, füst nélküli lőpor [pl. az NC nitroglicerinnel (NG-vel)] és a hárombázisú, füst nélküli lőpor (pl. az NC/NG/nitroguanidin).

*Megjegyzés: Az öntött, sajtolt és töltetzacskóban levő, füst nélküli lőpor a HAJTÓTÖLTETEK vagy a KIDOBÓTÖLTETEK LÖVEGEKHEZ címszó alá tartozik.*

**GOLYÓS PERFORÁTOR TÖLTÉNY OLAJKUTAK FÚRÁSÁHOZ**: UN 0277, 0278

Ezek a tárgyak vékony papírlémezből, fémből vagy más anyagból készített házából állnak és füst nélküli lőport tartalmaznak. Arra valók, hogy edzett lövedéket löjjenek ki és ezzel az

olajfúrólyuk béléscsövét átlukasszák.

*Megjegyzés: A FORMÁZOTT TÖLTETEK nem tartoznak ide. Ezek a jelen szójegyzékben külön szerepelnek.*

**GRÁNÁTOK**, kézi-, vagy fegyvergránátok robbanótöltettel: UN 0284, 0285

Ezek a tárgyak kézből történő hajításra vagy fegyverből való kilövésre szolgálnak. Vagy nem tartalmaznak gyújtószerkezetet, vagy olyan gyújtószerkezetet tartalmaznak, amely legalább két hatékony biztonsági szerkezettel van ellátva.

**GRÁNÁTOK**, kézi-, vagy fegyvergránátok robbanótöltettel: UN 0292, 0293

Ezek a tárgyak kézből történő hajításra vagy fegyverből való kilövésre szolgálnak. Olyan gyújtószerkezetet tartalmaznak, amely nincs ellátva két vagy több hatékony biztonsági szerkezettel.

**GYAKORLÓGRÁNÁTOK**, kézi- vagy fegyvergránátok: UN 0110, 0318, 0372, 0452

Ezek a tárgyak nem tartalmaznak fő robbanótöltetet. Kézből történő hajításra vagy fegyverből való kilövésre szolgálnak. Tartalmaznak gyújtószerkezetet és tartalmazhatnak jelzőtöltetet.

**GYAKORLÓLŐSZER**: UN 0362, 0488

Olyan lőszer, amely nem tartalmaz fő robbanótöltetet, de tartalmaz szétvető- vagy kidobótöltetet. A lőszer rendszerint gyutacsot és hajtótöltetet is tartalmaz.

*Megjegyzés: A GYAKORLÓGRÁNÁTOK nem tartoznak ezen fogalom alá. Ezek a jelen szójegyzékben önállóan szerepelnek.*

**GYÚJTÁSERŐSÍTŐK DETONÁTORRAL**: UN 0225, 0268

A tárgyak detonáló robbanóanyagot és gyújtószert tartalmaznak, és a detonátor vagy robbanózsínór gyújtóimpulzusának erősítésére szolgálnak.

**GYÚJTÁSERŐSÍTŐK** detonátor nélkül: UN 0042, 0283

Ezek a tárgyak gyújtószert nélküli detonáló robbanóanyagot tartalmaznak és a detonátor vagy robbanózsínór gyújtóimpulzusának erősítésére szolgálnak.

**GYÚJTÓK**: UN 0121, 0314, 0315, 0325, 0454

Ezek a tárgyak egy vagy több robbanóanyagot tartalmaznak. Rendeltetésük a robbantó- vagy gyújtóláncban a deflagráció kiváltása. A tárgyak vegyi, villamos vagy mechanikus úton hozhatók működésbe.

*Megjegyzés: A következő tárgyak nem tartoznak e fogalom alá: GYÚJTÓZSINÓR; GYÚJTÓZSINÓR-GYÚJTÓK; GYUTACSCSÖVEK, GYUTACS-SZELENCÉK; GYUTACSKAPSZULÁK; INDÍTÓGYÚJTÓK; PILLANATGYÚJTÓ, NEM ROBBANÓ; ROBBANÓZSINÓR. Ezek a jelen szójegyzékben külön szerepelnek.*

**GYÚJTÓZSINÓR**: UN 0066

Ez a tárgy vagy fekete lőporral vagy más, gyorsan égő pirotechnikai keverékkel bevont textilszálakból készül, amely szálak hajlékony tömlőben vannak, vagy fekete lőpor bélből áll, amely hajlékony szövött textilburkolattal van körülvéve. A gyújtózsínór teljes hosszúsága mentén előrehaladó nyílt lánggal ég, és a gyújtás átvitelére használatos valamely gyújtókészüléktől töltetre vagy gyújtószerkezetre.



**GYÚJTÓZSINÓR, BIZTONSÁGI: UN 0105**

Ez a tárgy finom szemcsés fekete lőpor belet tartalmaz, amely hajlékony textilszövetből álló egy- vagy többretegű külső burkolattal van ellátva. A zsinór meggyújtás után mindenféle robbanó hatás nélkül meghatározott sebességgel végigég.

**GYÚJTÓZSINÓR-GYÚJTÓK, cső formájú fémköpennyel: UN 0103**

Ez a tárgy deflagráló robbanóanyag-béllel ellátott fémcső.

**GYÚJTÓZSINÓR-GYÚJTÓK: UN 0131**

Különböző felépítésű tárgyak, amelyek a biztonsági gyújtózsínór begyújtására szolgálnak. Dörzsöléssel, ütéssel vagy villamos úton lépnek működésbe.

**GYUTACSCSÖVEK, GYUTACSSZELENCÉK: UN 0319, 0320, 0376**

Primer robbanóanyagból és deflagráló robbanóanyagból, pl. fekete lőporból, álló kiegészítő töltetet tartalmazó tárgyak. A lövegekhez való lövedék hüvelyében levő töltet indításához használják.

**GYUTACSKAPSZULÁK: UN 0044, 0377, 0378**

Ütésre könnyen robbanó, kis mennyiségű primer robbanóanyag keveréket tartalmazó fém- vagy műanyag gyutacs kapszula. Ezek a tárgyak kézfegyver töltényekben indítóelemként és lövegeknél ütőgyutacsaként használatosak.

**GYUTACSOK LŐSZEREKHEZ: UN 0073, 0364, 0365, 0366**

Ezek a tárgyak kis fém- vagy műanyagcsőből állnak, és robbanóanyagot, pl. ólom-azidot, PETN-t vagy robbanóanyagok kombinációját tartalmazzák. A gyújtólánc indítására valók.

**GYUTACSOK, NEMVILLAMOSAK, robbantáshoz: UN 0029, 0267, 0455**

Ezek a tárgyak az ipari robbantóanyagok indítására valók késleltető szerkezettel vagy anélkül. A nemvillamos gyutacsokat ütőgyújtóval, gyújtócsővel, gyújtózsínórral, egyéb robbantóeszközzel, vagy hajlékony robbanózsínórral hozzák működésbe. Ide tartoznak a robbanózsínór nélküli kapcsolók is.

**GYUTACSOK, VILLAMOSAK, robbantáshoz: UN 0030, 0255, 0456**

Ezek a tárgyak az ipari robbantóanyagok indítására szolgálnak, késleltető szerkezettel vagy anélkül. A villamos gyutacsokat villamos árammal hozzák működésbe.

**HAJTÓANYAG, FOLYÉKONY: UN 0495, 0497**

Deflagráló, folyékony robbanóanyag tárgyak mozgatására.

**HAJTÓANYAG, SZILÁRD: UN 0498, 0499, 0501**

Deflagráló, szilárd robbanóanyag tárgyak mozgatására.

**HAJTÓTÖLTETEK: UN 0271, 0272, 0415, 0491**

Ezek a tárgyak tetszőleges fizikai formájú hajtótöltetből állnak burkolattal vagy anélkül és mint rakétamotorok alkotórészeként vagy a lövedék lassulásának csökkentésére szolgálnak.

**HEXOTONAL: UN 0393**

Ez az anyag ciklotrimetilén-trinitramin (RDX), trinitro-toluol (TNT) és alumínium belsőseges keverékből áll.

**HEXOLIT (HEXOTOL)**, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített: UN 0118

Ez az anyag ciklotrimetilén-trinitramin (RDX) és trinitro-toluol (TNT) belsőseges keverékéből áll. Ide tartozik a „Composition B” is.

**INDÍTÓGYÚJTÓK:** UN 0316, 0317, 0368

Ezek a tárgyak primer robbanóanyagot tartalmaznak, és lőszerekben a deflagráció kiváltására valók. A deflagráció kiváltására mechanikai, villamos, kémiai vagy hidrosztatikus úton aktiválható szerkezetet tartalmaznak. Rendszerint biztonsági szerkezettel rendelkeznek.

**JELZŐPATRONOK:** UN 0054, 0312, 0405

Ezek a tárgyak arra valók, hogy színes fényjeleket vagy más jeleket adjanak jelzőpisztolyból vagy egyéb eszközből kilőve.

**JELZŐTESTEK, KÉZI:** UN 0191, 0373

Ezek hordozható tárgyak, amelyek pirotechnikai anyagot tartalmaznak, és látható jelző vagy figyelmeztető hatást keltenek. Ide tartoznak a kisméretű földi világítótestek, pl. autópálya fáklyák, vasúti fáklyák vagy kis vízi fáklyák.

**KÁBELVÁGÓ SZERKEZET ROBBANÓANYAGGAL:** UN 0070

Ez a tárgy egy késszerű szerkezetből áll, amelyet deflagráló robbanóanyagból álló kis töltet egy ellendarabhoz sajtol.

**KÉZIFEGYVER TÖLTÉNYEK:** UN 0012, 0339, 0417

Olyan lőszer, amelyek központi vagy peremgyújtású töltényhüvelyből állnak, valamint kidobótöltetet és szilárd lövedéket tartalmaznak. Legfeljebb 19,1 mm kaliberű fegyverekhez valók. Ide tartoznak a tetszőleges kaliberű sörétpatronok.

*Megjegyzés: Nem tartoznak ide a VAKTÖLTÉNYEK KÉZIFEGYVEREKHEZ, amelyek külön vannak feltüntetve, és egyes katonai kézifegyvertöltények, amelyek a TÖLTÉNYEK FEGYVEREKHEZ INERT LÖVEDÉKKEL fogalomba tartoznak.*

**KIDOBÓTÖLTETEK LÖVEGEKHEZ:** UN 0242, 0279, 0414

Löveglőszerkezetekhez külön betöltendő kidobótöltetek bármilyen fizikai formában.

**KIOLDÓSZERKEZETEK, ROBBANÓANYAG TARTALMÚAK:** UN 0173

Ezek a tárgyak kis robbanótöltetből, gyújtószerkezetből és rudazatból vagy összekötő darabból állnak. Arra valók, hogy a rudazat vagy összekötő darab átszakításával a szerkezeteket gyorsan szétkapcsolják.

**KÖTÉLVETŐ RAKÉTÁK:** UN 0238, 0240, 0453

Ezek a tárgyak rakétahajtóműből állnak, és arra valók, hogy kötelet húzzanak magukkal.

**KÖZETREPESZTŐ TORPEDÓK**, detonátor nélkül, olajkutak fúrásához: UN 0099

Ezek a tárgyak gyújtószer nélküli detonáló robbanóanyagot tartalmazó házból állnak. A fúróluk környezetében a közet repesztésére használják, hogy a kőolaj kilépését a közetből megkönnyítsék.



**LÉGZSÁK GÁZGENERÁTOR** vagy **LÉGZSÁK MODUL** vagy **BIZTONSÁGI ÖV ELŐFESZÍTŐ**: UN 0503

Pirotechnikai anyagot tartalmazó tárgyak, amelyeket gépjárműben életmentő légszákként vagy biztonsági övként használnak.

**LŐPORBRIKETT (LŐPORPASZTA)**, legalább 17 tömeg% alkohollal **NEDVESÍTETT**: UN 0433**LŐPORBRIKETT (LŐPORPASZTA)**, legalább 25 tömeg% vízzel **NEDVESÍTETT**: UN 0159

Nitrocellulózsból álló anyag, amely legfeljebb 60 tömeg% nitroglicerinnel, más folyékony szerves nitráttal vagy ezek keverékével van impregnálva.

**LŐSZER, GYÚJTÓ HATÁSÚ**, gyúlékony folyadék vagy gél tartalommal, robbanó-, kidobó- vagy hajtótöltettel: UN 0247

Olyan lőszer, amelyek folyékony vagy gélszerű gyújtóanyagot tartalmaznak. Amennyiben a gyújtóanyag maga nem robbanóanyag, akkor a lőszer a következő alkotórészekből is tartalmaz egyet vagy többet: hajtótöltet gyutaccsal és indítótöltettel; gyújtók robbanó- vagy kidobótöltettel.

**LŐSZER, GYÚJTÓ HATÁSÚ**, robbanó-, kidobó- vagy hajtótöltettel vagy anélkül: UN 0009, 0010, 0300

Olyan lőszer, amelyek gyújtó hatású anyagot tartalmaznak. Amennyiben a gyújtóanyag maga nem robbanóanyag, akkor a lőszer a következő alkotórészekből is tartalmaz egyet vagy többet: hajtótöltet gyutaccsal és indítótöltettel; gyújtók robbanó- vagy kidobótöltettel.

**LŐSZER, GYÚJTÓ HATÁSÚ, FEHÉRFOSZFOR TARTALMÚ**, robbanó-, kidobó- vagy hajtótöltettel: UN 0243, 0244

Olyan lőszer, amelyek gyújtóanyagként fehérfoszfort tartalmaznak. A következő alkotórészekből is tartalmaznak egyet vagy többet: hajtótöltet gyutaccsal és indítótöltettel; gyújtók robbanó- vagy kidobótöltettel.

**LŐSZER, KÖNNYEZTETŐ HATÁSÚ**, robbanó-, kidobó- vagy hajtótöltettel: UN 0018, 0019, 0301

Olyan lőszer, amelyek könnyeztető anyagot tartalmaznak. A következő alkotórészekből is tartalmaznak egyet vagy többet: pirotechnikai anyag; hajtótöltet gyutaccsal és indítótöltettel; gyújtók robbanó- vagy kidobótöltettel.

**LŐSZER, VILÁGÍTÓ HATÁSÚ**, robbanó-, kidobó- vagy hajtótöltettel vagy anélkül: UN 0171, 0254, 0297

Olyan lőszer, amelyek intenzív fényforrásként szolgálhatnak valamely terület megvilágítására. A fogalom tartalmazza a világítógránátokat és világítólövedékeket, valamint a világítóbombákat és a célmegjelölő bombákat is.

*Megjegyzés: A következő tárgyak nem tartoznak e fogalomkörbe: JELZŐPATRONOK; JELZŐTESTEK, KÉZI; VÉSZJELZŐK, tengeri; VILÁGÍTÓTESTEK, FÖLDI; VILÁGÍTÓTESTEK, LÉGI. Ezek a jelen szójegyzékben külön vannak feltüntetve.*

**LÖVEDÉKEK**, inert, nyomjelzőszerrel: UN 0345, 0424, 0425

Olyan tárgyak, mint pl. a gránátok vagy golyók, amelyeket ágyúból vagy más lövegből, puskákból vagy más kézfegyverből lőnek ki.

**LÖVEDÉKEK** robbanó- vagy kidobótöltettel: UN 0346, 0347

Olyan tárgyak, mint pl. a gránátok vagy golyók, amelyeket ágyúból vagy más lövegből lőnek ki. Ezek a tárgyak vagy nem tartalmaznak gyújtószert vagy olyan gyújtószert tartalmaznak, amely legalább két hatékony biztonsági szerkezettel van ellátva. Színjelzésre vagy más inert anyag szétszórására valók.

**LÖVEDÉKEK** robbanó- vagy kidobótöltettel: UN 0426, 0427

Olyan tárgyak, mint pl. a gránátok vagy golyók, amelyeket ágyúból vagy más lövegből lőnek ki. Ezek a tárgyak olyan gyújtószert tartalmaznak, amely nincs ellátva legalább két hatékony biztonsági szerkezettel. Színjelzésre vagy más inert anyag szétszórására valók.

**LÖVEDÉKEK** robbanó- vagy kidobótöltettel: UN 0434, 0435

Olyan tárgyak, mint pl. a gránátok vagy golyók, amelyeket ágyúból vagy más lövegből, puskából vagy más kézfegyverből lőnek ki. Színjelzésre vagy más inert anyag szétszórására valók.

**LÖVEDÉKEK** robbanótöltettel: UN 0167, 0324

Olyan tárgyak, mint pl. a gránátok vagy golyók, amelyeket ágyúból vagy más lövegből lőnek ki. Ezek a tárgyak olyan gyújtószert tartalmaznak, amely nincs ellátva legalább két hatékony biztonsági szerkezettel.

**LÖVEDÉKEK** robbanótöltettel: UN 0168, 0169, 0344

Olyan tárgyak, mint pl. a gránátok vagy golyók, amelyeket ágyúból vagy más lövegből lőnek ki. Ezek a tárgyak vagy nem tartalmaznak gyújtószert vagy olyan gyújtószert tartalmaznak, amely legalább két hatékony biztonsági szerkezettel van ellátva.

**MUNKAVÉGZŐ TÖLTETEK:** UN 0275, 0276, 0323, 0381

Ezek a tárgyak arra valók, hogy mechanikai hatásokat váltsanak ki. Deflagráció robbanóanyagból álló töltetet és gyújtót tartalmazó házból állnak. A deflagrációs termékek robbanási gázai tárgyakat fújnak fel, egyenes vonalú vagy forgó mozgást hoznak létre, vagy megszakítókát, szelepeket vagy kapcsolókat működtetnek, rögzítőelemeket löknek ki, vagy oltószerkezeteket aktiválnak.

**NAGYON ÉRZÉKETLEN ROBBANÓANYAGOK (EVI ANYAGOK), M.N.N.:** UN 0482

Olyan anyagok, amelyek tömegrobbanási veszélyt képviselnek ugyan, de annyira érzéketlenek, hogy igen csekély az iniciálás vagy az égésből a detonálásba való átmenet veszélye a normális szállítási feltételek között, és amelyek kiállták az 5. vizsgálati sorozatot.

**NYOMJELZŐK LŐSZEREKHEZ:** UN 0212, 0306

Ezek olyan zárt tárgyak, amelyek pirotechnikai anyagot tartalmaznak és arra szolgálnak, hogy a lövedékek röppályáját láthatóvá tegyék.

**OKTOLIT (OKTOL),** száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített: UN 0266

Ez az anyag ciklotetrametilén-tetranitramin (HMX) és trinitro-toluol (TNT) belsőseges keverékéből áll.

**OKTONAL:** UN 0496

Ez az anyag ciklotetrametilén-tetranitramin (HMX), trinitro-toluol (TNT) és alumínium belsőseges keverékéből áll.

**PENTOLIT**, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített: UN 0151

Ez az anyag pentaeritrit-tetranitrát (PETN) és trinitro-toluol (TNT) belsőseges keverékéből áll.

**PERFORÁTOR PUSKÁK, TÖLTETTEL**, detonátor nélkül, olajkutak fúrásához: UN 0124, 0494

Ezek a tárgyak acélcsőből vagy fémszalagból állnak, amelyben formázott töltetek vannak. A tölteteket robbanózsínórok kötik össze. Nem tartalmaznak indítószerkezetet.

**PILLANATGYÚJTÓ, NEM ROBBANÓ**: UN 0101

Ezek a tárgyak pamutszálakból állnak, amelyek fekete lőporral vannak impregnálva (gyújtószál). Nyílt lánggal égnék és tűzijáték testek stb. gyújtóláncaiban kerülnek alkalmazásra.

**PIROFOROS TÁRGYAK**: UN 0380

Ezek a tárgyak piroforos (levegő hatására öngyulladásra hajlamos) anyagot és valamilyen robbanóanyagot vagy robbanó alkotórészt tartalmaznak. Nem tartoznak e fogalom alá a fehérfoszfor tartalmú tárgyak.

**PIROTECHNIKAI TÁRGYAK** műszaki célokra: UN 0428, 0429, 0430, 0431, 0432

Olyan tárgyak, amelyek pirotechnikai anyagot tartalmaznak, és műszaki célokra használatosak, pl. hőfejlesztésre, gázfejlesztésre vagy színházi hatások elérésére.

*Megjegyzés: A következő tárgyak nem tartoznak e fogalomkörbe: FÜSTJELZŐK; - JELZŐPATRONOK; JELZŐTESTEK, KÉZI; KÁBELVÁGÓ SZERKEZET ROBBANÓANYAGGAL; KIOLDÓSZERKEZETEK, ROBBANÓ-ANYAG TARTALMÚAK; mindenféle lőszer; ROBBANÓSZEGECSEK; TŰZIJÁTÉK TESTEK; VASÚTI DURRANTYÚK; VÉSZJELZŐK, tengeri; VILÁGÍTÓTESTEK, FÖLDI; VILÁGÍTÓTESTEK, LÉGI. Ezek a jelen szójegyzékben külön vannak feltüntetve.*

**PRÓBALŐSZER**: UN 0363

Olyan lőszer, amely pirotechnikai anyagot tartalmaz, és új lőszer, fegyverrész vagy fegyverrendszer működőképességének és hatásosságának vizsgálatára való.

**RAKÉTAHAJTÓMŰVEK**: UN 0186, 0280, 0281

Ezek a tárgyak toló hatású töltetből (rendszerint szilárd hajtóanyagból) állnak, amely egy vagy több fúvókával ellátott hengerben található. Rakéták vagy irányítható lövedékek hajtására valók.

**RAKÉTAHAJTÓMŰVEK FOLYÉKONY HAJTÓANYAGGAL**: UN 0395, 0396

Ezek a tárgyak egy vagy több fúvókát tartalmazó hengerből állnak, amely folyékony hajtóanyagot tartalmaz. A tárgyak rakéták vagy irányítható lövedékek hajtására valók.

**RAKÉTAHAJTÓMŰVEK HIPERGOL FOLYADÉKOKKAL**, kidobótöltettel vagy anélkül: UN 0250, 0322

Ezek a tárgyak hipergol hajtóanyagból állnak, amely egy vagy több fúvókával ellátott hengerben található. Rakéták vagy irányítható lövedékek hajtására valók.

**RAKÉTÁK FOLYÉKONY HAJTÓANYAGGAL**, robbanótöltettel: UN 0397, 0398

Ezek a tárgyak folyékony hajtóanyaggal töltött, egy vagy több fúvókával ellátott hengerből

és támadófejből állnak. Ide tartoznak irányítható lövedékek is.

**RAKÉTÁK** inert fejjel: UN 0183, 0502

Ezek a tárgyak rakétahajtóműből és inert fejből állnak. Ide tartoznak irányítható lövedékek is.

**RAKÉTÁK** kidobótöltettel: UN 0436, 0437, 0438

A tárgyak rakétahajtóműből és kidobótöltetből állnak, a hasznos teher rakétafejből való kidobására szolgálnak. Ide tartoznak irányítható lövedékek is.

**RAKÉTÁK** robbanótöltettel: UN 0180, 0295

Ezek a tárgyak rakétahajtóműből és támadófejből állnak. Olyan gyújtószerkezetet tartalmaznak, amely nincs ellátva legalább két hatékony biztonsági szerkezettel. Ide tartoznak az irányítható lövedékek is.

**RAKÉTÁK** robbanótöltettel: UN 0181, 0182

Ezek a tárgyak rakétahajtóműből és támadófejből állnak. Vagy nem tartalmaznak gyújtószerkezetet vagy olyan gyújtószerkezetet tartalmaznak, amely legalább két hatékony biztonsági szerkezettel van ellátva. Ide tartoznak irányítható lövedékek is.

**RENDKÍVÜL ÉRZÉKETLEN ROBBANÓTÁRGYAK (EEI TÁRGYAK):** UN 0486

Olyan tárgyak, amelyek csak rendkívül érzéketlen detonáló robbanóanyagokat (EIDS) tartalmaznak és véletlen beindulási vagy detonálás továbbviteli-hajlamuk normális szállítási feltételek között elhanyagolható és kiállták a 7. vizsgálati sorozatot.

**ROBBANÓANYAG MINTÁK,** az indító robbanóanyagok kivételével: UN 0190

Új vagy régebben létező robbanóanyagok vagy robbanótárgyak, amelyek nincsenek besorolva a 3.2 fejezet „A” táblázatának egyetlen megnevezése alá sem, és az illetékes hatóság előírásai szerint általában kis mennyiségben kerülnek szállításra, többek között kísérleti, besorolási, kutatási és fejlesztési vagy minőségellenőrzési célból, vagy mint kereskedelmi minták.

***Megjegyzés:** Azok a robbanóanyagok és robbanótárgyak, amelyek a 3.2 fejezet „A” táblázatának valamely más megnevezése alá vannak besorolva, nem esnek ezen fogalom alá.*

**ROBBANÓGYÚJTÓK:** UN 0106, 0107, 0257, 0367

Ezek a tárgyak robbanóelemeket tartalmaznak, amelyek a lőszerekben a detonáció kiváltására szolgálnak. A detonáció kiváltására mechanikai, villamos, kémiai vagy hidrosztatikus úton aktiválható szerkezetet tartalmaznak. Rendszerint biztonsági szerkezet is be van építve.

**ROBBANÓGYÚJTÓK** biztonsági szerkezettel: UN 0408, 0409, 0410

Ezek a tárgyak robbanó elemeket tartalmaznak, amelyek a lőszerekben a detonáció kiváltására szolgálnak. A detonáció kiváltására mechanikai, villamos, kémiai vagy hidrosztatikus úton aktiválható szerkezetet tartalmaznak. A robbanógyújtókban legalább két hatékony biztonsági szerkezetnek is kell lennie.

**ROBBANÓLÁNC ALKOTÓRÉSZEI, M.N.N.:** UN 0382, 0383, 0384, 0461

Tárgyak, amelyek a detonáció vagy deflagráció továbbvitelére szolgálnak a robbanólánc mentén.

**ROBBANÓSZEGECSEK: UN 0174**

Ezek a tárgyak fémszegecsek, belül levő kis robbanóanyag-töltettel.

**ROBBANÓSZONDÁK: UN 0204, 0296**

Ezek a tárgyak detonáló robbanóanyag-töltetből állnak. Olyan gyújtószer tartalmaznak, amely nincs ellátva (legalább két) hatékony biztonsági szerkezettel. Hajókról dobják a vízbe, és meghatározott vízmélységben vagy a tengerfenékre érve robbannak.

**ROBBANÓSZONDÁK: UN 0374, 0375**

Ezek a tárgyak detonáló robbanóanyag-töltetből állnak. Vagy nem tartalmaznak gyújtószerkezetet vagy olyan gyújtószerkezetet tartalmaznak, amely legalább két hatékony biztonsági szerkezettel van ellátva. Hajókról dobják a vízbe, és meghatározott vízmélységben vagy a tengerfenékre érve robbannak.

**ROBBANÓTÖLTETEK: UN 0048**

Ezek a tárgyak papírlémezből, műanyagból, fémből vagy más anyagból készített házból állnak és detonáló robbanóanyag-töltetet tartalmaznak. Vagy nem tartalmaznak gyújtószerkezetet vagy olyan gyújtószerkezetet tartalmaznak, amely legalább két hatékony biztonsági szerkezettel van ellátva.

***Megjegyzés:** A következő tárgyak nem tartoznak e fogalomkörbe: AKNÁK; BOMBÁK; LÖVEDÉKEK. Ezek a jelen szójegyzékben külön vannak feltüntetve.*

**ROBBANÓTÖLTETEK, IPARIAK, detonátor nélkül: UN 0442, 0443, 0444, 0445**

Ezek a tárgyak gyújtószerkezet nélküli detonáló robbanóanyag-töltetből állnak. Robbantásos hegesztéshez, robbantásos illesztéshez, robbantásos sajtoláshoz vagy más fémmegmunkálási eljáráshoz használatosak.

**ROBBANÓTÖLTETEK, KIEGÉSZÍTŐK: UN 0060**

Ezek a tárgyak kisméretű, eltávolítható erősítőöltetek, amelyet a lövedékek üregébe az indítógyújtó és a fő robbanóöltet közé helyeznek el.

**ROBBANÓTÖLTETEK, MŰANYAG KÖTÉSŰEK: UN 0457, 0458, 0459, 0460**

Ezek a tárgyak műanyag kötésű detonáló robbanóanyag-töltetből állnak. Burkolat nélküli speciális alakúak, és nem tartalmaznak gyújtószerkezetet. Lőszerek, pl. támadófejek alkotórészeként használatosak.

**ROBBANÓZSINÓR, fémköpenyes: UN 0102, 0290**

Ez a tárgy lágy fémcsőben lévő detonáló robbanóanyag-bélből áll, védőbevonattal ellátva vagy anélkül.

**ROBBANÓZSINÓR, hajlékony: UN 0065, 0289**

Ez a tárgy detonáló robbanóanyag-bélből áll, textilszállal körbefonva, műanyagból vagy más anyagból álló burkolattal ellátva. A burkolat nem szükséges, ha a textílfonat portömör.

**ROBBANÓZSINÓR, KISHATÁSÚ, fémköpennyel: UN 0104**

Ez a tárgy lágy fémcsőben lévő detonáló robbanóanyag-bélből áll, védőbevonattal ellátva vagy anélkül. A robbanóanyag mennyisége olyan csekély, hogy kifelé csak kis hatás lép fel.

**ROBBANTÓTÖLTETEK, PROFILOZOTT, HAJLÉKONY, VONAL ALAKÚ: UN 0237, 0288**

Ezek a tárgyak detonáló robbanóanyagból készült V alakú bélből állnak hajlékony köpenybe burkolva.

**SZÉTVETŐK, robbantótöltettel: UN 0043**

Ezek a tárgyak kis robbantótöltetek. Lövedékek vagy más lőszeres szétrobbantására valók, hogy azok tartalma szétszóródjon.

**TÁMADÓFEJEK RAKÉTÁKHOZ robbanó- vagy kidobótöltettel: UN 0370**

Ezek a tárgyak inert hasznos teherből és detonáló vagy deflagráló robbanóanyagot tartalmazó kis töltetből állnak. Vagy nem tartalmaznak gyújtószerkezetet vagy olyan gyújtószerkezetet tartalmaznak, amely legalább két hatékony biztonsági szerkezettel van ellátva. Rakétákba vannak beszerelve az inert anyag szétszórása céljából. Ide tartoznak irányított lövedékek támadófejei is.

**TÁMADÓFEJEK RAKÉTÁKHOZ robbanó- vagy kidobótöltettel: UN 0371**

Ezek a tárgyak inert hasznos teherből és detonáló vagy deflagráló robbanóanyagot tartalmazó kis töltetből állnak. Olyan gyújtószerkezetet tartalmaznak, amely nincs ellátva (két vagy több) hatékony biztonsági szerkezettel. Rakétákba vannak beszerelve az inert anyag szétszórása céljából. Ide tartoznak irányított lövedékek támadófejei is.

**TÁMADÓFEJEK RAKÉTÁKHOZ robbantótöltettel: UN 0286, 0287**

Ezek a tárgyak detonáló robbanóanyagból állnak, amely vagy nem tartalmaz gyújtószerkezetet, vagy olyan gyújtószerkezetet tartalmaz, amely legalább két hatékony biztonsági szerkezettel van ellátva. Rakétákba vannak beszerelve. Ide tartoznak az irányított lövedékek támadófejei is.

**TÁMADÓFEJEK RAKÉTÁKHOZ robbantótöltettel: UN 0369**

Ezek a tárgyak detonáló robbanóanyagból állnak, amely olyan gyújtószerkezetet tartalmaz, ami nincs ellátva (két vagy több) hatékony biztonsági szerkezettel. Rakétákba vannak beszerelve. Ide tartoznak az irányított lövedékek támadófejei is.

**TÁMADÓFEJEK TORPEDÓKHOZ robbantótöltettel: UN 0221**

Ezek a tárgyak detonáló robbanóanyagból állnak. Vagy nem tartalmaznak gyújtószerkezetet, vagy olyan gyújtószerkezetet tartalmaznak, amely legalább két hatékony biztonsági szerkezettel van ellátva. Torpedókba vannak beszerelve.

**TORPEDÓK FOLYÉKONY HAJTÓANYAGGAL, inert fejjel: UN 0450**

Ezek a tárgyak folyékony robbanóanyagot tartalmazó hajtórendszerből, amely a torpedót a víz alatt mozgatja, és inert fejből állnak.

**TORPEDÓK FOLYÉKONY HAJTÓANYAGGAL, robbantótöltettel vagy anélkül: UN 0449**

Ezek a tárgyak vagy folyékony robbanóanyagot tartalmazó hajtórendszerből állnak, amely a támadófejjel ellátott vagy anélküli torpedót a víz alatt mozgatja, vagy folyékony nem robbanó anyagot tartalmazó hajtórendszerből állnak, amely a támadófejjel ellátott torpedót a víz alatt mozgatja.

**TORPEDÓK robbantótöltettel: UN 0329**

Ezek a tárgyak támadófejből és folyékony robbanóanyagot tartalmazó hajtórendszerből



állnak, amely a torpedót a víz alatt mozgatja. A támadófej vagy nem tartalmaz gyújtószerkezetet vagy olyan gyújtószerkezetet tartalmaz, amely legalább két hatékony biztonsági szerkezettel van ellátva.

**TORPEDÓK** robbanótöltettel: UN 0330

Ezek a tárgyak támadófejből és folyékony robbanóanyagot vagy nem robbanó anyagot tartalmazó hajtórendszerből állnak, amely a torpedót a víz alatt mozgatja. A támadófej olyan gyújtószerkezetet tartalmaz, amely nincs ellátva két vagy több hatékony biztonsági szerkezettel.

**TORPEDÓK** robbanótöltettel: UN 0451

Ezek a tárgyak támadófejből és folyékony, nem robbanó hajtórendszerből állnak, amely a torpedót a víz alatt mozgatja. A támadófej vagy nem tartalmaz gyújtószerkezetet vagy olyan gyújtószerkezetet tartalmaz, amely legalább két hatékony biztonsági szerkezettel van ellátva.

**TÖLTÉNYEK FEGYVEREKHEZ INERT LÖVEDÉKKEL:** UN 0012, 0328, 0339, 0417

Olyan lőszer, amely robbanótöltet nélküli lövedékből és kidobótöltetből áll gyutaccsal vagy gyutacs nélkül. A lőszer nyomjelzőszert tartalmazhat, feltéve, hogy a fő veszélyt a kidobótöltet képezi.

**TÖLTÉNYEK FEGYVEREKHEZ** robbanólövedékkal: UN 0005, 0007, 0348

Olyan lőszer, amely robbanótöltetet tartalmazó lövedékből és kidobótöltetből áll gyutaccsal vagy gyutacs nélkül. A lövedék olyan gyújtószerkezetet tartalmaz, amely nincs ellátva (legalább két) hatékony biztonsági szerkezettel. Ide tartoznak összeszerelt löszerek, félig összeszerelt löszerek és különálló darabokból álló löveg löszerek, amennyiben egybe vannak csomagolva.

**TÖLTÉNYEK FEGYVEREKHEZ** robbanólövedékkal: UN 0006, 0321, 0412

Olyan lőszer, amely robbanótöltetet tartalmazó lövedékből és kidobótöltetből áll gyutaccsal vagy gyutacs nélkül. A lövedék vagy nem tartalmaz gyújtószerkezetet vagy olyan gyújtószerkezetet tartalmaz, amely legalább két hatékony biztonsági szerkezettel van ellátva. Ide tartoznak összeszerelt löszerek, félig összeszerelt löszerek és különálló darabokból álló löveg löszerek, amennyiben egybe vannak csomagolva.

**TÖLTÉNYHÜVELYEK, ÜRESEK, ÉGHETŐK, GYUTACS NÉLKÜL:** UN 0446, 0447

Ezek a tárgyak részben vagy teljes egészében nitrocellulózból gyártott töltényhüvelyek.

**TÖLTÉNYHÜVELYEK, ÜRESEK, GYUTACCSAL:** UN 0055; 0379

Ezek a tárgyak fémből, műanyagból vagy más, nem éghető anyagból készülnek. Egyetlen robbanó alkotórészük a gyutacs.

**TRITONAL:** UN 0390

Ez az anyag trinitro-toluol (TNT) és alumínium keverékéből áll.

**TŰZIJÁTÉK TESTEK:** UN 0333, 0334, 0335, 0336, 0337

Olyan pirotechnikai tárgyak, amelyek szórakoztatási célokra használatosak.

**VAKTÖLTÉNYEK FEGYVEREKHEZ:** UN 0014, 0326, 0327, 0338, 0413

Olyan lőszer, amely zárt töltényhüvelyből áll központi vagy peremgyújtással és feketelőpor-

vagy füst nélküli lőportöltetet tartalmaz. A töltényhüvely nem tartalmaz lövedéket. Erős durranás keltésére valók, valamint gyakorláshoz, díszlövéshez, kidobótöltetként és indítópisztolyokhoz stb. használatosak. Ide tartoznak a gyakorló löszerek is.

**VAKTÖLTÉNYEK KÉZIFEGYVEREKHEZ:** UN 0014, 0327, 0338

Olyan löszer, amely zárt töltényhüvelyből áll központi vagy peremgyújtással és feketelőpor- vagy füst nélküli lőportöltetet tartalmaz. A töltényhüvely nem tartalmaz lövedéket. Legfeljebb 19,1 mm kaliberű fegyverekhez valók és erős durranás keltésére szolgálnak és gyakorláshoz, díszlövéshez, kidobótöltetként és indítópisztolyokhoz stb. használatosak.

**VASÚTI DURRANTYÚK:** UN 0192, 0193, 0492, 0493

Ezek a tárgyak pirotechnikai anyagot tartalmaznak, amely a tárgy összetörésekor erős hanghatással felrobban. Vasúti sínre helyezik.

**VÉSZJELZŐK,** tengeri: UN 0194, 0195, 0505, 0506

Ezek a tárgyak pirotechnikai anyagot tartalmaznak és arra valók, hogy durranás, láng, füst vagy ezek kombinációja formájában jelzést adjanak.

**VILÁGÍTÓTESTEK, FÖLDI:** UN 0092, 0418, 0419

Ezek a tárgyak pirotechnikai anyagot tartalmaznak, és a földön megvilágításra, jelzésre, megjelölésre vagy figyelmeztetésre használatosak.

**VILÁGÍTÓTESTEK, LÉGI:** UN 0093, 0403, 0404, 0420, 0421

Ezek a tárgyak pirotechnikai anyagot tartalmaznak és légi járműről ledobva megvilágításra, jelzésre, megjelölésre vagy figyelmeztetésre szolgálnak.

**VILLANÓFÉNY-PATRONOK:** UN 0049, 0050

Ezek a tárgyak házból, gyújtóelemből és villanópor-készletből állnak. Minden alkotórész egyetlen, kilövésre kész tárggyá van egyesítve.

**VILLANÓFÉNYPOR:** UN 0094, 0305

Olyan pirotechnikai anyag, amely meggyújtáskor intenzív fényt kelt.

**VÍZIBOMBÁK:** UN 0056

Ezek a tárgyak detonáló robbanóanyagot tartalmazó hordóból, dobból vagy lövedékből állnak, amely vagy nem tartalmaz gyújtószerkezetet, vagy olyan gyújtószerkezetet tartalmaz, amely legalább két hatékony biztonsági szerkezettel van ellátva. Víz alatti robbanás előidézésére valók.

**VÍZZEL AKTIVÁLHATÓ SZERKEZETEK** robbanó-, kidobó- vagy hajtótöltettel: UN 0248, 0249

Olyan tárgyak, amelyek működése tartalmuk vízzel való fizikai-kémiai reakciójától függ.

**2.2.1.2** *A fuvarozásból kizárt anyagok és tárgyak*

**2.2.1.2.1** Azok a robbanóanyagok, amelyek a „Vizsgálatok és kritériumok kézikönyv”, I. Rész kritériumai szerint nagymértékben robbanásérzékenyek, vagy amelyeknél spontán reakció léphet fel, valamint azok a robbanóanyagok és -tárgyak, amelyek nem sorolhatók a 3.2 fejezet „A” táblázatának valamely megnevezése vagy m.n.n. tétele alá, a fuvarozásból ki vannak zárva.



**2.2.1.2.2** Az A összeférhetőségi csoport anyagai (1.1A – UN 0074, 0113, 0114, 0129, 0130, 0135, 0224 és 0473) a vasúti fuvarozásból ki vannak zárva.

A K összeférhetőségi csoport tárgyai a fuvarozásból ki vannak zárva (1.2K - UN 0020 és 1.3K - UN 0021).

**2.2.1.3**

*A gyűjtőmegnevezések felsorolása*

Osztályozási kód (lásd 2.2.1.1.4)	UN szám	Az anyag vagy tárgy megnevezése
1.1A	0473	ROBBANÓANYAGOK, M.N.N. (a vasúti fuvarozásból ki van zárva)
1.1B	0461	ROBBANÓLÁNC ALKOTÓRÉSZEI, M.N.N.
1.1C	0474	ROBBANÓANYAGOK, M.N.N.
	0497	FOLYÉKONY HAJTÓANYAG
	0498	SZILÁRD HAJTÓANYAG
	0462	ROBBANÓTÁRGYAK, M.N.N.
1.1D	0475	ROBBANÓANYAGOK, M.N.N.
	0463	ROBBANÓTÁRGYAK, M.N.N.
1.1E	0464	ROBBANÓTÁRGYAK, M.N.N.
1.1F	0465	ROBBANÓTÁRGYAK, M.N.N.
1.1G	0476	ROBBANÓANYAGOK, M.N.N.
1.1L	0357	ROBBANÓANYAGOK, M.N.N.
	0354	ROBBANÓTÁRGYAK, M.N.N.
1.2B	0382	ROBBANÓLÁNC ALKOTÓRÉSZEI, M.N.N.
1.2C	0466	ROBBANÓTÁRGYAK, M.N.N.
1.2D	0467	ROBBANÓTÁRGYAK, M.N.N.
1.2E	0468	ROBBANÓTÁRGYAK, M.N.N.
1.2F	0469	ROBBANÓTÁRGYAK, M.N.N.
1.2L	0358	ROBBANÓANYAGOK, M.N.N.
	0248	VÍZZEL AKTIVÁLHATÓ SZERKEZETEK robbanó-, kidobó- vagy hajtótöltettel
	0355	ROBBANÓTÁRGYAK, M.N.N.
1.3C	0132	AROMÁS NITROVEGYÜLETEK DEFLAGRÁLÓ FÉMSÓI, M.N.N.
	0477	ROBBANÓANYAGOK, M.N.N.
	0495	FOLYÉKONY HAJTÓANYAG
	0499	SZILÁRD HAJTÓANYAG
	0470	ROBBANÓTÁRGYAK, M.N.N.
1.3G	0478	ROBBANÓANYAGOK, M.N.N.
1.3L	0359	ROBBANÓANYAGOK, M.N.N.
	0249	VÍZZEL AKTIVÁLHATÓ SZERKEZETEK robbanó-, kidobó- vagy hajtótöltettel
	0356	ROBBANÓTÁRGYAK, M.N.N.
1.4B	0350	ROBBANÓTÁRGYAK, M.N.N.
	0383	ROBBANÓLÁNC ALKOTÓRÉSZEI, M.N.N.

Oszályozási kód (lásd 2.2.1.1.4)	UN szám	Az anyag vagy tárgy megnevezése
1.4C	0479	ROBBANÓANYAGOK, M.N.N.
	0501	SZILÁRD HAJTÓANYAG
	0351	ROBBANÓTÁRGYAK, M.N.N.
1.4D	0480	ROBBANÓANYAGOK, M.N.N.
	0352	ROBBANÓTÁRGYAK, M.N.N.
1.4E	0471	ROBBANÓTÁRGYAK, M.N.N.
1.4F	0472	ROBBANÓTÁRGYAK, M.N.N.
1.4G	0485	ROBBANÓANYAGOK, M.N.N.
	0353	ROBBANÓTÁRGYAK, M.N.N.
1.4S	0481	ROBBANÓANYAGOK, M.N.N.
	0349	ROBBANÓTÁRGYAK, M.N.N.
	0384	ROBBANÓLÁNC ALKOTÓRÉSZEI, M.N.N.
1.5D	0482	NAGYON ÉRZÉKETLEN ROBBANÓANYAGOK (EVI <sup>a)</sup> ANYAGOK), M.N.N.
1.6N	0486	RENDKÍVÜL ÉRZÉKETLEN ROBBANÓTÁRGYAK (EEI <sup>b)</sup> TÁRGYAK)
	0190	ROBBANÓANYAG MINTÁK, az indító robbanóanyagok kivételével <i><b>Megjegyzés:</b> Az alosztályt és az összeférhetőségi csoportot a 2.2.1.1.4 pont elvei alapján és az illetékes hatóság utasításai szerint kell meghatározni.</i>

a) EVI = explosive, very insensitive (angol rövidítés)

b) EEI = explosive, extremely insensitive (angol rövidítés)

**2.2.2 2 osztály Gázok****2.2.2.1 Kritériumok****2.2.2.1.1** A 2 osztály fogalma a tiszta gázokra, a gázkeverékekre, egy vagy több gáz keverékére egy vagy több más anyaggal, valamint az ilyen anyagokat tartalmazó tárgyakra terjed ki.

A gázok olyan anyagok, amelyek

- a) gőznyomása 50 °C-on meghaladja a 300 kPa-t (3 bar-t); vagy
- b) 20 °C-on és 101,3 kPa normál nyomáson teljesen gáz alakúak.

**Megjegyzés:** 1. Az UN 1052 vízmentes hidrogén-fluorid azonban a 8 osztály anyaga.

2. Valamely tiszta gáz tartalmazhat egyéb alkotórészeket is a gyártási folyamatból adódóan vagy hozzáadott anyagokat a termék stabilitásának megőrzésére, amennyiben ezen alkotórészek koncentrációja nem módosítja a gáz besorolását vagy a szállítási feltételeket, mint pl. a töltési fokot, a töltőnyomást, a próbanyomást.

3. A 2.2.2.3 bekezdés m.n.n. tételei tiszta gázokra és gázkeverékekre egyaránt vonatkoznak.

4. A szénsavas italok nem tartoznak a RID előírásainak hatálya alá.

**2.2.2.1.2** A 2 osztály anyagai és tárgyai a következők szerint vannak csoportosítva:

- 1. Sűrített gáz: olyan gáz, amely a szállításra szánt csomagolásban túlnyomás alatt –50 °C-on teljesen gáz halmazállapotú; ebbe a kategóriába tartozik minden gáz, amelynek kritikus hőmérséklete –50 °C vagy annál alacsonyabb
- 2. Cseppfolyósított gáz: olyan gáz, amely a szállításra szánt csomagolásban túlnyomás alatt –50 °C felett részben folyékony állapotban van. Meg kell különböztetni a következőket:
  - nagy nyomáson cseppfolyósított gáz: olyan gáz, amelynek kritikus hőmérséklete –50 °C-nál magasabb, de legfeljebb +65 °C;
  - kis nyomáson cseppfolyósított gáz: olyan gáz, amelynek kritikus hőmérséklete +65 °C-nál magasabb
- 3. Mélyhűtött, cseppfolyósított gáz: olyan gáz, amely a szállításra szánt csomagolásban alacsony hőmérséklete folytán részben folyékony állapotban van
- 4. Oldott gáz: olyan gáz, amely a szállításra szánt csomagolásban túlnyomás alatt folyadék fázisú oldószerben van oldva
- 5. Aeroszol csomagolások és gázzal töltött kisméretű tartályok (gázpatronok)
- 6. Túlnyomás alatti gázt tartalmazó egyéb tárgyak
- 7. Túlnyomás nélküli gázok, amelyekre különleges előírások érvényesek (gázminták).

**2.2.2.1.3** A 2 osztály anyagai és tárgyai (az aeroszokok kivételével) veszélyes tulajdonságaik alapján a következő csoportok valamelyikéhez vannak hozzárendelve:

- A fojtó
- O gyújtó hatású
- F gyúlékony
- T mérgező

TF mérgező, gyúlékony  
TC mérgező, maró  
TO mérgező, gyújtó hatású  
TFC mérgező, gyúlékony, maró  
TOC mérgező, gyújtó hatású, maró.

Ha a gázok vagy gázkeverékek veszélyes tulajdonságai a kritériumok alapján egynél több csoporthoz tartoznak, a T betűvel jelölt csoportok minden más csoportot megelőznek. Az F betűvel jelölt csoportok megelőzik az A vagy O betűvel jelölteket.

**Megjegyzés:** 1. Az ENSZ Minta Szabályzatban, az IMDG kódexben és az ICAO Műszaki Utasításokban a gázokat az általuk képviselt fő veszély alapján a következő három alosztály egyikébe sorolják:

- 2.1 alosztály: gyúlékony gázok (megfelel az F betűvel jelölt csoportokba tartozó gázoknak);
- 2.2 alosztály: nem gyúlékony, nem mérgező gázok (megfelel az A vagy az O betűvel jelölt csoportokba tartozó gázoknak);
- 2.3 alosztály: mérgező gázok (megfelel a T betűvel jelölt, azaz T, TF, TC, TO, TFC és TOC csoportba tartozó gázoknak).

2. A gázzal töltött kisméretű tartályokat (UN 2037) a tartalom veszélyessége alapján az A – TOC csoport valamelyikéhez kell hozzárendelni. Az aeroszolokra (UN 1950) lásd a 2.2.2.1.6 pontot

3. A maró hatású gázok mérgezőnek is tekintendők és ezért a TC, a TFC vagy a TOC csoportba vannak sorolva.

4. A 21 térf. %-nál nagyobb oxigéntartalmú gázkeverékeket gyújtó hatásúnak kell besorolni.

**2.2.2.1.4** Ha a 2 osztálynak a 3.2 fejezet „A” táblázatában név szerint említett valamely keveréke a 2.2.2.1.2 és a 2.2.2.1.5 pontban felsorolt kritériumoktól eltérőeket elégít ki, akkor ezt a keveréket ezen kritériumok szerint kell besorolni és a megfelelő m.n.n. tételhez hozzárendelni.

**2.2.2.1.5** A 2 osztály azon anyagait és tárgyait (az aeroszolok kivételével), amelyek a 3.2 fejezet „A” táblázatában nincsenek név szerint feltüntetve a 2.2.2.1.2 és a 2.2.2.1.3 pont szerint a 2.2.2.3 bekezdésben felsorolt valamely gyújtómegnevezés alá kell besorolni. A kritériumok a következők:

*Fojtó gázok*

Olyan nem gyúlékony, nem gyújtó hatású és nem mérgező gázok, amelyek a légkörben rendes körülmények között jelen levő oxigént hígítják vagy kiszorítják.

*Gyúlékony gázok*

Olyan gázok, amelyek 20 °C-on és 101,3 kPa normál nyomáson

- a) a levegővel alkotott, legfeljebb 13 térf. % gázt tartalmazó keverék formájában gyúlékonyak (alsó robbanási határuk legfeljebb 13%); vagy
- b) az alsó robbanási határuktól függetlenül a levegővel legalább 12 százalékpont terjedelmű robbanási tartománnyal bírnak.

A gyúlékonyságot vizsgálatokkal vagy számítással kell meghatározni az ISO által elfogadott módszerek (lásd az ISO 10156:1996 szabványt) szerint.

Ha nem áll elegendő adat rendelkezésre ezen módszerek használatához, a származási ország illetékes hatósága által elismert más, azonos értékű vizsgálati eljárások is alkalmazhatók.

Ha a származási ország nem valamely COTIF Tagállam, akkor ezeket a módszereket a küldemény által érintett első COTIF Tagállam illetékes hatóságának kell elismernie.

#### *Gyújtó hatású (oxidáló) gázok*

Olyan gázok, amelyek általában oxigén leadásával tüzet okozhatnak, vagy más anyagok égését a levegőnél nagyobb mértékben elősegíthetik. Az oxidáló képességet az ISO által elfogadott módszer (lásd az ISO 10156:1996 és az ISO 10156-2:2005 szabványt) szerinti vizsgálattal vagy számítással kell meghatározni.

#### *Mérgező gázok*

**Megjegyzés:** Azokat a gázokat, amelyek részben vagy teljes egészében a maró hatásuk következtében elégitik ki a mérgezőképesség kritériumait, mérgező gázokként kell besorolni. A maró hatás, mint lehetséges járulékos veszély kritériumait lásd a „maró gázok” címszó alatt is.

Olyan gázok,

- amelyekről ismert, hogy az emberi egészséget veszélyeztető mértékben mérgezők vagy marók; vagy
- amelyekről feltételezhető, hogy az emberre nézve mérgezők vagy marók, mivel a 2.2.61.1 bekezdés szerint vizsgálva az akut mérgezési  $LC_{50}$  értékük legfeljebb  $5000 \text{ ml/m}^3$  (ppm).

A gázkeverékek (beleértve a más osztályba tartozó anyagok gőzeit) esetében a következő képlet használható:

$$a \text{ mérgező (keverék) } LC_{50} \text{ értéke} = \frac{1}{\sum_{i=1}^n \frac{f_i}{T_i}}$$

ahol

$f_i$  = a keverék  $i$ -edik alkotórészének mólaránya

$T_i$  = a keverék  $i$ -edik alkotórészének toxicitási mutatója. A  $T_i$ -érték egyenlő a 4.1.4.1 bekezdés P200 csomagolási utasítása szerinti  $LC_{50}$  értékkel. Amennyiben az  $LC_{50}$  érték nem szerepel a 4.1.4.1 bekezdés P200 csomagolási utasításában, a szakirodalomban található  $LC_{50}$  értéket kell használni. Ha az  $LC_{50}$  érték ismeretlen, a toxicitási mutatót a hasonló fiziológiai és kémiai hatásokkal rendelkező anyagok legalacsonyabb  $LC_{50}$  értéke alapján kell meghatározni, vagy – ha ez az egyetlen gyakorlati lehetőség – kísérleteket kell végezni.

#### *Maró gázok*

Azokat a gázokat és gázkeverékeket, amelyek teljes egészében a maró hatásuk következtében elégitik ki a mérgezőképesség kritériumait, mint maró járulékos veszéllyel bíró mérgező gázokat kell besorolni.

Egy olyan gázkeveréknek, amely a maró és mérgező hatás kombinálódása folytán mérgezőnek tekintendő, akkor van maró járulékos veszélye, ha emberen szerzett tapasztalatok alapján ismert, hogy roncsolja a bőrt, a szemet vagy a nyálkahártyát, vagy ha a keverék maró alkotórészeinek  $LC_{50}$  értéke a következő képlettel számítva legfeljebb  $5000 \text{ ml/m}^3$  (ppm):

$$a \text{ maró (keverék) } LC_{50} \text{ értéke} = \frac{1}{\sum_{i=1}^n \frac{fc_i}{Tc_i}}$$

ahol

$fc_i$  = a keverék i-edik alkotórészének mólaránya

$Tc_i$  = a keverék i-edik maró alkotórészének toxicitási mutatója. A  $Tc_i$ -érték egyenlő a 4.1.4.1 bekezdés P200 csomagolási utasítása szerinti  $LC_{50}$  értékkel. Amennyiben az  $LC_{50}$  érték nem szerepel a 4.1.4.1 bekezdés P200 csomagolási utasításában, a szakirodalomban található  $LC_{50}$  értéket kell használni. Ha az  $LC_{50}$  érték ismeretlen, a toxicitási mutatót a hasonló fiziológiai és kémiai hatásokkal rendelkező anyagok legalacsonyabb  $LC_{50}$  értéke alapján kell meghatározni, vagy – ha ez az egyetlen gyakorlati lehetőség – kísérleteket kell végezni.

#### 2.2.2.1.6 Aeroszolak

Az aeroszolak (UN 1950) veszélyes tulajdonságaik alapján a következő csoportok valamelyikéhez vannak hozzárendelve:

- A fojtó
- O gyújtó hatású
- F gyúlékony
- T mérgező
- C maró
- CO maró, gyújtó hatású
- FC gyúlékony, maró
- TF mérgező, gyúlékony
- TC mérgező, maró
- TO mérgező, gyújtó hatású
- TFC mérgező, gyúlékony, maró
- TOC mérgező, gyújtó hatású, maró.

A csoporthoz rendelés az aeroszol csomagolás tartalmának tulajdonságaitól függ.

**Megjegyzés:** Aeroszol csomagolások hajtóanyagaként nem használhatók a 2.2.2.1.5 pont kritériumai szerint mérgező gázok, ill. a 4.1.4.1 bekezdés P200 csomagolási utasítása szerint piroforos gázok. Azok az aeroszolak, amelyek tartalma mérgezőképesség vagy maró hatás tekintetében a I csomagolási csoportnak felel meg, a fuvarozásból ki vannak zárva (lásd még a 2.2.2.2.2 pontot is).

A kritériumok a következők:

- a) az A csoporthoz kell hozzárendelni, ha a tartalom a következő b) – f) pont szerinti, egyetlen más csoport kritériumainak sem felel meg;
- b) az O csoporthoz kell hozzárendelni, ha az aeroszol a 2.2.2.1.5 pont szerint gyújtó hatású (oxidáló) gázt tartalmaz;
- c) az F csoporthoz kell hozzárendelni, ha a tartalom 85 tömeg% vagy annál több

gyúlékony alkotórészt tartalmaz és a kémiai égéshő 30 kJ/g vagy annál nagyobb;

nem kell az F csoporthoz hozzárendelni, ha a tartalom 1 tömeg% vagy annál kevesebb gyúlékony alkotórészt tartalmaz és a kémiai égéshő 20 kJ/g-nál kisebb;

egyéb esetekben az aeroszol gyúlékonyságát a „Vizsgálatok és kritériumok kézikönyv”, III. rész 31. fejezetében leírt vizsgálatokkal kell meghatározni. A vizsgálat szerint „rendkívül gyúlékony”, ill. „gyúlékony” aeroszolókat az F csoporthoz kell hozzárendelni.

**Megjegyzés:** A gyúlékony alkotórészek a „Vizsgálatok és kritériumok kézikönyv”, III. rész 31.1.3 szakaszához fűzött 1 – 3. megjegyzésben meghatározott gyúlékony folyékony anyagok, gyúlékony szilárd anyagok, ill. gyúlékony gázok és gázkeverékek. Ez a meghatározás nem terjed ki a piroforos, az önmelegedő és a vízzel reaktív anyagokra. A kémiai égéshőt a következő módszerek valamelyikével kell meghatározni: ASTM D 240, ISO/FDIS 13943: 1999 (E/F) 86.1 – 86.3, ill. NFPA 30B.

- d) a T csoporthoz kell hozzárendelni, ha a tartalom, az aeroszol csomagolás hajtóanyagát kivéve, a 6.1 osztály II vagy III csomagolási csoportjába tartozik;
- e) a C csoporthoz kell hozzárendelni, ha a tartalom, az aeroszol csomagolás hajtóanyagát kivéve, kielégíti a 8 osztály II vagy III csomagolási csoportjának kritériumait;
- f) ha az O, F, T és C csoport közül egynél több kritériuma teljesül, akkor az esettől függően a CO, FC, TF, TC TO, TFC vagy TOC csoporthoz kell hozzárendelni.

## **2.2.2.2 A fuvarozásból kizárt gázok**

**2.2.2.2.1** A 2 osztály vegyileg nem állandó anyagai csak akkor fuvarozhatók, ha megtették a szükséges intézkedéseket a normális szállítási körülmények között a veszélyes reakció, mint pl. bomlás, szétválás vagy polimerizálódás mindenfajta lehetőségének megakadályozására. E célból különösen arról kell gondoskodni, hogy a tartályok és tartányok ne tartalmazzanak olyan anyagokat, amelyek ezeket a reakciókat elősegíthetik.

**2.2.2.2.2** A következő anyagok és keverékek a fuvarozásból ki vannak zárva:

- UN 2186 hidrogén-klorid, mélyhűtött, cseppfolyósított;
- UN 2421 nitrogén-trioxid;
- UN 2455 metil-nitrit;
- azok a mélyhűtött, cseppfolyósított gázok, amelyek nem sorolhatók a 3A, 3O vagy 3F osztályozási kód alá;
- azok az oldott gázok, amelyek nem sorolhatók az UN 1001, 2073 vagy 3318 alá;
- azok az aeroszolókat, amelyek hajtógázként olyan gázt tartalmaznak, amely a 2.2.2.1.5 pont kritériuma szerint mérgező, vagy a 4.1.4.1 bekezdés P200 csomagolási utasítás kritériuma szerint piroforos;
- azok az aeroszolókat, amelyek tartalma a mérgezőképesség vagy maró hatás tekintetében az I csomagolási csoportnak felel meg (lásd a 2.2.61 és a 2.2.8 szakaszt);
- azok a nagyon mérgező gázzal ( $LC_{50}$  200 ppm-nél kisebb) vagy olyan gázzal töltött kisméretű tartályok (gázpatronok), amely gáz a 4.1.4.1 bekezdés P200 csomagolási utasítás kritériuma szerint piroforos.

## 2.2.2.3

## A gyűjtőmegnevezések felsorolása

Osztályozási kód	UN szám	Az anyag vagy tárgy megnevezése
<i>Sűrített gázok</i>		
1A	1956	SŰRÍTETT GÁZ, M.N.N.
1O	3156	SŰRÍTETT GÁZ, GYÚJTÓ HATÁSÚ, M.N.N.
1F	1964	SZÉNHIDROGÉN-GÁZ KEVERÉK, SŰRÍTETT, M.N.N.
	1954	SŰRÍTETT GÁZ, GYÚLÉKONY, M.N.N.
1T	1955	SŰRÍTETT GÁZ, MÉRGEZŐ, M.N.N.
1TF	1953	SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚLÉKONY, M.N.N.
1TC	3304	SŰRÍTETT GÁZ, MÉRGEZŐ, MARÓ, M.N.N.
1TO	3303	SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, M.N.N.
1TFC	3305	SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚLÉKONY, MARÓ, M.N.N.
1TOC	3306	SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, MARÓ, M.N.N.
<i>Cseppfolyósított gázok</i>		
2A	1058	CSEPPFOLYÓSÍTOTT GÁZ, nem gyúlékony, nitrogén, széndioxid vagy levegő alatt
	1078	HŰTŐGÁZ, M.N.N. mint pl. az R ... jelű gázok keveréke, azaz: F1 keverék, amelynek gőznyomása 70 °C-on 1,3 MPa-nál (13 bar) nem nagyobb, és sűrűsége 50 °C-on a diklór-fluor-metánénál (1,30 kg/l) nem kisebb; F2 keverék, amelynek gőznyomása 70 °C-on 1,9 MPa-nál (19 bar) nem nagyobb, és sűrűsége 50 °C-on a diklór-difluor-metánénál (1,21 kg/l) nem kisebb; F3 keverék, amelynek gőznyomása 70 °C-on 3 MPa-nál (30 bar) nem nagyobb, és sűrűsége 50 °C-on a klór-difluor-metánénál (1,09 kg/l) nem kisebb. <b>Megjegyzés:</b> A triklór-monofluor-metán (R 11 hűtőgáz), az 1,1,2-triklór-1,2,2-trifluor-etán (R 113 hűtőgáz), az 1,1,1-triklór-2,2,2-trifluor-etán (R 113a hűtőgáz), az 1-klór-1,2,2-trifluor-etán (R 133 hűtőgáz) és az 1-klór-1,1,2-trifluor-etán (R 133b hűtőgáz) nem a 2 osztály anyaga, az F1, F2, F3 keverékekben azonban előfordulhatnak.
	1968	ROVARIRTÓ GÁZ, M.N.N.
	3163	CSEPPFOLYÓSÍTOTT GÁZ, M.N.N.
2O	3157	CSEPPFOLYÓSÍTOTT GÁZ, GYÚJTÓ HATÁSÚ, M.N.N.
2 F	1010	BUTADIÉNEK ÉS SZÉNHIDROGÉN KEVERÉKE, STABILIZÁLT, amelynek gőznyomása 70 °C-on nem haladja meg az 1,1 MPa-t (11 bar-t) és sűrűsége 50 °C-on legalább 0,525 kg/l <b>Megjegyzés:</b> A stabilizált butadiének is az UN 1010 alá vannak besorolva, lásd a 3.2 fejezet „A” táblázatát.



Osztályozási kód	UN szám	Az anyag vagy tárgy megnevezése
2F (folyt.)	1060	<p>METIL-ACETILÉN ÉS PROPADIÉN KEVERÉK, STABILIZÁLT</p> <p>mint a metil-acetilén és propadién keveréke szénhidrogénnel, azaz:</p> <p>P1 keverék legfeljebb 63 térf.% metil-acetilén és propadién, és legfeljebb 24 térf.% propán és propén tartalommal, a telített C<sub>4</sub>-szénhidrogén részarányának legalább 14 térf.%-nak kell lennie; és</p> <p>P2 keverék legfeljebb 48 térf.% metil-acetilén és propadién, és legfeljebb 50 térf.% propán és propén tartalommal, a telített C<sub>4</sub>-szénhidrogén részarányának legalább 5 térf.%-nak kell lennie; valamint</p> <p>propadién keverékei 1...4% metil-acetilénnel.</p>
	1965	<p>SZÉNHIDROGÉN-GÁZ KEVERÉK, CSEPPFOLYÓSÍTOTT, M.N.N.</p> <p>keverékek, mint:</p> <p>A gázkeverék, amelynek gőznyomása 70 °C-on nem haladja meg az 1,1 MPa-t (11 bar-t), és sűrűsége 50 °C-on 0,525 kg/l-nél nem kisebb</p> <p>A01 gázkeverék, amelynek gőznyomása 70 °C-on nem haladja meg az 1,6 MPa-t (16 bar-t), és sűrűsége 50 °C-on 0,516 kg/l-nél nem kisebb</p> <p>A02 gázkeverék, amelynek gőznyomása 70 °C-on nem haladja meg az 1,6 MPa-t (16 bar-t), és sűrűsége 50 °C-on 0,505 kg/l-nél nem kisebb</p> <p>A0 gázkeverék, amelynek gőznyomása 70 °C-on nem haladja meg az 1,6 MPa-t (16 bar-t), és sűrűsége 50 °C-on 0,495 kg/l-nél nem kisebb</p> <p>A1 gázkeverék, amelynek gőznyomása 70 °C-on nem haladja meg a 2,1 MPa-t (21 bar-t), és sűrűsége 50 °C-on 0,485 kg/l-nél nem kisebb</p> <p>B1 gázkeverék, amelynek gőznyomása 70 °C-on nem haladja meg a 2,6 MPa-t (26 bar-t), és sűrűsége 50 °C-on 0,474 kg/l-nél nem kisebb</p> <p>B2 gázkeverék, amelynek gőznyomása 70 °C-on nem haladja meg a 2,6 MPa-t (26 bar-t), és sűrűsége 50 °C-on 0,463 kg/l-nél nem kisebb</p> <p>B gázkeverék, amelynek gőznyomása 70 °C-on nem haladja meg a 2,6 MPa-t (26 bar-t), és sűrűsége 50 °C-on 0,450 kg/l-nél nem kisebb</p> <p>C gázkeverék, amelynek gőznyomása 70 °C-on nem haladja meg a 3,1 MPa-t (31 bar-t), és sűrűsége 50 °C-on 0,440 kg/l-nél nem kisebb.</p> <p><b>Megjegyzés: 1.</b> Az előbbi gázkeverékek megnevezésére a kereskedelembe szokásos következő elnevezések is használhatók: A, A01, A02 és A0 keverék esetén BUTÁN, C gázkeverék esetén PROPÁN.</p>

Osztályozási kód	UN szám	Az anyag vagy tárgy megnevezése
2F (folyt.)		2. A tengeri vagy légi szállítást megelőző és követő szállításnál az UN 1965 SZÉNHIDROGÉN-GÁZ KEVERÉK, CSEPPFOLYÓSÍTOTT, M.N.N. helyett választható az UN 1075 PETRÓLEUMGÁZ, CSEPPFOLYÓSÍTOTT tétel is.
	3354	ROVARIRTÓ GÁZ, GYÚLÉKONY, M.N.N.
	3161	CSEPPFOLYÓSÍTOTT GÁZ, GYÚLÉKONY, M.N.N.
2T	1967	ROVARIRTÓ GÁZ, MÉRGEZŐ, M.N.N.
	3162	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, M.N.N.
2TF	3355	ROVARIRTÓ GÁZ, MÉRGEZŐ, GYÚLÉKONY, M.N.N.
	3160	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚLÉKONY, M.N.N.
2TC	3308	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, MARÓ, M.N.N.
2TO	3307	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, M.N.N.
2TFC	3309	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚLÉKONY, MARÓ, M.N.N.
2TOC	3310	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, MARÓ, M.N.N.
Mélyhűtött, cseppfolyósított gázok		
3A	3158	MÉLYHŰTÖTT , CSEPPFOLYÓSÍTOTT GÁZ, M.N.N.
3O	3311	MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT GÁZ, GYÚJTÓ HATÁSÚ, M.N.N.
3F	3312	MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT GÁZ, GYÚLÉKONY, M.N.N.
Oldott gázok		
4	Csak a 3.2 fejezet „A” táblázatában felsorolt anyagok fogadhatók el szállításra.	
Aeroszokok és gázzal töltött kisméretű tartályok (gázpatronok)		
5	1950	AEROSZOLOK
	2037	GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők
Túlnyomás alatti gázt tartalmazó egyéb tárgyak		
6A	2857	HŰTŐGÉPEK, nem gyúlékony, nem mérgező gáz vagy ammónia oldat (UN 2672) tartalommal
	3164	PNEUMATIKUS NYOMÁS ALATTI TÁRGYAK (nem gyúlékony gáz tartalommal); vagy
	3164	HIDRAULIKUS NYOMÁS ALATTI TÁRGYAK (nem gyúlékony gáz tartalommal)
6F	3150	KISMÉRETŰ ESZKÖZÖK SZÉNHIDROGÉN-GÁZ TÖLTETTEL, adagolószerkezettel; vagy
	3150	SZÉNHIDROGÉN-GÁZ UTÁNTÖLTŐ PATRONOK KISMÉRETŰ ESZKÖZÖKHÖZ, adagolószerkezettel

<b>Osztályozási kód</b>	<b>UN szám</b>	<b>Az anyag vagy tárgy megnevezése</b>
6F (folyt.)	3478	ÜZEMANYAGCELLA KAZETTA, gyúlékony, cseppfolyósított gáz tartalommal; vagy
	3478	ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN, gyúlékony, cseppfolyósított gáz tartalommal; vagy
	3478	ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBEC SOMAGOLVA, gyúlékony, cseppfolyósított gáz tartalommal;
	3479	ÜZEMANYAGCELLA KAZETTA, fémhidridben lévő hidrogén tartalommal; vagy
	3479	ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN, fémhidridben lévő hidrogén tartalommal; vagy
	3479	ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBEC SOMAGOLVA, fémhidridben lévő hidrogén tartalommal
<i>Gázminták</i>		
7F	3167	TÚLNYOMÁS NÉLKÜLI, GYÚLÉKONY GÁZMINTA, M.N.N., nem mélyhűtött, nem cseppfolyósított
7T	3169	TÚLNYOMÁS NÉLKÜLI, MÉRGEZŐ GÁZMINTA, M.N.N., nem mélyhűtött, nem cseppfolyósított
7TF	3168	TÚLNYOMÁS NÉLKÜLI, MÉRGEZŐ, GYÚLÉKONY GÁZMINTA, M.N.N., nem mélyhűtött, nem cseppfolyósított

**2.2.3 3 osztály Gyúlékony folyékony anyagok****2.2.3.1 Kritériumok****2.2.3.1.1** A 3 osztály fogalomköre olyan anyagokra és ezen osztály anyagait tartalmazó tárgyakra terjed ki, amelyek

- az 1.2.1 szakaszban a „folyékony anyag” meghatározás a) bekezdése szerint folyékonyak;
- gőznyomásuk 50 °C hőmérsékleten legfeljebb 300 kPa (3 bar) és 20 °C hőmérsékleten, 101,3 kPa normál nyomáson nem teljesen gáz alakúak;
- lobbanáspontjuk legfeljebb 60 °C (a vizsgálatra lásd a 2.3.3.1 bekezdést).

A 3 osztály fogalomköre kiterjed az olyan gyúlékony folyékony anyagokra és olvasztott szilárd anyagokra is, amelyek lobbanáspontja meghaladja a 60 °C-ot és amelyeket lobbanáspontjukkal megegyező vagy annál magasabb hőmérsékletre melegítve szállítanak vagy adnak át szállításra. Ezek az anyagok az UN 3256 tétel alá vannak besorolva.

A 3 osztály fogalomköre kiterjed a folyékony, érzéketlenített robbanóanyagokra is. A folyékony, érzéketlenített robbanóanyagok olyan robbanóanyagok, amelyek vízben vagy más folyadékban vannak oldva vagy szuszpendálva azért, hogy homogén folyékony keveréket képezve robbanó tulajdonságaikat elnyomják. A 3.2 fejezet „A” táblázatában ilyen tétel az UN 1204, 2059, 3064, 3343, 3357 és 3379.

**Megjegyzés:** 1. Nem tartoznak a 3 osztályba azok a 35 °C feletti lobbanáspontú, nem mérgező és nem maró anyagok, amelyek a „Vizsgálatok és kritériumok kézikönyv” III. rész 32.2.5 bekezdés kritériumai alapján nem égést fenntartóak; ha azonban az ilyen anyagokat lobbanáspontjukkal megegyező vagy annál magasabb hőmérsékletre melegítve szállítják vagy adják át szállításra, akkor a 3 osztály anyagai.

2. Az előző 2.2.3.1.1 ponttól eltérően a dízelolajat, a gázolajat és a könnyű fűtőolajat 60 °C feletti, de legfeljebb 100 °C lobbanásponttal a 3 osztály UN 1202 számú anyagának kell tekinteni.
3. Azok a folyékony anyagok, amelyek lobbanáspontja 23 °C alatt van és belélegzés esetén nagyon mérgezőek, valamint azok, amelyek lobbanáspontja 23 °C vagy annál magasabb és mérgezőek, a 6.1 osztály anyagai (lásd a 2.2.61.1 bekezdést).
4. Azok a peszticidként használt gyúlékony folyékony anyagok és készítmények, amelyek nagyon mérgezők, mérgezők vagy enyhén mérgezők és lobbanáspontjuk 23 °C vagy annál magasabb, a 6.1 osztály anyagai (lásd a 2.2.61.1 bekezdést).

**2.2.3.1.2** A 3 osztály anyagai és tárgyai a következők szerint vannak csoportosítva:

F Gyúlékony folyékony anyagok járulékos veszély nélkül:

F1 Gyúlékony folyékony anyagok 60 °C vagy annál alacsonyabb lobbanásponttal

F2 60 °C feletti lobbanáspontú folyékony anyagok, amelyeket lobbanáspontjukkal megegyező vagy annál magasabb hőmérsékletre melegítve szállítanak vagy adnak fel szállításra (magas hőmérsékletű anyagok)

FT Gyúlékony folyékony anyagok, amelyek mérgezők:

FT1 Gyúlékony folyékony anyagok, amelyek mérgezők

FT2 Peszticidek

FC Gyúlékony folyékony anyagok, amelyek marók

FTC Gyúlékony folyékony anyagok, amelyek mérgezők és marók

D Folyékony, érzéketlenített robbanóanyagok.

#### 2.2.3.1.3

A 3 osztályba sorolt anyagokat és tárgyakat a 3.2 fejezet „A” táblázata sorolja fel. A 3.2 fejezet „A” táblázatában név szerint nem említett anyagokat a 2.2.3.3 bekezdés megfelelő tételéhez és a megfelelő csomagolási csoportba kell sorolni, ezen bekezdés előírásai szerint. A gyúlékony folyékony anyagokat a szállítás során általuk képviselt veszély mértéke alapján a következő csomagolási csoportok egyikéhez kell hozzárendelni:

	Lobbanáspont (zárttéri)	Forráskezdet
I	–	$\leq 35\text{ °C}$
II <sup>a)</sup>	$< 23\text{ °C}$	$> 35\text{ °C}$
III <sup>a)</sup>	$\geq 23\text{ °C}$ és $\leq 60\text{ °C}$	$> 35\text{ °C}$

a) Lásd a 2.2.3.1.4 pontot is.

Járulékos veszéllyel (veszélyekkel) rendelkező folyékony anyagok esetében az előző táblázat alapján meghatározott csomagolási csoportot és a járulékos veszély(ek) fokozata alapján adódó csomagolási csoportot is tekintetbe kell venni, ezek alapján az osztályt és a csomagolási csoportot a 2.1.3.10 bekezdés veszélyességi rangsor táblázata szerint kell meghatározni.

#### 2.2.3.1.4

A folyékony vagy viszkózus keverékeket és készítményeket, beleértve a legfeljebb 20% nitrocellulóz tartalmú keverékeket is, amelyek nitrogéntartalma 12,6%-nál nem több (száraz tömegre vetítve), csak akkor lehet a III csomagolási csoportba sorolni, ha a következő követelményeket kielégítik:

a) az oldószer-szétválási próba során a szétváló oldószer réteg magassága a minta teljes magasságának 3%-ánál kisebb (lásd a „Vizsgálatok és kritériumok kézikönyv” III. Rész, 32.5.1 bekezdését); és

b) a viszkozitás<sup>3)</sup> és a lobbanáspont a táblázatnak megfelelő:

Extrapolált kinematikai viszkozitás, $\nu$ (0-hoz közelítő nyírósebességnél, $23\text{ °C-on}$ ), $\text{mm}^2/\text{s}$	A kifolyási idő, $t$ ISO 2431:1993 szerint		Lobbanáspont, $^{\circ}\text{C}$
	s	A kifolyónyílás átmérője, mm	
$20 < \nu \leq 80$	$20 < t \leq 60$	4	17 felett
$80 < \nu \leq 135$	$60 < t \leq 100$	4	10 felett
$135 < \nu \leq 220$	$20 < t \leq 32$	6	5 felett
$220 < \nu \leq 300$	$32 < t \leq 44$	6	–1 felett
$300 < \nu \leq 700$	$44 < t \leq 100$	6	–5 felett
$700 < \nu$	$100 < t$	6	–5 és alatta

**Megjegyzés:** A 20%-nál több, de legfeljebb 55% nitrocellulózt tartalmazó keverékek, amelynek nitrogéntartalma 12,6%-nál nem több (száraz anyagra vetítve), az UN 2059 szám alá tartoznak.

3) **A viszkozitás meghatározása:** Ha a szóban forgó anyag nemnewtoni folyadék, vagy a viszkozitás kifolyópohárral nem határozható meg, változó nyírósebességű viszkoziméterrel meg kell határozni az anyag dinamikai viszkozitását  $23\text{ °C-on}$ , különböző nyírósebességekre, majd az így kapott, nyírósebességtől függő értékekből a 0 nyírósebességre kell extrapolálni. Az így kapott dinamikai viszkozitás és a sűrűség hányadosa adja a látszólagos kinematikai viszkozitást a 0-hoz közelítő nyírósebességnél.

*A 23 °C-nál alacsonyabb lobbanáspontú keverékek*

- több mint 55% nitrocellulóz-tartalommal, bármilyen nitrogéntartalom esetén, vagy
- legfeljebb 55% nitrocellulóz-tartalommal és 12,6%-nál nagyobb nitrogéntartalom esetén (száraz anyagra vetítve)

az 1 osztály (UN 0340 vagy 0342) vagy a 4.1 osztály (UN 2555, 2556 vagy 2557) anyagai.

**2.2.3.1.5** A nem mérgező, nem maró és környezetre nem veszélyes oldatok és a homogén keverékek, amelyek lobbanáspontja 23 °C vagy ennél magasabb (viszkózus anyagok, mint pl. némely festékek és zománcok, kivéve a 20%-nál nagyobb nitrocellulóz tartalmú anyagokat), 450 litert meg nem haladó tartályokba csomagolva nem esnek a RID előírásainak hatálya alá, ha oldószer-szétválási próba (lásd a „Vizsgálatok és kritériumok kézikönyv” III. rész 32.5.1 bekezdését) során a szétvált oldószer réteg magassága kisebb, mint a teljes mintamagasság 3%-a, és ha 23 °C-on az ISO 2431:1993 szabvány szerinti 6 mm átmérőjű kifolyónyílással ellátott kifolyópohárból a kifolyás időtartama:

- a) legalább 60 s, vagy
- b) legalább 40 s, és nem tartalmaz a 3 osztályba tartozó anyagokból 60%-nál többet.

**2.2.3.1.6** Ha a 3 osztály anyagai valamilyen adalékanyag hozzáadása révén eltérő veszélyességi kategóriába kerülnek át, mint ahová a 3.2 fejezet „A” táblázatában név szerint említett anyagok tartoznak, ezeket a keverékeket vagy oldatokat azok alá a tételek alá kell besorolni, ahová tényleges veszélyességük mértéke alapján tartoznak.

***Megjegyzés:** Az oldatok és keverékek (készítmények és hulladékok) osztályozására lásd a 2.1.3 szakaszt is.*

**2.2.3.1.7** A 2.3.3.1 bekezdés és a 2.3.4 szakasz szerinti vizsgálati eljárások és a 2.2.3.1.1 pontban található kritériumok alapján az is meghatározható, hogy egy név szerint feltüntetett (vagy név szerint feltüntetett anyagot tartalmazó) oldat vagy keverék természete olyan, hogy az oldat vagy keverék nem esik ezen osztály előírásainak hatálya alá (lásd a 2.1.3 szakaszt is).

**2.2.3.2** *A fuvarozásból kizárt anyagok*

**2.2.3.2.1** A 3 osztályba tartozó olyan anyagok, amelyek könnyen peroxidálódnak (mint az éter vagy bizonyos heterociklikus, oxigéntartalmú anyagok), nem fogadhatók el fuvarozásra, ha peroxid-tartalmuk – hidrogén-peroxidra (H<sub>2</sub>O<sub>2</sub>-re) számítva – meghaladja a 0,3%-ot. A peroxid-tartalmat a 2.3.3.2 bekezdésben foglaltak szerint kell meghatározni.

**2.2.3.2.2** A 3 osztály vegyileg nem állandó anyagai csak akkor adhatók át fuvarozásra, ha megtették a szükséges intézkedéseket a fuvarozás alatt bekövetkező veszélyes bomlás vagy polimerizáció megakadályozására. Ezért különösen arról kell gondoskodni, hogy a tartályok és tartányok ne tartalmazzanak olyan anyagokat, amelyek az ilyen reakciókat elősegítik.

**2.2.3.2.3** Azok a folyékony, érzéketlenített robbanóanyagok, amelyek a 3.2 fejezet „A” táblázatában nincsenek feltüntetve, a 3 osztály anyagaiként nem fogadhatók el fuvarozásra.

### 2.2.3.3 A gyűjtőmegnevezések felsorolása

Járolékos - veszély	Osztályozási kód	UN szám	Az anyag vagy tárgy megnevezése
<b>Gyúlékony, folyékony anyagok</b>			
Járolékos veszély nélküli anyagok	F1		1133 RAGASZTÓK gyúlékony folyadék tartalommal 1136 GYÚLÉKONY KÖSZÉNKÁTRÁNY PÁRLATOK 1139 BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonóanyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat) 1169 FOLYÉKONY AROMÁS KIVONATOK 1197 FOLYÉKONY ÍZANYAG KIVONATOK 1210 NYOMDAFESTÉK, gyúlékony vagy 1210 NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony 1263 FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy 1263 FESTÉK SEGÉDANYAGOK (beleértve a festékhígítót vagy oldószert) 1266 PARFÜM KÉSZÍTMÉNYEK gyúlékony oldószerekkel 1293 GYÓGYÁSZATI TINKTÚRÁK 1306 FOLYÉKONY FAKONZERVÁLÓ ANYAGOK 1866 GYANTA OLDAT, gyúlékony 1999 FOLYÉKONY KÁTRÁNYOK, beleértve az útépitésre használt kátrányolajokat, bitument és hígított bitumeneket 3065 ALKOHOLOS ITALOK 3269 POLIÉSZTER-GYANTA KÉSZLET 1224 FOLYÉKONY KETONOK, M.N.N. 1268 NYERSOLAJ PÁRLATOK, M.N.N. vagy 1268 NYERSOLAJ TERMÉKEK, M.N.N. 1987 ALKOHOLOK, M.N.N. 1989 ALDEHIDEK, M.N.N. 2319 TERPÉN SZÉNHIDROGÉNEK, M.N.N. 3271 ÉTEREK, M.N.N. 3272 ÉSZTEREK, M.N.N. 3295 FOLYÉKONY SZÉNHIDROGÉNEK, M.N.N. 3336 FOLYÉKONY, GYÚLÉKONY MERKAPTÁNOK, M.N.N. vagy 3336 FOLYÉKONY, GYÚLÉKONY MERKAPTÁN KEVERÉK, M.N.N. 1993 GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.
F	F2		3256 MAGAS HŐMÉRSÉKLETŰ, GYÚLÉKONY, FOLYÉKONY ANYAG, M.N.N., 60 °C feletti lobbanásponttal, a lobbanásponton vagy magasabb hőmérsékleten
			Magas hőmérsékletű anyag



### 2.2.3.3 A gyűjtőmegnevezések felsorolása (folyt.)

Járulékos veszély	Osztályozási kód	UN szám	Az anyag vagy tárgy megnevezése
Mérgező anyagok	FT1	1228	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ MERKAPTÁNOK, M.N.N. vagy
		1228	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ MERKAPTÁN KEVERÉK, M.N.N.
		1986	GYÚLÉKONY, MÉRGEZŐ ALKOHOLOK, M.N.N.
		1988	GYÚLÉKONY, MÉRGEZŐ ALDEHIDEK, M.N.N.
		2478	GYÚLÉKONY, MÉRGEZŐ IZOCIANÁTOK, M.N.N. vagy
		2478	GYÚLÉKONY, MÉRGEZŐ IZOCIANÁT OLDAT, M.N.N.
		3248	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ GYÓGYSZER, M.N.N.
		3273	GYÚLÉKONY, MÉRGEZŐ NITRILEK, M.N.N.
		1992	GYÚLÉKONY, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
FT	FT2	2758	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ KARBAMÁT PESZTICID
		2760	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ ARZÉN PESZTICID
		2762	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID
		2764	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ TRIAZIN PESZTICID
		2772	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ TIOKARBAMÁT PESZTICID
		2776	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ RÉZ ALAPÚ PESZTICID
		2778	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ HIGANY ALAPÚ PESZTICID
		2780	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ HELYETTESÍTETT NITROFENOL PESZTICID
		2782	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ BIPYRIDILIUM PESZTICID
		2784	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ SZERVES FOSZFORTARTALMÚ PESZTICID
		2787	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ SZERVES ÓN PESZTICID
		3024	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID
		3346	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID
		3350	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ PIRETROID PESZTICID
		3021	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ PESZTICID, M.N.N.
			<i>Megjegyzés: A peszticidek besorolását valamelyételhez a hatóanyag, a peszticid halmazállapota és a lehetséges járulékos veszélyek alapján kell végezni.</i>
Maró anyagok	FC	3469	GYÚLÉKONY, MARÓ FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy
		3469	GYÚLÉKONY, MARÓ FESTÉK SEGÉDANYAG (beleértve a festékfígtót és oldószert
		2733	GYÚLÉKONY, MARÓ AMINOK, M.N.N. vagy
		2733	GYÚLÉKONY, MARÓ POLIAMINOK, M.N.N.
		2985	GYÚLÉKONY, MARÓ KLÓR-SZILÁNOK, M.N.N.
Mérgező, maró anyagok	FTC	3274	ALKOHOLÁTOK OLDA, M.N.N., alkoholban
		2924	MARÓ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.
		3286	MÉRGEZŐ, MARÓ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.
Folyékony, érzéketlenített robbanóanyagok	D	3343	NITROGLICERIN KEVERÉK, ÉRZÉKETLENÍTETT, FOLYÉKONY, GYÚLÉKONY, M.N.N., legfeljebb 30 tömeg% nitroglicerintartalommal
		3357	NITROGLICERIN KEVERÉK, ÉRZÉKETLENÍTETT, FOLYÉKONY, M.N.N., legfeljebb 30 tömeg% nitroglicerintartalommal
		3379	FOLYÉKONY, ÉRZÉKETLENÍTETT ROBBANÓANYAG, M.N.N.



**2.2.41            4.1 osztály      Gyúlékony szilárd anyagok, önreaktív anyagok és szilárd, érzéketlenített robbanóanyagok**

**2.2.41.1            *Kritériumok***

**2.2.41.1.1**      A 4.1 osztály fogalomköre a gyúlékony anyagokra és tárgyakra, az érzéketlenített robbanóanyagokra, amelyek az 1.2.1 szakaszban a „szilárd anyag” meghatározás a) bekezdése szerint szilárdak, valamint a szilárd vagy folyékony önreaktív anyagokra terjed ki.

A következők tartoznak a 4.1 osztályba:

- könnyen gyulladó szilárd anyagok és tárgyak (lásd a 2.2.41.1.3 – 2.2.41.1.8 pontot);
- szilárd és folyékony önreaktív anyagok (lásd a 2.2.41.1.9 – 2.2.41.1.16 pontot);
- szilárd, érzéketlenített robbanóanyagok (lásd a 2.2.41.1.18 pontot);
- önreaktív anyagokkal rokon anyagok (lásd a 2.2.41.1.19 pontot).

**2.2.41.1.2**      A 4.1 osztály anyagai és tárgyai a következők szerint vannak csoportosítva:

F      Gyúlékony szilárd anyagok járulékos veszély nélkül:

- F1      Szerves anyagok
- F2      Szerves anyagok olvasztott állapotban
- F3      Szervetlen anyagok

FO      Gyúlékony szilárd anyagok, amelyek gyújtó hatásúak

FT      Gyúlékony szilárd anyagok, amelyek mérgezőek:

- FT1      Szerves, mérgező anyagok
- FT2      Szervetlen, mérgező anyagok

FC      Gyúlékony szilárd anyagok, amelyek maróak:

- FC1      Szerves, maró anyagok
- FC2      Szervetlen, maró anyagok

D      Szilárd, érzéketlenített robbanóanyagok, járulékos veszély nélkül

DT      Szilárd, érzéketlentett robbanóanyagok, amelyek mérgezőek

SR      Önreaktív anyagok:

- SR1      Önreaktív anyagok hőmérséklet-szabályozási igény nélkül
- SR2      Önreaktív anyagok hőmérséklet-szabályozási igénnyel (a vasúti fuvarozásból ki vannak zárva).

***Gyúlékony szilárd anyagok***

***Meghatározások és tulajdonságok***

**2.2.41.1.3**      A *gyúlékony szilárd anyagok* a könnyen gyulladó szilárd anyagok és azok, amelyek súrlódás révén tüzet okozhatnak.

A *könnyen gyulladó szilárd anyagok* porszerűek, szemcsések vagy pasztaszerűek, és csak akkor veszélyesek, ha a gyújtóforrással, pl. égő gyufával való rövid érintkezéssel könnyen meggyújthatók és a láng gyorsan terjed. A veszélyt nemcsak a tűz jelentheti, hanem a mérgező égéstermékek is. A fémporok különösen azért veszélyesek, mert nehéz a tüzet

eloltani, mivel a szokásos oltószerek, mint a szén-dioxid vagy a víz növelhetik a veszélyt.

#### *Besorolás*

**2.2.41.1.4** A 4.1 osztály gyúlékony szilárd anyagai közé sorolt anyagokat és tárgyakat a 3.2 fejezet „A” táblázata sorolja fel. A 3.2 fejezet „A” táblázatában név szerint nem említett szerves anyagok és tárgyak besorolása a 2.1 fejezet előírásai szerint a 2.2.41.3 bekezdés megfelelő tétele alá tapasztalatok alapján vagy a „Vizsgálatok és kritériumok kézikönyv” III. rész 33.2.1 bekezdése szerinti vizsgálati eljárások eredményei alapján történhet. A 3.2 fejezet „A” táblázatában név szerint nem említett szervetlen anyagok besorolásának a „Vizsgálatok és kritériumok kézikönyv” III. rész 33.2.1 bekezdése szerinti vizsgálati eljárások eredményei alapján kell történnie; a tapasztalatokat is figyelembe kell azonban venni, ha azok szigorúbb hozzárendeléshez vezetnének.

**2.2.41.1.5** A név szerint nem említett anyagoknak a „Vizsgálatok és kritériumok kézikönyv” III. rész 33.2.1 bekezdése szerinti vizsgálati eljárások eredményei alapján a 2.2.41.3 bekezdés valamely tétel alá történő besorolásánál a következő kritériumokat kell alkalmazni:

- a) A fémporok és a fémötvözet-porok kivételével a porszerű, szemcsés vagy pasztaszerű anyagokat akkor kell a 4.1 osztályba könnyen gyulladó anyagnak besorolni, ha azok gyújtóforrással (pl. égő gyufával) való rövid érintkezés hatására könnyen meggyulladnak, vagy ha meggyulladás esetén a láng gyorsan terjed, az égési idő 100 mm mérési távolságon kevesebb 45 s-nál vagy az égési sebesség nagyobb mint 2,2 mm/s.
- b) A fémporokat és a fémötvözet-porokat akkor kell a 4.1 osztályba sorolni, ha lánggal meggyújthatók és a reakció 10 percen belül a minta teljes hosszára kiterjed.

Azokat a szilárd anyagokat, amelyek sűrűdés révén tüzet okozhatnak, valamely meglévő tételhez (pl. gyufához) való hasonlóság alapján, vagy valamely, ráillő különleges előírás alapján kell a 4.1 osztályba sorolni.

**2.2.41.1.6** A „Vizsgálatok és kritériumok kézikönyv” III. rész 33.2.1 bekezdése szerinti vizsgálati eljárások, valamint a 2.2.41.1.4 és a 2.2.41.1.5 pontban található kritériumok alapján az is meghatározható, hogy egy név szerint feltüntetett anyag természete olyan, hogy az anyag nem esik ezen osztály előírásainak hatálya alá.

**2.2.41.1.7** Ha a 4.1 osztály anyagai valamilyen adalékanyag hozzáadása révén eltérő veszélyességi kategóriába kerülnek át, mint ahová a 3.2 fejezet „A” táblázatában név szerint említett anyagok tartoznak, ezeket a keverékeket azok alá a tételek alá kell besorolni, ahová tényleges veszélyességük mértéke alapján tartoznak.

**Megjegyzés:** Az oldatok és keverékek (készítmények és hulladékok) besorolásához lásd a 2.1.3 szakaszt.

#### *Csomagolási csoporthoz való hozzárendelés*

**2.2.41.1.8** A 3.2 fejezet „A” táblázatának egyes tételei alá sorolt gyúlékony szilárd anyagokat a „Vizsgálatok és kritériumok kézikönyv” III. rész 33.2.1 bekezdése szerinti vizsgálati eljárások alapján a II vagy a III csomagolási csoportba kell sorolni, a következő kritériumok szerint:

- a) A könnyen gyulladó szilárd anyagokat, amelyeknél a vizsgálat során az égési idő 100 mm mérési távolságon 45 s-nál kevesebb:
  - a II csomagolási csoportba kell sorolni akkor, ha a láng áthalad a nedvesített zónán;
  - a III csomagolási csoportba kell sorolni akkor, ha a nedvesített zóna legalább négy

percre megállítja a láng terjedését.

b) A fémporokat és fémötvözet-porokat:

a II csomagolási csoportba kell sorolni akkor, ha a vizsgálat során a reakció öt percen belül az egész mintára kiterjed;

a III csomagolási csoportba kell sorolni akkor, ha a vizsgálat során a reakció csak öt percen túl terjed ki az egész mintára.

Azokat a szilárd anyagokat, amelyek sűrűlódás révén tüzet okozhatnak, valamely meglévő tételhez való hasonlóság, vagy valamely különleges előírás alapján kell valamely csomagolási csoporthoz hozzárendelni.

### **Önreaktív anyagok**

#### *Meghatározások*

#### **2.2.41.1.9**

A RID alkalmazásában az önreaktív anyagok termikusan instabil anyagok, amelyek hajlamosak az erős exoterm bomlásra még oxigén (levegő) részvétele nélkül is. Nem tekinthetők a 4.1 osztály önreaktív anyagainak azok az anyagok, amelyek:

- a) az 1 osztály kritériumai szerint robbanóanyagok;
- b) az 5.1 osztály besorolási eljárása szerint gyújtó hatású anyagok (lásd a 2.2.51.1 bekezdést), kivéve a gyújtó hatású anyagok olyan keverékeit, amelyek 5% vagy annál több éghető szerves anyagot tartalmaznak, mivel ezeket a 2. megjegyzésben szereplő elv szerint kell besorolni;
- c) az 5.2 osztály kritériumai szerint szerves peroxidok (lásd a 2.2.52.1 bekezdést);
- d) bomláshője nem éri el a 300 J/g-ot; vagy
- e) öngyorsuló bomlási hőmérséklete (ÖBH) (lásd a 3. megjegyzést) 50 kg-os küldeménydarab esetén meghaladja a 75 °C-ot.

**Megjegyzés:** 1. A bomláshő bármely nemzetközileg elfogadott módszerrel, pl. differenciál kaloriméteres (DSC) méréssel és adiabatikus kalorimetriával meghatározható.

2. Az 5.1 osztály kritériumainak megfelelő gyújtó hatású anyagok keverékeit, amelyek 5% vagy annál több éghető szerves anyagot tartalmaznak, és amelyek nem elégitik ki az előző a), c), d) vagy e) pont kritériumait, az önreaktív anyagok besorolási eljárása szerint meg kell vizsgálni.

Ha a keverék B – F típusú önreaktív anyag jellemzőivel rendelkezik, akkor a 4.1 osztályba kell sorolni.

Ha a keverék a „Vizsgálatok és kritériumok kézikönyv” II. Rész 20.40.3 g) bekezdése alapján G típusú anyag jellemzőivel rendelkezik, akkor az 5.1 osztály kritériumai szerint kell besorolni (lásd a 2.2.51.1 bekezdést).

3. Az öngyorsuló bomlási hőmérséklet (ÖBH) az a legalacsonyabb hőmérséklet, amelynél öngyorsuló bomlás mehet végbe az anyagban a szállításra használt csomagolásban. Az ÖBH meghatározására vonatkozó előírásokat a „Vizsgálatok és kritériumok kézikönyv” II. rész 20. fejezete és a 28.4 bekezdése tartalmazza.

4. Bármely anyagot, ami az önreaktív anyag tulajdonságait mutatja, mint ilyent kell besorolni, még ha az anyag a 2.2.42.1.5 pont szerinti vizsgálatban a 4.2 osztályba történő besoroláshoz pozitív eredményt adott is.

*Tulajdonságok*

- 2.2.41.1.10** Az önreaktív anyagok bomlása hővel, katalitikus szennyeződésekkel való érintkezéssel (pl. savak, nehézfém vegyületek, bázisok), súrlódással vagy ütéssel iniciálható. A bomlás sebessége a hőmérséklettel növekszik és az anyagtól függően változik. A bomlás, különösen ha nem történik meggyulladás, mérgező gázok vagy gőzök fejlődésével járhat. Egyes önreaktív anyagok hőmérséklet-szabályozást igényelnek. Egyes önreaktív anyagok, különösen zárt térben, robbanásszerűen elbomolhatnak. Ezek a jellemzők hígítók hozzáadásával vagy megfelelő csomagolások használatával módosíthatók. Némely önreaktív anyag élénken ég. Önreaktív anyagok például a következő típusú vegyületek:

alifás azovegyületek ( $-C-N=N-C-$ );  
szerves azidok ( $-C-N_3$ );  
diazónium sók ( $-CN_2^+Z^-$ );  
N-nitrózo vegyületek ( $-N-N=O$ ); és  
aromás szulfhidrazidok ( $-SO_2-NH-NH_2$ ).

Ez a felsorolás nem teljes, más reaktív csoportot tartalmazó anyagok és az anyagok egyes keverékei hasonló tulajdonságokkal rendelkezhetnek.

*Besorolás*

- 2.2.41.1.11** Az önreaktív anyagok a veszély mértéke alapján hét típusba vannak sorolva. Az önreaktív anyagok típusai az A típustól, amely abban a csomagolásban, amelyben bevizsgálásra került, nem szállítható, egészen a G típusig tartanak, amely nem esik a 4.1 osztály előírásainak hatálya alá. A B-től F-ig terjedő típusok alá való besorolás az egy csomagolásban engedélyezett legnagyobb mennyiségtől függ. Az anyagok besorolásához alkalmazandó elveket, besorolási eljárásokat, vizsgálati módszereket és kritériumokat, valamint a megfelelő vizsgálati jegyzőkönyvre példát a „Vizsgálatok és kritériumok kézikönyv” II. Rész tartalmazza.

- 2.2.41.1.12** A már besorolt és csomagolóeszközben való szállításra már engedélyezett önreaktív anyagokat a 2.2.41.4 bekezdés, az IBC-ben való szállításra már engedélyezett önreaktív anyagokat a 4.1.4.2 bekezdés IBC520 csomagolási utasítása, és a 4.2 fejezet szerint tartányban szállítható önreaktív anyagokat a 4.2.5.2 bekezdés T23 mobil tartány utasítása sorolja fel. Ezekben a felsorolásokban minden engedélyezett anyag a 3.2 fejezet „A” táblázatának valamely generikus tételéhez (UN 3221 – 3240) hozzá van rendelve, és meg vannak adva a szállítás szempontjából fontos információt jelentő járulékos veszélyek, ill. megjegyzések.

A gyűjtőmegnevezések meghatározzák:

- az önreaktív anyag típusát (B – F), lásd az előző 2.2.41.1.11 pontot;
- a fizikai állapotot (folyékony/szilárd).

A 2.2.41.4 bekezdésben felsorolt önreaktív anyagok besorolása technikailag tiszta anyagokon alapul (kivéve ahol 100%-nál kisebb koncentráció van megadva).

- 2.2.41.1.13** A 2.2.41.4 bekezdésben, a 4.1.4.2 bekezdés IBC520 csomagolási utasításában, ill. a 4.2.5.2 bekezdés T23 mobil tartány utasításában fel nem sorolt önreaktív anyagok besorolását és valamely gyűjtőmegnevezéshez való hozzárendelését a vizsgálati jegyzőkönyv alapján a származási ország illetékes hatóságának kell elvégeznie. A jóváhagyásnak tartalmaznia kell a besorolást és a szállítási feltételeket. Ha a származási ország nem valamely COTIF Tagállam, a besorolást és a szállítási feltételeket a küldemény által érintett első COTIF Tagállam illetékes hatóságának kell elismernie.

- 2.2.41.1.14** Egyes önreaktív anyagokhoz aktivátorok, pl. cinkvegyületek adhatók reaktivitásuk

megváltoztatására. Az aktivátor típusától és koncentrációjától függően ez a termikus stabilitás csökkenéséhez és a robbanó tulajdonságok változásához vezethet. Ha ezen tulajdonságok bármelyike is megváltozik, az új készítményt a besorolási eljárás szerint újra kell értékelni.

**2.2.41.1.15** A 2.2.41.4 bekezdésben fel nem sorolt önreaktív anyag vagy önreaktív anyag készítmény mintákat, amelyekre nézve nem áll rendelkezésre teljes körű vizsgálati eredmény és szállításuk további vizsgálatok vagy értékelés céljából történik, a C típusú önreaktív anyagokra vonatkozó, megfelelő tételhez kell hozzárendelni, feltéve, hogy a következő feltételeknek megfelelnek:

- a rendelkezésre álló adatokból kitűnik, hogy a minta nem veszélyesebb, mint egy B típusú önreaktív anyag;
- a minta az OP2 csomagolási módszernek megfelelően van csomagolva és mennyisége kocsinként nem haladja meg a 10 kg-ot.

A hőmérséklet-szabályozást igénylő minták a vasúti fuvarozásból ki vannak zárva.

#### *Érzéketlenítés*

**2.2.41.1.16** A biztonságos szállítás céljából az önreaktív anyagokat számos esetben hígítók használatával érzéketlenítik. Amennyiben valamely anyag százalékos tartalma meg van határozva, ez a tartalom tömegére vonatkozik, egész számra kerekítve. Hígító használata esetén az önreaktív anyagot a szállítás során használt koncentrációjú és formájú hígító jelenléte mellett kell vizsgálni. Olyan hígítók, amelyek a küldeménydarabból való kifolyás esetén lehetővé teszik, hogy az önreaktív anyag veszélyes mértékben koncentrálódhasson, nem használhatók. A használt hígítónak az önreaktív anyaggal összeférhetőnek kel lennie. Ebben a tekintetben összeférhető hígítók azok a szilárd vagy folyékony anyagok, amelyek nem befolyásolják hátrányosan az önreaktív anyag termikus stabilitását és veszélytípusát.

**2.2.41.1.17** (fenntartva)

#### *Szilárd, érzéketlenített robbanóanyagok*

**2.2.41.1.18** A szilárd, érzéketlenített robbanóanyagok olyan anyagok, amelyeket vízzel vagy alkohollal nedvesítenek vagy más anyagokkal hígítanak azért, hogy robbanó tulajdonságaikat elnyomják. A 3.2 fejezet „A” táblázatában ilyen tétel az UN 1310, 1320, 1321, 1322, 1336, 1337, 1344, 1347, 1348, 1349, 1354, 1355, 1356, 1357, 1517, 1571, 2555, 2556, 2557, 2852, 2907, 3317, 3319, 3344, 3364, 3365, 3366, 3367, 3368, 3369, 3370, 3376, 3380 és 3474.

#### *Önreaktív anyagokkal rokon anyagok*

**2.2.41.1.19** Azok az anyagok,

- a) amelyeket az 1 és 2 vizsgálati sorozat eredményei alapján ideiglenesen az 1 osztályba soroltak, de a 6. vizsgálati sorozat alapján mentesülnek az 1 osztály alól;
- b) amelyek nem a 4.1 osztály önreaktív anyagai; és
- c) amelyek nem az 5.1 vagy az 5.2 osztály anyagai;

szintén a 4.1 osztályba tartoznak. Ilyen tételek az UN 2956, 3241, 3242 és 3251.

**2.2.41.2** *A fuvarozásból kizárt anyagok*

**2.2.41.2.1** A 4.1 osztályba tartozó, vegyileg nem állandó anyagok csak akkor adhatók át fuvarozásra, ha megtették a szükséges intézkedéseket a szállítás alatt bekövetkező veszélyes bomlás vagy

polimerizáció megakadályozására. Ezért különösen arról kell gondoskodni, hogy a tartályok és tartályok ne tartalmazzanak olyan anyagokat, amelyek az ilyen reakciókat elősegítik.

**2.2.41.2.2** Az UN 3097 számú gyújtó hatású, gyúlékony, szilárd anyagok a fuvarozásból ki vannak zárva, kivéve, ha megfelelnek az 1 osztály előírásainak (lásd a 2.1.3.7 bekezdést is).

**2.2.41.2.3** A következő anyagok a fuvarozásból ki vannak zárva:

- az A típusú önreaktív anyagok [lásd a „Vizsgálatok és kritériumok kézikönyv” II. rész, 20.4.2 a) bekezdését];
- a fehér- vagy sárgafoszfortól nem mentes foszfor-szulfidok;
- a 3.2 fejezet „A” táblázatában fel nem sorolt szilárd, érzéketlenített robbanóanyagok;
- a szervetlen, gyúlékony anyagok olvasztott formában, kivéve az UN 2448 olvasztott ként.

A következő anyagok a vasúti fuvarozásból ki vannak zárva:

- az 50 tömeg%-nál kevesebb vízzel nedvesített bárium-azid;
- legfeljebb 55 °C ÖBH-val rendelkező, vagyis hőmérséklet-szabályozást igényelő önreaktív anyagok:

3231 B típusú önreaktív folyékony anyag hőmérséklet-szabályozással

3232 B típusú önreaktív szilárd anyag hőmérséklet-szabályozással

3233 C típusú önreaktív folyékony anyag hőmérséklet-szabályozással

3234 C típusú önreaktív szilárd anyag hőmérséklet-szabályozással

3235 D típusú önreaktív folyékony anyag hőmérséklet-szabályozással

3236 D típusú önreaktív szilárd anyag hőmérséklet-szabályozással

3237 E típusú önreaktív folyékony anyag hőmérséklet-szabályozással

3238 E típusú önreaktív szilárd anyag hőmérséklet-szabályozással

3239 F típusú önreaktív folyékony anyag hőmérséklet-szabályozással

3240 F típusú önreaktív szilárd anyag hőmérséklet-szabályozással.

## 2.2.41.3 A gyújtómegnevezések felsorolása

Járulékos veszély	Osztályozási kód	UN szám	Az anyag vagy tárgy megnevezése
Gyúlékony szilárd anyagok	járálekos veszély nélkül	szerves anyagok F1	3175 GYÚLÉKONY FOLYADÉK TARTALMÚ SZILÁRD ANYAGOK, M.N.N. 1353 GYENGÉN NITRÁLT NITROCELLULÓZZAL IMPREGNÁLT SZÁLAK, M.N.N. vagy 1353 GYENGÉN NITRÁLT NITROCELLULÓZZAL IMPREGNÁLT SZÖVETEK, M.N.N. 1325 GYÚLÉKONY, SZERVES SZILÁRD ANYAG, M.N.N.
		szerves anyagok F2	3176 SZERVES, GYÚLÉKONY SZILÁRD ANYAG OLVASZTOTT ÁLLAPOTBAN, M.N.N.
		olvasztott állapotban	
		szervetlen anyagok F3	3089 GYÚLÉKONY FÉMPOR, M.N.N. <sup>a, b)</sup> 3181 SZERVES VEGYÜLETEK GYÚLÉKONY FÉMSÓI, M.N.N. 3182 GYÚLÉKONY FÉMHIDRIDEK, M.N.N. <sup>c)</sup> 3178 SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.
	gyújtó hatású anyagok	FO	3097 GYÚJTÓ HATÁSÚ, GYÚLÉKONY SZILÁRD ANYAG, M.N.N. (a fuvarozásból ki van zárva, lásd a 2.2.41.2.2 pontot)
	mérgező anyagok	szerves anyagok FT1	2926 MÉRGEZŐ, SZERVES, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.
		szervetlen anyagok FT2	3179 MÉRGEZŐ, SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.
	maró anyagok	szerves anyagok FC1	2925 MARÓ, SZERVES, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.
		szervetlen anyagok FC2	3180 MARÓ, SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.
Szilárd érzéketlenített robbanóanyagok	járálekos veszély nélkül	D	3319 NITROGLICERIN KEVERÉK, ÉRZÉKETLENÍTETT, M.N.N., 2 tömeg%-nál több, de legfeljebb 10 tömeg% nitroglicerín-tartalommal 3344 PENTAERITRIT-TETRANITRÁT (PENTRIT, PETN) KEVERÉK SZILÁRD, M.N.N., 10 tömeg%-nál több, de legfeljebb 20 tömeg % PETN tartalommal 3380 SZILÁRD, ÉRZÉKETLENÍTETT ROBBANÓANYAG, M.N.N.
	mérgező anyagok	DT	Csak a 3.2 fejezet „A” táblázatában felsorolt anyagok fogadhatók el szállításra a 4.1 osztály anyagaként.



**2.2.41.3 A gyűjtőmegnevezések felsorolása (folyt.)**

Járulékos veszély	Osztályozási kód	UN szám	Az anyag vagy tárgy megnevezése
Önreaktív anyagok SR	hőmérséklet-szabályozási igény nélkül	SR1	<p>A TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG A TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG</p> <p>3221 B TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG 3222 B TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG 3223 C TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG 3224 C TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG 3225 D TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG 3226 D TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG 3227 E TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG 3228 E TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG 3229 F TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG 3230 F TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG G TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG G TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG</p>
	hőmérséklet-szabályozási igényrel	SR2	<p>3231 B TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL (a vasúti fuvarozásból ki van zárva, lásd a 2.2.41.2.3 pontot) 3232 B TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL (a vasúti fuvarozásból ki van zárva, lásd a 2.2.41.2.3 pontot) 3233 C TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL (a vasúti fuvarozásból ki van zárva, lásd a 2.2.41.2.3 pontot) 3234 C TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL (a vasúti fuvarozásból ki van zárva, lásd a 2.2.41.2.3 pontot) 3235 D TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL (a vasúti fuvarozásból ki van zárva, lásd a 2.2.41.2.3 pontot) 3236 D TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL (a vasúti fuvarozásból ki van zárva, lásd a 2.2.41.2.3 pontot) 3237 E TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL (a vasúti fuvarozásból ki van zárva, lásd a 2.2.41.2.3 pontot) 3238 E TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL (a vasúti fuvarozásból ki van zárva, lásd a 2.2.41.2.3 pontot) 3239 F TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL (a vasúti fuvarozásból ki van zárva, lásd a 2.2.41.2.3 pontot) 3240 F TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL (a vasúti fuvarozásból ki van zárva, lásd a 2.2.41.2.3 pontot)</p>

(a fuvarozásból ki van zárva, lásd a 2.2.41.2.3 pontot)

(nem tartozik a 4.1 osztály előírásainak hatálya alá, lásd a 2.2.41.1.11 pontot)

**Megjegyzés:**

- A fémek és fémötvözetek por vagy egyéb gyúlékony formában, ha öngyulladásra hajlamosak, a 4.2 osztály anyagai.
- A fémek és fémötvözetek por vagy egyéb gyúlékony formában, ha vízzel érintkezve gyúlékony gázokat fejlesztenek, a 4.3 osztály anyagai.
- Azok a fém-hidridek, amelyek vízzel érintkezve gyúlékony gázokat fejlesztenek, a 4.3 osztály anyagai. Az alumínium-bórhidrid vagy alumínium-bórhidrid készülékekben a 4.2 osztály UN 2870 alá tartozó anyag.



#### 2.2.41.4 *A már besorolt és csomagolóeszközben való szállításra engedélyezett önreaktív anyagok felsorolása*

A „csomagolási módszer” oszlopban az „OP1” – „OP8” kód a 4.1.4.1 bekezdés P520 csomagolási utasítás csomagolási módszereire utal (lásd még a 4.1.7.1 bekezdést). A szállítandó önreaktív anyagnak meg kell felelnie a felsorolás szerinti besorolásnak. Az IBC-ben engedélyezett anyagokra lásd a 4.1.4.2 bekezdés IBC520 csomagolási utasítását, a 4.2 fejezet szerint tartányban engedélyezettekre lásd a 4.2.5.2 bekezdés T23 mobil tartány utasítását.

**Megjegyzés:** Az ebben a táblázatban levő besorolás a technikailag tiszta anyagokon alapul (kivéve, ha a megadott koncentráció 100%-nál kisebb). Más koncentrációk esetében az anyag a „Vizsgálatok és kritériumok kézikönyv” II. Részében található eljárást követve ettől eltérően is besorolható.

ÖNREAKTÍV ANYAG	Koncentráció (%)	Csomagolási módszer	Generikus UN tétel	Megjegyzés
ACETON-PIROGALLOL-KOPOLIMER-2-DIAZO-1-NAFTOL-5-SZULFONÁT	100	OP8	3228	
2,2'-AZO-DI(ETIL-2-METIL-PROPIONÁT)	100		3235	kizárva
1,1-AZO-DI(HEXAHIDRO-BENZONITRIL)	100	OP7	3226	
2,2'-AZO-DI(IZOBUTIRONITRIL)	100		3234	kizárva
2,2'-AZO-DI(IZOBUTIRONITRIL)	≤ 50	OP6	3224	
vizes paszta				
AZO-DIKARBONAMID B TÍPUSÚ KÉSZÍTMÉNY HŐMÉRSÉKLET-SZABÁLYOZÁSSAL	< 100		3232	kizárva
AZO-DIKARBONAMID C TÍPUSÚ KÉSZÍTMÉNY	< 100	OP6	3224	3)
AZO-DIKARBONAMID C TÍPUSÚ KÉSZÍTMÉNY HŐMÉRSÉKLET-SZABÁLYOZÁSSAL	< 100		3234	kizárva
AZO-DIKARBONAMID D TÍPUSÚ KÉSZÍTMÉNY	< 100	OP7	3226	5)
AZO-DIKARBONAMID D TÍPUSÚ KÉSZÍTMÉNY HŐMÉRSÉKLET-SZABÁLYOZÁSSAL	< 100		3236	kizárva
2,2'-AZO-DI(2-METIL-BUTIRONITRIL)	100		3236	kizárva
2,2'-AZO-DI(2,4-DIMETIL-4-METOXI-VALERONITRIL)	100		3236	kizárva
2,2'-AZO-DI(2,4-DIMETIL-VALERONITRIL)	100		3236	kizárva
4-(BENZIL(ETIL)-AMINO)-3-ETOXI-BENZOL-DIAZÓNIUM-CINK-KLORID	100	OP7	3226	
4-(BENZIL(METIL)AMINO)-3-ETOXI-BENZOL-DIAZÓNIUM-CINK-KLORID	100		3236	kizárva
BENZOL-1,3-DISZULFONIL--HIDRAZID, paszta	52	OP7	3226	
BENZOL-SZULFONIL-HIDRAZID	100	OP7	3226	
2-DIAZO-1-NAFTOL-4-SZULFONIL-KLORID	100	OP5	3222	2)
2-DIAZO-1-NAFTOL-5-SZULFONIL-KLORID	100	OP5	3222	2)
2-DIAZO-1-NAFTOL-SZULFONSAV ÉSZTER KEVERÉK, D TÍPUSÚ	< 100	OP7	3226	9)

ÖNREAKTÍV ANYAG	Koncentráció (%)	Csomagolási módszer	Generikus UN tétel	Megjegyzés
2,5-DIBUTOXI-4-(4-MORFOLINIL)- -BENZOL-DIAZÓNIUM-TETRAKLORO- CINKÁT (2:1)	100	OP8	3228	
DIETILÉN-GLIKOL-BISZ(ALLIL- -KARBONÁT) + DIIZOPROPIL-PEROXI- DIKARBONÁT	≥ 88 + ≤ 12		3237	kizárva
2,5-DIETOXI-4-(FENIL-SZULFONIL)- -BENZOL-DIAZÓNIUM-CINK-KLORID	67		3236	kizárva
2,5-DIETOXI-4-(4-MORFOLINIL)- -BENZOL-DIAZÓNIUM-SZULFÁT	100	OP7	3226	
2,5-DIETOXI-4-MORFOLINO- -BENZOL-DIAZÓNIUM-CINK-KLORID	67...100		3236	kizárva
2,5-DIETOXI-4-MORFOLINO-BENZOL- DIAZÓNIUM-CINK-KLORID	66		3236	kizárva
2,5-DIETOXI-4-MORFOLINO-BENZOL- DIAZÓNIUM-TETRAFLUORO-BORÁT	100		3236	kizárva
DIFENIL-OXID-4,4'-DISZULFONIL- -HIDRAZID	100	OP7	3226	
4-(DIMETIL-AMINO)-BENZOL- -DIAZÓNIUM-TRIKLORO-CINKÁT (-1)	100	OP8	3228	
4-DIMETIL-AMINO-6-(2-DIMETIL- -AMINO-ETOXI)-TOLUOL-2- -DIAZÓNIUM-CINK-KLORID	100		3236	kizárva
2,5-DIMETOXI-4-(4-METIL-FENIL- -SZULFONIL)-BENZOL-DIAZÓNIUM- -CINK-KLORID	79		3236	kizárva
N,N'-DINITROZO-N,N'-DIMETIL- -TEREFTÁLAMID paszta	72	OP6	3224	
N,N'-DINITROZO-PENTAMETILÉN- TETRAMIN	82	OP6	3224	7)
4-DIPROPIL-AMINO-BENZOL- DIAZÓNIUM-CINK-KLORID	100	OP7	3226	
2-(N,N-ETOXI-KARBONIL-FENIL- AMINO)-3-METOXI-4-(N-METIL- -N-CIKLOHEXIL-AMINO)-BENZOL- -DIAZÓNIUM CINK-KLORID	62		3236	kizárva
2-(N,N-ETOXI-KARBONIL-FENIL- AMINO)-3-METOXI-4-(N-METIL- -N-CIKLOHEXIL-AMINO)-BENZOL- -DIAZÓNIUM-CINK-KLORID	63...92		3236	kizárva
N-FORMIL-2-(NITRO-METILÉN)-1,3- PERHIDRO-TIAZIN	100		3236	kizárva
2-(2-HIDROXI-ETOXI)-1-(PIRROLIDIN-1- IL)BENZOL-4-DIAZÓNIUM- -CINK-KLORID	100		3236	kizárva
3-(2-HIDROXI-ETOXI)-4-(PIRROLIDIN-1- IL)BENZOL-DIAZÓNIUM- -CINK-KLORID	100		3236	kizárva
3-KLÓR-4-DIETIL-AMINO-BENZOL- DIAZÓNIUM-CINK-KLORID	100	OP7	3226	
2-(N,N-METIL-AMINO-ETIL- KARBONIL)-4-(3,4-DIMETIL-FENIL- SZULFONIL)-BENZOL-DIAZÓNIUM- HIDROGÉN-SZULFÁT	96		3236	kizárva

ÖNREAKTÍV ANYAG	Koncentráció (%)	Csomagolási módszer	Generikus UN tétel	Megjegyzés
4-METIL-BENZOL-SZULFONIL-HIDRAZID	100	OP7	3226	
3-METIL-4-(PIRROLIDIN-1-IL)-BENZOL-DIAZÓNIUM-TETRAFLUOROBORÁT	95		3234	kizárva
NÁTRIUM-2-DIAZO-1-NAFTOL-4-SZULFONÁT	100	OP7	3226	
NÁTRIUM-2-DIAZO-1-NAFTOL-5-SZULFONÁT	100	OP7	3226	
4-NITROZO-FENOL	100		3236	kizárva
ÖNREAKTÍV FOLYÉKONY ANYAG MINTA		OP2	3223	8)
ÖNREAKTÍV FOLYÉKONY ANYAG MINTA HŐMÉRSÉKLET-SZABÁLYOZÁSSAL			3233	kizárva
ÖNREAKTÍV SZILÁRD ANYAG MINTA		OP2	3224	8)
ÖNREAKTÍV SZILÁRD ANYAG MINTA HŐMÉRSÉKLET-SZABÁLYOZÁSSAL			3234	kizárva
PALLÁDIUM(II)-TETRAMIN-NITRÁT	100		3234	kizárva

**Megjegyzés:**

- 1) (fenntartva)
- 2) „ROBBANÁSVESZÉLY” járulékos veszély bárca szükséges (1 sz. bárca, lásd az 5.2.2.2.2 pontot)
- 3) A „Vizsgálatok és kritériumok kézikönyv” II. rész 20.4.2.c) bekezdését kielégítő azo-dikarbonamid készítmények.
- 4) (fenntartva)
- 5) A „Vizsgálatok és kritériumok kézikönyv” II. rész 20.4.2.d) bekezdését kielégítő azo-dikarbonamid készítmények.
- 6) (fenntartva)
- 7) Legalább 150 °C forráspontú, összeférhető hígítóval.
- 8) Lásd a 2.2.41.1.15 pontot.
- 9) Ez a tétel a 2-diazo-1-naftol-4-szulfonsav észter és a 2-diazo-1-naftol-5-szulfonsav észter keverékeire vonatkozik, amelyek megfelelnek a „Vizsgálatok és kritériumok kézikönyv” 20.4.2 d) bekezdésének kritériumainak.

**2.2.42            4.2 osztály            Öngyulladásra hajlamos anyagok****2.2.42.1            *Kritériumok*****2.2.42.1.1**    A 4.2 osztály fogalomköre a következőkre terjed ki:

- piroforos anyagokra, amelyek olyan anyagok (beleértve a folyékony vagy szilárd keverékeket és oldatokat), amelyek már kis mennyiségben is a levegővel érintkezve 5 percen belül meggyulladnak. A 4.2 osztály ezen anyagai a leginkább öngyulladásra hajlamosak; és
- önmelegedő anyagokra és tárgyakra, amelyek olyan anyagok és tárgyak (beleértve az oldatokat és keverékeket), amelyek a levegővel érintkezve energia közlés nélkül hajlamosak az önmelegedésre. Ezek az anyagok csak nagy mennyiségben (több kilogrammban), hosszabb idő után (órák vagy napok) gyulladnak meg.

**2.2.42.1.2**    A 4.2 osztály anyagai és tárgyai a következők szerint vannak csoportosítva:

S    Öngyulladásra hajlamos anyagok járulékos veszély nélkül:

- S1    Szerves, folyékony anyagok
- S2    Szerves, szilárd anyagok
- S3    Szervetlen, folyékony anyagok
- S4    Szervetlen, szilárd anyagok
- S5    Szerves fémvegyületek

SW   Öngyulladásra hajlamos anyagok, amelyek vízzel érintkezve gyúlékony gázokat fejlesztenek

SO   Öngyulladásra hajlamos, gyújtó hatású anyagok

ST   Öngyulladásra hajlamos, mérgező anyagok:

- ST1   Mérgező, szerves, folyékony anyagok
- ST2   Mérgező, szerves, szilárd anyagok
- ST3   Mérgező, szervetlen, folyékony anyagok
- ST4   Mérgező, szervetlen, szilárd anyagok

SC   Öngyulladásra hajlamos, maró anyagok:

- SC1   Maró, szerves, folyékony anyagok
- SC2   Maró, szerves, szilárd anyagok
- SC3   Maró, szervetlen, folyékony anyagok
- SC4   Maró, szervetlen, szilárd anyagok.

*Tulajdonságok***2.2.42.1.3**    Ezen anyagok önmelegedését, ami öngyuladáshoz vezet, az anyagok oxigénnel (levegőn) történő reakciója okozza, mivel a fejlődő hő nem képes elég gyorsan a környezetbe távozni. Öngyulladás akkor következik be, ha a hőfejlődés sebessége meghaladja a hővesztesség sebességét és az anyag eléri az öngyulladási hőmérsékletet.*Besorolás***2.2.42.1.4**    A 4.2 osztályba sorolt anyagokat és tárgyakat a 3.2 fejezet „A” táblázata sorolja fel. A 3.2 fejezet „A” táblázatában név szerint nem említett anyagok és tárgyak besorolása a 2.1 fejezet

előírásai szerint a 2.2.42.3 bekezdés megfelelő m.n.n. tétele alá, a tapasztalatok alapján vagy a „Vizsgálatok és kritériumok kézikönyv” III. Rész 33.3 bekezdése szerinti vizsgálati eljárások eredményei alapján történhet. A 4.2 osztály valamely általános m.n.n. tétele alá történő besorolásnak a „Vizsgálatok és kritériumok kézikönyv” III. Rész 33.3 bekezdése szerinti vizsgálati eljárások eredményei alapján kell történnie; a tapasztalatokat is figyelembe kell azonban venni, ha azok szigorúbb hozzárendeléshez vezetnének.

#### 2.2.42.1.5

A név szerint nem említett anyagoknak vagy tárgyakkal a „Vizsgálatok és kritériumok kézikönyv” III. Rész 33.3 bekezdése szerinti vizsgálati eljárások eredményei alapján a 2.2.42.3 bekezdés valamely tétele alá történő besorolásánál a következő kritériumokat kell alkalmazni:

- a) az öngyulladásra hajlamos (piroforos) szilárd anyagokat akkor kell a 4.2 osztályba sorolni, ha 1 m magasságból leejtve vagy öt percen belül meggyulladnak;
- b) az öngyulladásra hajlamos (piroforos) folyékony anyagokat akkor kell a 4.2 osztályba sorolni, ha:
  - i) inert hordozóra kiöntve öt percen belül meggyulladnak, vagy
  - ii) az i) szerinti próbánál negatív eredményt adnak, de száraz, redőzött szűrőpapírra kiöntve (Whatman No. 3 szűrőpapír) öt percen belül meggyulladnak vagy a szűrőpapírt elszeszesítik;
- c) azokat az anyagokat, amelyeknél egy 10 cm élhosszúságú kocka alakú mintában 140 °C vizsgálati hőmérsékleten 24 órán belül öngyulladás vagy a hőmérséklet 200 °C fölé emelkedése figyelhető meg, a 4.2 osztályba kell sorolni. Ez a kritérium a faszén öngyulladási hőmérsékletén alapul, ami 27 m<sup>3</sup>-es kockánál 50 °C. Azokat az anyagokat, amelyek öngyulladási hőmérséklete 27 m<sup>3</sup> térfogatú kocka formában 50 °C-nál magasabb, nem szabad a 4.2 osztályba sorolni.

**Megjegyzés:** 1. Azok az anyagok, amelyeket legfeljebb 3 m<sup>3</sup> térfogatú csomagolásokban szállítanak, nem tartoznak a 4.2 osztályba, ha 10 cm élhosszúságú kocka alakú mintában 120 °C vizsgálati hőmérsékleten 24 órán belül öngyulladás vagy a hőmérséklet 180 °C fölé emelkedése nem figyelhető meg.

2. Azok az anyagok, amelyeket legfeljebb 450 liter térfogatú csomagolásokban szállítanak, nem tartoznak a 4.2 osztályba, ha 10 cm élhosszúságú kocka alakú mintában 100 °C vizsgálati hőmérsékleten 24 órán belül öngyulladás vagy a hőmérséklet 160 °C fölé emelkedése nem figyelhető meg.

3. Mivel a járulékos veszélyekkel rendelkező szerves fémvegyületek tulajdonságaiktól függően a 4.2 vagy a 4.3 osztályba sorolhatók, ezekhez az anyagokhoz a 2.3.5 szakaszban különleges besorolási folyamatára található.

#### 2.2.42.1.6

Ha a 4.2 osztály anyagai valamilyen adalékanyag hozzáadása révén eltérő veszélyességi kategóriába kerülnek át, mint ahová a 3.2 fejezet „A” táblázatában név szerint említett anyagok tartoznak, ezeket a keverékeket vagy oldatokat azok alá a tételek alá kell besorolni, ahová tényleges veszélyességük mértéke alapján tartoznak.

**Megjegyzés:** Az oldatok és keverékek (készítmények és hulladékok) besorolásához lásd a 2.1.3 szakaszt.

#### 2.2.42.1.7

A „Vizsgálatok és kritériumok kézikönyv” III. Rész 33.3 bekezdése szerinti vizsgálati eljárások és a 2.2.42.1.5 pontban található kritériumok alapján az is meghatározható, hogy egy név szerint feltüntetett anyag természete olyan, hogy az anyag nem esik ezen osztály előírásainak hatálya alá.

*Csomagolási csoporthoz való hozzárendelés*

**2.2.42.1.8** A 3.2 fejezet „A” táblázatának egyes tételei alá sorolt anyagokat és tárgyakat a „Vizsgálatok és kritériumok kézikönyv” III. rész 33.3 bekezdése szerinti vizsgálati eljárások alapján az I, a II vagy a III csomagolási csoportba kell sorolni a következő kritériumok szerint:

- a) az öngyulladásra hajlamos (piroforos) anyagokat az I csomagolási csoportba kell sorolni;
- b) azokat az önmelegedő anyagokat és tárgyakat, amelyeknél 2,5 cm élhosszúságú kocka alakú mintában 140 °C vizsgálati hőmérsékleten 24 órán belül öngyulladás vagy a hőmérséklet 200 °C fölé emelkedése figyelhető meg, a II csomagolási csoportba kell sorolni.

Azokat az anyagokat, amelyek öngyulladási hőmérséklete 450 liter térfogatban meghaladja az 50 °C-ot, nem kell a II csomagolási csoportba sorolni;

- c) azokat a gyengén önmelegedő anyagokat, amelyeknél 2,5 cm élhosszúságú kocka alakú mintában a b) pontban említett jelenségek nem figyelhetők meg az adott körülmények között, de amelyeknél 10 cm élhosszúságú kocka alakú mintában 140 °C vizsgálati hőmérsékleten 24 órán belül öngyulladás vagy a hőmérséklet 200 °C fölé emelkedése figyelhető meg, a III csomagolási csoportba kell sorolni.

**2.2.42.2** *A fuvarozásból kizárt anyagok*

A következő anyagok a fuvarozásból ki vannak zárva:

- az UN 3255 terc-butil-hipoklorit; és
- az UN 3127 számú gyújtó hatású, önmelegedő, szilárd anyagok, kivéve, ha megfelelnek az 1 osztály előírásainak (lásd a 2.1.3.7 bekezdést).

## 2.2.42.3 A gyújtómegnevezések felsorolása

Járolékos veszély	Osztályozási kód	UN szám	Az anyag vagy tárgy megnevezése
Öngyulladásra hajlamos anyagok			
Járolékos veszély nélküli anyagok S	szerves anyagok	folyékony S1	2845 PIROFOROS, SZERVES FOLYÉKONY ANYAG, M.N.N.
		anyagok	3183 ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.
	szilárd anyagok	S2	3313 ÖNMELEGEDŐ, SZERVES PIGMENTEK
			1373 ÁLLATI vagy NÖVÉNYI vagy SZINTETIKUS EREDETŰ SZÁLAK, M.N.N., olajjal vagy
		S2	1373 ÁLLATI vagy NÖVÉNYI vagy SZINTETIKUS EREDETŰ SZÖVETEK, M.N.N., olajjal
			2006 NITROCELLULÓZ ALAPÚ, ÖNMELEGEDŐ MŰANYAGOK, M.N.N.
	szervetlen anyagok	S3	2846 PIROFOROS, SZERVES SZILÁRD ANYAG, M.N.N.
			3088 ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.
		S3	3186 ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.
			3194 PIROFOROS, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.
	szilárd anyagok	S4	1378 FÉM KATALIZÁTOR, látható folyadékfelesleggel NEDVESÍTETT
			2881 SZÁRAZ FÉM KATALIZÁTOR
		S4	1383 PIROFOROS FÉM, M.N.N. vagy
			1383 PIROFOROS ÖTVÖZET, M.N.N.
			3189 ÖNMELEGEDŐ FÉMPOR, M.N.N. <sup>a)</sup>
			3205 ALKÁLIFÖLDFÉM-ALKOHOLÁTOK, M.N.N.
Vízrel reaktív anyagok	SW	S5	3190 ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.
			3200 PIROFOROS, SZERVETLEN SZILÁRD ANYAG, M.N.N.
			3391 PIROFOROS, SZILÁRD, SZERVES FÉMVEGYÜLET
Gyújtó hatású anyagok	SO	S5	3392 PIROFOROS, FOLYÉKONY, SZERVES FÉMVEGYÜLET
			3400 ÖNMELEGEDŐ, SZILÁRD, SZERVES FÉMVEGYÜLET
Mérgező anyagok ST	szerves anyagok	folyékony ST1	3393 PIROFOROS, VÍZZEL REAKTÍV, SZILÁRD, SZERVES FÉMVEGYÜLET
		anyagok	3394 PIROFOROS, VÍZZEL REAKTÍV, FOLYÉKONY, SZERVES FÉMVEGYÜLET
	szilárd anyagok	ST2	3127 GYÚJTÓ HATÁSÚ, ÖNMELEGEDŐ SZILÁRD ANYAG, M.N.N. (a szállításból ki van zárva, lásd a 2.2.42.2 bekezdést)
		ST2	3184 MÉRGEZŐ, ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.
	szervetlen anyagok	ST3	3128 MÉRGEZŐ, ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.
		ST4	3187 MÉRGEZŐ, ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.
	szilárd anyagok	SC1	3191 MÉRGEZŐ, ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.
		SC2	3185 MARÓ, ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.
Maró anyagok SC	szilárd anyagok	SC3	3126 MARÓ, ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.
	szervetlen anyagok	SC4	3188 MARÓ, ÖNMELEGEDŐ SZERVETLEN FOLYÉKONY ANYAG, M.N.N.

a) Azok a nem mérgező fémporok és finom porok, amelyek öngyulladásra nem hajlamos formában vannak, de amelyek vízzel érintkezve gyúlékony gázokat fejlesztenek, a 4.3 osztály anyagai.

**2.2.43 4.3 osztály Vízrel érintkezve gyúlékony gázokat fejlesztő anyagok****2.2.43.1 Kritériumok**

**2.2.43.1.1** A 4.3 osztály fogalmköre olyan anyagokra és olyan anyagokat tartalmazó tárgyra terjed ki, amelyek vízzel reagálva a levegővel robbanó keverék alkotására hajlamos, gyúlékony gázokat fejlesztenek.

**2.2.43.1.2** A 4.3 osztály anyagai és tárgyai a következők szerint vannak csoportosítva:

W Vízrel érintkezve gyúlékony gázokat fejlesztő anyagok járulékos veszély nélkül és az ilyen anyagokat tartalmazó tárgyak:

W1 Folyékony anyagok

W2 Szilárd anyagok

W3 Tárgyak

WF1 Vízrel érintkezve gyúlékony gázokat fejlesztő, folyékony, gyúlékony anyagok

WF2 Vízrel érintkezve gyúlékony gázokat fejlesztő, szilárd, gyúlékony anyagok

WS Vízrel érintkezve gyúlékony gázokat fejlesztő, önmelegedő, szilárd anyagok

WO Vízrel érintkezve gyúlékony gázokat fejlesztő, gyújtó hatású, szilárd anyagok

WT Vízrel érintkezve gyúlékony gázokat fejlesztő, mérgező anyagok:

WT1 Folyékony anyagok

WT2 Szilárd anyagok

WC Vízrel érintkezve gyúlékony gázokat fejlesztő, maró anyagok:

WC1 Folyékony anyagok

WC2 Szilárd anyagok

WFC Vízrel érintkezve gyúlékony gázokat fejlesztő, gyúlékony, maró anyagok.

*Tulajdonságok*

**2.2.43.1.3** Bizonyos anyagok a vízzel érintkezve olyan gyúlékony gázokat fejleszthetnek, amelyek a levegővel robbanó elegyet alkothatnak. Az ilyen keverékek bármilyen közönséges gyújtóforrástól, pl. nyílt lángtól, szikrát vető kéziszerszámtól vagy védelem nélküli izzólámpától könnyen meggyulladhatnak. A keletkező lökéshullám és a láng veszélyeztetheti az embereket és a környezetet. A 2.2.43.1.4 pontban leírt vizsgálati módszer használatos annak meghatározására, hogy az anyag reakciója a vízzel nem jár-e veszélyes mennyiségű, esetleg gyúlékony gázok fejlődésével. Ezt a módszert piroforos anyagokhoz nem szabad használni.

*Besorolás*

**2.2.43.1.4** A 4.3 osztályba sorolt anyagokat és tárgyakat a 3.2 fejezet „A” táblázata sorolja fel. A 3.2 fejezet „A” táblázatában név szerint nem említett anyagok és tárgyak besorolásának a 2.1 fejezet előírásai szerint a 2.2.43.3 bekezdés megfelelő tétele alá a „Vizsgálatok és kritériumok kézikönyv” III. rész 33.4 bekezdése szerinti vizsgálati eljárások eredményei alapján kell történnie; a tapasztalatokat is figyelembe kell azonban venni, ha azok szigorúbb besoroláshoz vezetnének.



- 2.2.43.1.5** A név szerint nem említett anyagoknak a „Vizsgálatok és kritériumok kézikönyv” III. Rész 33.4 bekezdése szerinti vizsgálati eljárások eredményei alapján a 2.2.43.3 bekezdés valamely tétele alá történő besorolásánál a következő kritériumokat kell alkalmazni:

Egy anyagot akkor kell a 4.3 osztályba sorolni, ha

- a) a vizsgálatok bármely szakaszában a fejlődött gáz magától meggyullad; vagy
- b) a gyúlékony gáz fejlődési sebessége a vizsgált anyag 1 kg-jára számítva meghaladja az 1 liter/óra értéket.

***Megjegyzés:** Mivel a járulékos veszélyekkel rendelkező szerves fémvegyületek tulajdonságaiktól függően a 4.2 vagy a 4.3 osztályba sorolhatók, ezekhez az anyagokhoz a 2.3.5 szakaszban különleges besorolási folyamatára található.*

- 2.2.43.1.6** Ha a 4.3 osztály anyagai valamilyen adalékanyag hozzáadása révén eltérő veszélyességi kategóriába kerülnek át, mint ahová a 3.2 fejezet „A” táblázatában név szerint említett anyagok tartoznak, ezeket a keverékeket vagy oldatokat azok alá a tételek alá kell besorolni, ahová tényleges veszélyességük mértéke alapján tartoznak.

***Megjegyzés:** Az oldatok és keverékek (készítmények és hulladékok) besorolásához lásd a 2.1.3 szakaszt.*

- 2.2.43.1.7** A „Vizsgálatok és kritériumok kézikönyv” III. Rész 33.4 bekezdése szerinti vizsgálati eljárások és a 2.2.43.1.5 pontban található kritériumok alapján az is meghatározható, hogy egy név szerint feltüntetett anyag természete olyan, az anyag nem esik ezen osztály előírásainak hatálya alá.

*Csomagolási csoporthoz való hozzárendelés*

- 2.2.43.1.8** A 3.2 fejezet „A” táblázatának egyes tételei alá sorolt anyagokat és tárgyakat a „Vizsgálatok és kritériumok kézikönyv” III. Rész 33.4 bekezdése szerinti vizsgálati eljárások alapján az I, a II vagy a III csomagolási csoportba kell sorolni a következő kritériumok szerint:

- a) Az I csomagolási csoportba akkor kell sorolni egy anyagot, ha szobahőmérsékleten a vízzel erőlesen reagál és a fejlődő gáz általában hajlamot mutat arra, hogy önmagától meggyulladjon, vagy szobahőmérsékleten olyan könnyen reagál a vízzel, hogy a gyúlékony gáz fejlődésének mértéke a vizsgált anyag 1 kg-jára számítva bármely egy perces időtartam alatt legalább 10 liter;
- b) A II csomagolási csoportba akkor kell sorolni egy anyagot, ha szobahőmérsékleten olyan könnyen reagál vízzel, hogy a gyúlékony gáz maximális fejlődési sebessége a vizsgált anyag 1 kg-jára számítva legalább 20 liter/óra és az I csomagolási csoport kritériumai nem teljesülnek;
- c) A III csomagolási csoportba akkor kell sorolni egy anyagot, ha szobahőmérsékleten olyan lassan reagál vízzel, hogy a gyúlékony gáz maximális fejlődési sebessége a vizsgált anyag 1 kg-jára számítva legalább 1 liter/óra és sem az I csomagolási csoport, sem a II csomagolási csoport kritériumai nem teljesülnek.

**2.2.43.2** *A fuvarozásból kizárt anyagok*

Az UN 3133 alá sorolt vízzel reaktív, gyújtó hatású, szilárd anyagok a szállításból ki vannak zárva, kivéve ha megfelelnek az 1 osztály előírásainak (lásd a 2.1.3.7 bekezdést is).

**2.2.43.3 A gyújtómegnevezések felsorolása**

Járolékos veszély	Osztályozási kód	UN szám	Az anyag vagy tárgy megnevezése
Vízrel érintkezve gyúlékony gázokat fejlesztő anyagok			
Járolékos veszély nélkül	folyékony anyagok	W1	1389 FOLYÉKONY ALKÁLIFÉM AMALGÁM 1391 ALKÁLIFÉM DISZPERZIÓ, amelynek lobbanáspontja nagyobb mint 60 °C vagy 1391 ALKÁLIFÖLDFÉM DISZPERZIÓ, amelynek lobbanáspontja nagyobb mint 60 °C 1392 FOLYÉKONY ALKÁLIFÖLDFÉM AMALGÁM 1420 FOLYÉKONY KÁLIUMFÉM ÖTVÖZETEK 1422 FOLYÉKONY KÁLIUM-NÁTRIUM ÖTVÖZETEK 3398 VÍZZEL REAKTÍV, FOLYÉKONY, SZERVES FÉMVEGYÜLET 1421 FOLYÉKONY ALKÁLIFÉM ÖTVÖZET, M.N.N. 3148 VÍZZEL REAKTÍV FOLYÉKONY ANYAG, M.N.N.
	szilárd anyagok	W2 <sup>a)</sup>	1390 ALKÁLIFÉM AMIDOK 3170 ALUMÍNIUMFELDOLGOZÁSI MELLÉKTERMÉKEK vagy 3170 ALUMÍNIUM ÚJRAOLVASZTÁSI MELLÉKTERMÉKEK 3395 VÍZZEL REAKTÍV, SZILÁRD, SZERVES FÉMVEGYÜLET 3401 SZILÁRD ALKÁLIFÉM AMALGÁM 3402 SZILÁRD ALKÁLIFÖLDFÉM AMALGÁM 3403 SZILÁRD KÁLIUMFÉM ÖTVÖZETEK 3404 SZILÁRD KÁLIUM-NÁTRIUM ÖTVÖZETEK 1393 ALKÁLIFÖLDFÉM ÖTVÖZET, M.N.N. 1409 VÍZZEL REAKTÍV FÉM-HIRDIDEK, M.N.N. 3208 VÍZZEL REAKTÍV FÉMES ANYAG, M.N.N. 2813 VÍZZEL REAKTÍV SZILÁRD ANYAG, M.N.N.
W	tárgyak	W3	3292 NÁTRIUM AKKUMULÁTOROK, vagy 3292 NÁTRIUM CELLÁK
Gyúlékony, folyékony anyagok		WF1	1391 ALKÁLIFÉM DISZPERZIÓ, amelynek lobbanáspontja legfeljebb 60 °C vagy 1391 ALKÁLIFÖLDFÉM DISZPERZIÓ, amelynek lobbanáspontja legfeljebb 60 °C 3399 VÍZZEL REAKTÍV, GYÚLÉKONY, FOLYÉKONY, SZERVES FÉMVEGYÜLET
Gyúlékony, szilárd anyagok		WF2	3396 VÍZZEL REAKTÍV, GYÚLÉKONY, SZILÁRD, SZERVES FÉMVEGYÜLET 3132 VÍZZEL REAKTÍV, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.
Önmelegedő, szilárd anyagok		WS <sup>b)</sup>	3397 VÍZZEL REAKTÍV, ÖNMELEGEDŐ, SZILÁRD, SZERVES FÉMVEGYÜLET 3135 VÍZZEL REAKTÍV, ÖNMELEGEDŐ SZILÁRD ANYAG, M.N.N. 3209 VÍZZEL REAKTÍV, ÖNMELEGEDŐ FÉMES ANYAG, M.N.N.
Gyújtó hatású, szilárd anyagok		WO	3133 VÍZZEL REAKTÍV, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N. (a fuvarozásból ki van zárva, lásd a 2.2.43.2 bekezdést)
Mérgező anyagok	folyékony anyagok	WT1	3130 VÍZZEL REAKTÍV, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
WT	szilárd anyagok	WT2	3134 VÍZZEL REAKTÍV, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
Maró anyagok	folyékony anyagok	WC1	3129 VÍZZEL REAKTÍV, MARÓ FOLYÉKONY ANYAG, M.N.N.
WC	szilárd anyagok	WC2	3131 VÍZZEL REAKTÍV, MARÓ SZILÁRD ANYAG, M.N.N.
Gyúlékony, maró anyagok		WFC <sup>c)</sup>	2988 VÍZZEL REAKTÍV, GYÚLÉKONY, MARÓ KLÓR-SZILÁNOK, M.N.N. (Ilyen osztályozási kóddal nincs más gyújtómegnevezés. Ha szükséges, a 2.1.3.10 bekezdés veszélyességi rangsor táblázata alapján meghatározandó, másik osztályozási kód valamely gyújtómegnevezése alá kell sorolni.)

**Megjegyzés:**

a) Azok a fémek és fémötvözetek, amelyek a vízzel érintkezve nem fejlesztenek gyúlékony

*gázokat és nem piroforosak, vagy nem önmelegedők, de amelyek könnyen meggyulladnak, a 4.1 osztály anyagai. Az alkáliföldfémek és alkáliföldfém ötvözetek piroforos formában a 4.2 osztály anyagai. A fémporok és finom porok piroforos állapotban a 4.2 osztály anyagai. A fémek és fémötvözetek piroforos állapotban a 4.2 osztály anyagai. A foszfor vegyületei nehézfémekkel, pl. vassal, rézzel stb. nem esnek a RID előírásainak hatálya alá.*

- b) A fémek és fémötvözetek piroforos állapotban a 4.2 osztály anyagai.*
- c) Azok a klór-szilánok, amelyek lobbanáspontja 23 °C alatti, és vízzel érintkezve nem fejlesztenek gyúlékony gázokat, a 3 osztály anyagai. Azok a klór-szilánok, amelyek lobbanáspontja 23 °C vagy ennél magasabb, és vízzel érintkezve nem fejlesztenek gyúlékony gázokat, a 8 osztály anyagai.*

**2.2.51 5.1 osztály Gyújtó hatású (oxidáló) anyagok****2.2.51.1 Kritériumok**

**2.2.51.1.1** Az 5.1 osztály fogalmköre olyan anyagokra és olyan anyagokat tartalmazó tárgyakra terjed ki, amelyek bár önmagukban nem szükségszerűen gyúlékonyak, általában oxigén leadásával tüzet okozhatnak vagy más anyagok égését elősegíthetik.

**2.2.51.1.2** Az 5.1 osztály anyagai és az ilyen anyagokat tartalmazó tárgyak a következők szerint vannak csoportosítva:

O Gyújtó hatású anyagok járulékos veszély nélkül vagy ilyen anyagokat tartalmazó tárgyak:

O1 Folyékony anyagok

O2 Szilárd anyagok

O3 Tárgyak

OF Gyújtó hatású szilárd, gyúlékony anyagok

OS Gyújtó hatású szilárd, önmelegedő anyagok

OW Gyújtó hatású szilárd anyagok, amelyek vízzel érintkezve gyúlékony gázokat fejlesztenek

OT Gyújtó hatású, mérgező anyagok:

OT1 Folyékony anyagok

OT2 Szilárd anyagok

OC Gyújtó hatású, maró anyagok:

OC1 Folyékony anyagok

OC2 Szilárd anyagok

OTC Gyújtó hatású, mérgező, maró anyagok.

**2.2.51.1.3** Az 5.1 osztályba sorolt anyagokat és tárgyakat a 3.2 fejezet „A” táblázata sorolja fel. A 3.2 fejezet „A” táblázatában név szerint nem említett anyagok és tárgyak besorolása a 2.1 fejezet szerint a 2.2.51.3 bekezdés megfelelő tétele alá a következő 2.2.51.1.6 – 2.2.51.1.9 pontok és a „Vizsgálatok és kritériumok kézikönyv” III. Rész 34.4 bekezdése szerinti kritériumok, módszerek és vizsgálati eljárások alapján történhet. Amennyiben a vizsgálati eredmények és az ismeretes tapasztalatok között eltérés van, a tapasztalat alapján való megítélést előnyben kell részesíteni a vizsgálati eredményekkel szemben.

**2.2.51.1.4** Ha az 5.1 osztály anyagai valamilyen anyag hozzáadása révén eltérő veszélyességi kategóriába kerülnek át, mint ahová a 3.2 fejezet „A” táblázatában név szerint említett anyagok tartoznak, ezeket a keverékeket azok alá a tételek alá kell besorolni, amelyekbe tényleges veszélyességük mértéke alapján tartoznak.

**Megjegyzés:** Az oldatok és keverékek (készítmények és hulladékok) besorolásához lásd a 2.1.3 szakaszt.

**2.2.51.1.5** A „Vizsgálatok és kritériumok kézikönyv” III. Rész 34.4 bekezdése szerinti vizsgálati eljárások és a 2.2.51.1.6 – 2.2.51.1.9 pontban található kritériumok alapján az is meghatározható, hogy egy név szerint feltüntetett anyag természete olyan, hogy az anyag nem esik ezen osztály előírásainak hatálya alá.

***Gyújtó hatású szilárd anyagok******Besorolás***

- 2.2.51.1.6** A 3.2 fejezet „A” táblázatában név szerint nem említett gyújtó hatású, szilárd anyagoknak a „Vizsgálatok és kritériumok kézikönyv” III. Rész 34.4.1 bekezdése szerinti vizsgálati eljárások alapján a 2.2.51.3 bekezdés valamely tétele alá történő besorolásánál a következő kritériumokat kell alkalmazni:

Egy szilárd anyagot akkor kell az 5.1 osztályba sorolni, ha cellulózzal 4:1 vagy 1:1 tömegarányban alkotott keveréke meggyullad vagy elég vagy az átlagos égési ideje azonos vagy rövidebb, mint a kálium-bromát/cellulóz 3:7 tömegarányú keverék átlagos égési ideje.

***Csomagolási csoporthoz való hozzárendelés***

- 2.2.51.1.7** A 3.2 fejezet „A” táblázatának egyes tételei alá sorolt gyújtó hatású, szilárd anyagokat a „Vizsgálatok és kritériumok kézikönyv” III. rész 34.4.1 bekezdése szerinti vizsgálati eljárások alapján az I, a II vagy a III csomagolási csoportba kell sorolni, a következő kritériumok szerint:

- a) az I csomagolási csoportba akkor kell sorolni az anyagot, ha cellulózzal 4:1 vagy 1:1 tömegarányban alkotott keverékének átlagos égési ideje rövidebb, mint a kálium-bromát/cellulóz 3:2 tömegarányú keverék átlagos égési ideje;
- b) a II csomagolási csoportba akkor kell sorolni az anyagot, ha cellulózzal 4:1 vagy 1:1 tömegarányban alkotott keverékének átlagos égési ideje azonos vagy rövidebb, mint a kálium-bromát/cellulóz 2:3 tömegarányú keverék átlagos égési ideje és az I csomagolási csoport kritériumait nem elégtí ki;
- c) a III csomagolási csoportba akkor kell sorolni az anyagot, ha cellulózzal 4:1 vagy 1:1 tömegarányban alkotott keverékének átlagos égési ideje azonos vagy rövidebb, mint a kálium-bromát/cellulóz 3:7 tömegarányú keverék átlagos égési ideje és sem az I, sem a II csomagolási csoport kritériumait nem elégtí ki.

***Gyújtó hatású folyékony anyagok******Besorolás***

- 2.2.51.1.8** A 3.2 fejezet „A” táblázatában név szerint nem említett gyújtó hatású, folyékony anyagoknak a „Vizsgálatok és kritériumok kézikönyv” III. rész 34.4.2 bekezdése szerinti vizsgálati eljárások alapján a 2.2.51.3 bekezdés valamely tétele alá történő besorolásánál a következő kritériumokat kell alkalmazni:

Egy folyékony anyagot akkor kell az 5.1 osztályba sorolni, ha cellulózzal 1:1 tömegarányban alkotott keveréke 2070 kPa vagy nagyobb nyomásnövekedést eredményez, és az átlagos nyomásnövekedési idő azonos vagy rövidebb, mint a 65%-os vizes salétromsav oldat/cellulóz 1:1 tömegarányú keveréke esetében.

***Csomagolási csoporthoz való hozzárendelés***

- 2.2.51.1.9** A 3.2 fejezet „A” táblázatának egyes tételei alá sorolt gyújtó hatású, folyékony anyagokat a „Vizsgálatok és kritériumok kézikönyv” III. rész 34.4.2 bekezdése szerinti vizsgálati eljárások alapján az I, a II vagy a III csomagolási csoportba kell sorolni, a következő kritériumok szerint:

- a) az I csomagolási csoportba akkor kell sorolni az anyagot, ha cellulózzal 1:1

tömegarányban alkotott keveréke önmagától meggyullad, vagy a nyomásnövekedési ideje rövidebb, mint az 50%-os perklórsav oldat/cellulóz 1:1 tömegarányú keveréké;

- b) a II csomagolási csoportba akkor kell sorolni az anyagot, ha cellulózzal 1:1 tömegarányban alkotott keverékének nyomásnövekedési ideje azonos vagy rövidebb, mint a 40%-os vizes nátrium-klorát oldat/cellulóz 1:1 tömegarányú keveréké és az I csomagolási csoport kritériumait nem elégíti ki;
- c) a III csomagolási csoportba akkor kell sorolni az anyagot, ha cellulózzal 1:1 tömegarányban alkotott keverékének nyomásnövekedési ideje azonos vagy rövidebb, mint a 65%-os vizes salétromsav oldat/cellulóz 1:1 tömegarányú keveréké és sem az I, sem a II csomagolási csoport kritériumait nem elégíti ki.

#### **2.2.51.2** *A fuvarozásból kizárt anyagok*

**2.2.51.2.1** Az 5.1 osztály vegyileg nem állandó anyagai csak akkor adhatók át fuvarozásra, ha megtették a szükséges intézkedéseket a szállítás alatt bekövetkező veszélyes bomlás vagy polimerizáció megakadályozására. Ezért különösen arról kell gondoskodni, hogy a tartályok és tartályok ne tartalmazzanak olyan anyagokat, amelyek az ilyen reakciókat elősegítik.

**2.2.51.2.2** A következő anyagok a fuvarozásból ki vannak zárva:

- az UN 3100 számú önmelegedő, gyújtó hatású szilárd anyagok, az UN 3121 számú vízzel reaktív, gyújtó hatású szilárd anyagok és az UN 3137 számú gyúlékony, gyújtó hatású szilárd anyagok, kivéve, ha megfelelnek az 1 osztály előírásainak (lásd a 2.1.3.7 bekezdést is);
- a nem stabilizált hidrogén-peroxid és a nem stabilizált hidrogén-peroxid vizes oldatok 60%-nál több hidrogén-peroxid tartalommal;
- az éghető szennyeződésektől nem mentes tetranitro-metán;
- perklórsav oldatok 72 tömeg%-nál nagyobb savtartalommal és a perklórsav keverékek vízen kívül bármilyen más folyadékkal;
- a klórsav oldatok 10% feletti klórsav-tartalommal és a klórsav keverékek vízen kívül bármilyen más folyadékkal;
- az ebbe az osztályba tartozó UN 1745 bróm-pentafluorid, 1746 bróm-trifluorid és 2495 jód-pentafluorid, valamint a 2 osztályba tartozó UN 1749 klór-trifluorid és 2548 klór-pentafluorid kivételével minden más halogénezett fluorvegyület;
- az ammónium-klorát és vizes oldatait, valamint a klorátok keverékei ammóniumsóval;
- az ammónium-klorit és vizes oldatait, valamint a kloritok keverékei ammóniumsóval;
- a hipokloritok keverékei ammóniumsóval;
- az ammónium-bromát és vizes oldatait, valamint a bromátok keverékei ammóniumsóval;
- az ammónium-permanganát és vizes oldatait, valamint a permanganátok keverékei ammóniumsóval;
- az ammónium-nitrát 0,2%-nál több éghető anyag tartalommal (beleértve bármilyen szerves anyagot szénegyenértékre átszámítva), hacsak nem valamely 1 osztályba tartozó anyag vagy tárgy alkotórésze;
- az ammónium-nitrát tartalmú műtrágyák, amelyek ammónium-nitrát tartalma (mindazon nitrát-ion mennyiséget, amellyel egyenértékű tömegű ammónium-ion van jelen a keverékben, ammónium-nitrátként kell számításba venni) vagy éghető anyag tartalma a 307 különleges előírásban megadott határokat meghaladja, kivéve az 1 osztályra

vonatkozó feltételek melletti fuvarozást;

- az ammónium-nitrit és vizes oldata, valamint a szervetlen nitrtek keverékei ammóniumsóval;
- a kálium-nitrát és nátrium-nitrit keverékei ammóniumsóval.

### 2.2.51.3 A gyűjtőmegnevezések felsorolása

Járlékos veszély	Osztályozási kód	UN szám	Az anyag vagy tárgy megnevezése
Gyújtó hatású (oxidáló) anyagok			
	folyékony anyagok	O1	3210 SZERVETLEN KLOORÁTOK VIZES OLDATA, M.N.N. 3211 SZERVETLEN PERKLOORÁTOK VIZES OLDATA, M.N.N. 3213 SZERVETLEN BROMÁTOK VIZES OLDATA, M.N.N. 3214 SZERVETLEN PERMANGANÁTOK VIZES OLDATA, M.N.N. 3216 SZERVETLEN PERSZULFÁTOK VIZES OLDATA, M.N.N. 3218 SZERVETLEN NITRÁTOK VIZES OLDATA, M.N.N. 3219 SZERVETLEN NITRITEK VIZES OLDATA, M.N.N. 3139 FOLYÉKONY, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.
	szilárd anyagok	O2	1450 SZERVETLEN BROMÁTOK, M.N.N. 1461 SZERVETLEN KLOORÁTOK, M.N.N. 1462 SZERVETLEN KLOORITOK, M.N.N. 1477 SZERVETLEN NITRÁTOK, M.N.N. 1481 SZERVETLEN PERKLOORÁTOK, M.N.N. 1482 SZERVETLEN PERMANGANÁTOK, M.N.N. 1483 SZERVETLEN PEROXIDOK, M.N.N. 2627 SZERVETLEN NITRITEK, M.N.N. 3212 SZERVETLEN HIPOKLOORITOK, M.N.N. 3215 SZERVETLEN PERSZULFÁTOK, M.N.N. 1479 SZILÁRD, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.
Járlékos veszély nélkül O	tárgyak	O3	3356 KÉMIAI OXIGÉNFEJLESZTŐ
Szilárd, gyúlékony anyagok		OF	3137 GYÚLEKONY, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N. (a fuvarozásból ki van zárva, lásd 2.2.51.2)
Szilárd, önmelegedő anyagok		OS	3100 ÖNMELEGEDŐ, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N. (a fuvarozásból ki van zárva, lásd 2.2.51.2)
Szilárd, vízzel reaktív anyagok		OW	3121 VÍZZEL REAKTÍV, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N. (a fuvarozásból ki van zárva, lásd 2.2.51.2)
Mérgező	folyékony anyagok	OT1	3099 FOLYÉKONY, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.
	szilárd anyagok	OT2	3087 SZILÁRD, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.
Maró	folyékony anyagok	OC1	3098 FOLYÉKONY, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.
OC	szilárd anyagok	OC2	3085 SZILÁRD, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.
Mérgező, maró anyagok		OTC	(Ilyen osztályozási kóddal nincs gyűjtőmegnevezés. Ha szükséges, a 2.1.3.10 bekezdés veszélyességi rangsor táblázata alapján meghatározandó, másik osztályozási kód valamely gyűjtőmegnevezése alá kell sorolni.)



**2.2.52 5.2 osztály Szerves peroxidok****2.2.52.1 Kritériumok**

**2.2.52.1.1** Az 5.2 osztály fogalomköre a szerves peroxidokra és a szerves peroxid készítményekre terjed ki.

**2.2.52.1.2** Az 5.2 osztály anyagai a következők szerint vannak csoportosítva:

P1 Szerves peroxidok hőmérséklet-szabályozás nélkül

P2 Szerves peroxidok hőmérséklet-szabályozással (a vasúti fuvarozásból ki vannak zárva).

*Fogalommeghatározás*

**2.2.52.1.3** A szerves peroxidok olyan szerves anyagok, amelyek a kétértékű –O–O– szerkezeti elemet tartalmazzák és amelyek a hidrogén-peroxid olyan származékainak tekinthetők, ahol egyik vagy mindkét hidrogén atomot szerves gyökök helyettesítenek.

*Tulajdonságok*

**2.2.52.1.4** A szerves peroxidok normál vagy magasabb hőmérsékleten hajlamosak az exoterm bomlásra. A bomlás hőhatásra, szennyező anyagokkal (pl. savak, nehézfém vegyületek, aminok) való érintkezésre, sűrűlódás vagy ütés hatására következhet be. A bomlási sebesség a hőmérséklettel növekszik és függ a szerves peroxid kikészítésétől. A bomlás során egészségre ártalmas vagy gyúlékony gázok vagy gőzök fejlődhetnek. Egyes szerves peroxidok robbanásszerű bomlást szenvedhetnek, különösen zárt térben. Ez a tulajdonság hígítók hozzáadásával vagy megfelelő csomagolás használatával megváltoztatható. Számos szerves peroxid erőlyesen ég. El kell kerülni, hogy a szerves peroxid a szemmel érintkezésbe kerülhessen. Egyes szerves peroxidok már rövid érintkezés hatására a szaruhártya súlyos sérülését vagy a bőr felmaródását okozhatják.

**Megjegyzés:** A szerves peroxidok gyúlékonyságának meghatározására szolgáló vizsgálati módszereket a „Vizsgálatok és kritériumok kézikönyv” III. Rész 32.4 bekezdése tartalmazza. Mivel a szerves peroxidok hő hatására hevesen reagálhatnak, ajánlatos a lobbanáspont meghatározásához kis méretű mintát használni, pl. amilyen az ISO 3679:1983 szabványban szerepel.

*Besorolás*

**2.2.52.1.5** Bármely szerves peroxidot az 5.2 osztályba sorolhatónak kell tekinteni, kivéve, ha:

- legfeljebb 1,0%, szerves peroxidból származó aktív oxigént és legfeljebb 1,0% hidrogén-peroxidot tartalmaz;
- legfeljebb 0,5%, szerves peroxidból származó aktív oxigént és 1,0%-nál több, de legfeljebb 7,0% hidrogén-peroxidot tartalmaznak.

**Megjegyzés:** Valamely szerves peroxidot tartalmazó készítmény aktív oxigéntartalma (%-ban) a  $16 \times \sum (n_i \times c_i / m_i)$  képlettel határozható meg, ahol  $n_i$  = az  $i$ -edik szerves peroxid molekulánkénti peroxid-csoportjainak száma;  $c_i$  = az  $i$ -edik szerves peroxid koncentrációja (tömeg%); és  $m_i$  = az  $i$ -edik szerves peroxid molekulatömege.

**2.2.52.1.6** A szerves peroxidok veszélyességük mértéke szerint hét típusba vannak sorolva. A típusok



az A típustól, amely abban a csomagolásban, amelyben bevizsgálásra került, nem szállítható, egészen a G típusig tartanak, amely nem esik az 5.2 osztály előírásainak hatálya alá. A B-től F-ig terjedő típusok alá való besorolás az egy csomagolásban engedélyezett legnagyobb mennyiségtől függ. A 2.2.52.4 bekezdésben fel nem sorolt anyagok besorolásának alapelveit a „Vizsgálatok és kritériumok kézikönyv” II. Rész tartalmazza.

- 2.2.52.1.7** A már besorolt és csomagolóeszközben való szállításra már engedélyezett szerves peroxidokat a 2.2.52.4 bekezdés, az IBC-ben való szállításra már engedélyezett szerves peroxidokat a 4.1.4.2 bekezdés IBC520 csomagolási utasítása, és a 4.2, ill. a 4.3 fejezet szerint tartályban szállítható szerves peroxidokat a 4.2.5.2 bekezdés T23 mobil tartály utasítása sorolja fel. Ezekben a felsorolásokban minden engedélyezett anyag a 3.2 fejezet „A” táblázatának valamely generikus tételéhez (UN 3101 – 3120) hozzá van rendelve, és meg vannak adva a szállítás szempontjából fontos információt jelentő járulékos veszélyek, ill. megjegyzések.

A generikus tételek meghatározzák:

- a szerves peroxid típusait (B – F) (lásd a 2.2.52.1.6 pontot);
- a fizikai állapotot (folyékony/szilárd).

A szerves peroxid készítmények keverékei a legveszélyesebb alkotórésznek megfelelő típusú szerves peroxidként sorolhatók be és az arra a típusra megadott szállítási feltételek mellett kell szállítani. Azonban, ha két termikusan stabil alkotórész termikusan kevésbé stabil keveréket képezhet, a keverék öngyorsuló bomlási hőmérsékletét (ÖBH) meg kell határozni.

- 2.2.52.1.8** A 2.2.52.4 bekezdésben, a 4.1.4.2 bekezdés IBC520 csomagolási utasításában, ill. a 4.2.5.2 bekezdés T23 mobil tartály utasításában fel nem sorolt szerves peroxidok, szerves peroxid készítmények vagy keverékek besorolását és valamely gyűjtőmegnevezéshez történő hozzárendelését a származási ország illetékes hatóságának kell végeznie. A jóváhagyásnak tartalmaznia kell a besorolást és a vonatkozó szállítási feltételeket. Amennyiben a származási ország nem valamely COTIF Tagállam, úgy a besorolást és a szállítási feltételeket a küldemény által érintett első COTIF Tagállam illetékes hatóságának kell elismernie.

- 2.2.52.1.9** A 2.2.52.4 bekezdésben fel nem sorolt szerves peroxid vagy szerves peroxid készítmény mintákat, amelyekre nézve nem áll rendelkezésre teljes körű vizsgálati eredmény és szállításuk további vizsgálatok és értékelés céljából történik, a C típusú szerves peroxidokra vonatkozó, megfelelő tételhez kell hozzárendelni, feltéve, hogy megfelelnek a következő feltételeknek:

- a rendelkezésre álló adatokból kitűnik, hogy a minta nem veszélyesebb, mint egy B típusú szerves peroxid;
- a minta az OP2 csomagolási módszer szerint van csomagolva és mennyisége kocsinként nem haladja meg a 10 kg-ot.

A hőmérséklet-szabályozást igénylő minták a vasúti fuvarozásból ki vannak zárva.

*A szerves peroxidok érzéketlenítése*

- 2.2.52.1.10** A biztonságos szállítás céljából a szerves peroxidokat számos esetben szerves folyadékokkal vagy szilárd anyagokkal, szerves szilárd anyagokkal vagy vízzel érzéketlenítik. Amennyiben valamely anyag százalékos tartalma meg van határozva, ez tömeg%-ot jelent, egész számra kerekítve. Általában az érzéketlenítést úgy kell végrehajtani, hogy kifolyás esetén a szerves peroxid veszélyes mértékű koncentrálódása ne következhesen be.

- 2.2.52.1.11** Hacsak az egyes szerves peroxid készítményekre nincs más előírva, az érzéketlenítésre használt hígítóra a következő meghatározások érvényesek:

- az A típusú hígítók olyan szerves folyadékok, amelyek összeférhetők a szóban forgó szerves peroxiddal és forráspontjuk legalább 150 °C. Az A típusú hígítók minden szerves peroxid érzéketlenítéséhez felhasználhatók;
- a B típusú hígítók szerves folyadékok, amelyek összeférhetők a szerves peroxiddal és amelyek forráspontja 150 °C-nál kisebb, de legalább 60 °C és lobbanáspontja legalább 5 °C.

A B típusú hígítók minden szerves peroxid érzéketlenítésére használhatók, amennyiben a hígító forráspontja legalább 60 °C-kal magasabb, mint a szerves peroxid ÖBH értéke 50 kg-os küldeménydarabban.

**2.2.52.1.12** Az A vagy B típusú hígítóktól eltérő típusú hígítók is használhatók a 2.2.52.4 bekezdésben felsorolt szerves peroxid készítményekhez, amennyiben azokkal összeférhetők. Azonban az A vagy B típusú hígítók helyettesítése részben vagy teljes mértékben más, eltérő tulajdonságokkal bíró hígítókkal szükségessé teszi a készítmény ismételt minősítését az 5.2 osztályra vonatkozó normál besorolási eljárás szerint.

**2.2.52.1.13** A víz csak olyan szerves peroxidokhoz használható érzéketlenítőszerként, amelyek a 2.2.52.4 bekezdésben fel vannak sorolva, vagy az illetékes hatóság 2.2.52.1.8 pont szerinti jóváhagyásában mint „víz hozzáadásával” vagy mint „stabil vizes diszperziók” vannak megemlítve. A 2.2.52.4 bekezdésben fel nem sorolt szerves peroxid mintákat vagy szerves peroxid készítmény mintákat is lehet vízzel érzéketleníteni, amennyiben a 2.2.52.1.9 pont előírásainak megfelelnek.

**2.2.52.1.14** Szerves és szervesetlen szilárd anyagokat csak akkor szabad a szerves peroxidok érzéketlenítésére használni, ha ezekkel összeférhetők. A folyékony és a szilárd anyagok akkor tekinthetők összeférhetőnek, ha nem befolyásolják hátrányosan a szerves peroxid készítménynek sem termikus stabilitását, sem veszélyességét.

**2.2.52.1.15–  
2.2.52.1.18**

(fenntartva).

**2.2.52.2** *A fuvarozásból kizárt anyagok*

A következő szerves peroxidok az 5.2 osztály feltételei mellett a fuvarozásból ki vannak zárva:

- A típusú szerves peroxidok [lásd a „Vizsgálatok és kritériumok kézikönyv” II. rész 20.4.3 a) pontját].

A következő szerves peroxidok, amelyek hőmérséklet-szabályozást igényelnek, a vasúti fuvarozásból ki vannak zárva:

- a B és C típusú szerves peroxidok  $\leq 50$  °C öngyorsuló bomlási hőmérséklet (ÖBH) értékkel:

3111 B TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL;

3112 B TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL;

3113 C TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL;

3114 C TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL;

- D típusú szerves peroxidok, amelyek zárt térben hevítve erőlyes vagy mérsékelt reakciót

mutatnak  $\leq 50$  °C ÖBH mellett, vagy amelyek zárt térben hevítve gyenge vagy semmilyen reakciót nem mutatnak  $\leq 45$  °C ÖBH mellett:

3115 D TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL;

3116 D TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL;

– E és F típusú szerves peroxidok  $\leq 45$  °C ÖBH-val:

3117 E TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL;

3118 E TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL;

3119 F TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL;

3120 F TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL.

**2.2.52.3 A gyűjtőmegnevezések felsorolása**

	Osztályzási kód	UN szám	Az anyag vagy tárgy megnevezése
Szerves peroxidok			
Hőmérséklet-szabályozás nélkül	P1		A TÍPUSÚ, FOLYÉKONY SZERVES PEROXID (a fuvarozásból ki van zárva, lásd 2.2.52.2)
			A TÍPUSÚ, SZILÁRD SZERVES PEROXID (a fuvarozásból ki van zárva, lásd 2.2.52.2)
		3101	B TÍPUSÚ, FOLYÉKONY SZERVES PEROXID
		3102	B TÍPUSÚ, SZILÁRD SZERVES PEROXID
		3103	C TÍPUSÚ, FOLYÉKONY SZERVES PEROXID
		3104	C TÍPUSÚ, SZILÁRD SZERVES PEROXID
		3105	D TÍPUSÚ, FOLYÉKONY SZERVES PEROXID
		3106	D TÍPUSÚ, SZILÁRD SZERVES PEROXID
		3107	E TÍPUSÚ, FOLYÉKONY SZERVES PEROXID
		3108	E TÍPUSÚ, SZILÁRD SZERVES PEROXID
		3109	F TÍPUSÚ, FOLYÉKONY SZERVES PEROXID
Hőmérséklet-szabályozással	P2	3110	F TÍPUSÚ, SZILÁRD SZERVES PEROXID
			G TÍPUSÚ, FOLYÉKONY SZERVES PEROXID (nem tartozik az 5.2 osztály előírásainak hatálya alá, lásd 2.2.52.1.6)
			G TÍPUSÚ, SZILÁRD SZERVES PEROXID (nem tartozik az 5.2 osztály előírásainak hatálya alá, lásd 2.2.52.1.6)
		3111	B TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL (a vasúti fuvarozásból ki van zárva, lásd 2.2.52.2)
		3112	B TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL (a vasúti fuvarozásból ki van zárva, lásd 2.2.52.2)
		3113	C TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL (a vasúti fuvarozásból ki van zárva, lásd 2.2.52.2)
		3114	C TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL (a vasúti fuvarozásból ki van zárva, lásd 2.2.52.2)
		3115	D TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL (a vasúti fuvarozásból ki van zárva, lásd 2.2.52.2)
		3116	D TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL (a vasúti fuvarozásból ki van zárva, lásd 2.2.52.2)
		3117	E TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL (a vasúti fuvarozásból ki van zárva, lásd 2.2.52.2)
		3118	E TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL (a vasúti fuvarozásból ki van zárva, lásd 2.2.52.2)
		3119	F TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL (a vasúti fuvarozásból ki van zárva, lásd 2.2.52.2)
		3120	F TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL (a vasúti fuvarozásból ki van zárva, lásd 2.2.52.2)

**2.2.52.4 A már besorolt és csomagolóeszközben való szállításra engedélyezett szerves peroxidok felsorolása**

A „csomagolási módszer” oszlopban az „OP1” – „OP8” kód a 4.1.4.1 bekezdés P520 csomagolási utasítás csomagolási módszereire utal (lásd még a 4.1.7.1 bekezdést). A szállítandó szerves peroxidnak meg kell felelnie a felsorolás szerinti besorolásnak. Az IBC-ben engedélyezett anyagokra lásd a 4.1.4.2 bekezdés IBC520 csomagolási utasítását, a 4.2, ill. a 4.3 fejezet szerint tartányban engedélyezettekre lásd a 4.2.5.2 bekezdés T23 mobil tartány utasítását.

SZERVES PEROXID	Koncentráció (%)	A típusú hígító (%)	B típusú hígító <sup>1)</sup> (%)	Inert szilárd anyag (%)	Víz (%)	Csomagolási módszer	UN szám (generikus tétel)	Járolékos veszélyek és megjegyzések
ACETIL-ACETON- PEROXID	≤ 42	≥ 48			≥ 8	OP7	3105	2)
“ (paszta)	≤ 32					OP7	3106	20)
ACETIL-CIKLOHEXÁN-SZULFONIL- PEROXID	≤ 82				≥ 12		3112	kizárva
“	≤ 32		≥ 68				3115	kizárva
terc-AMIL-HIDROPEROXID	≤ 88	≥ 6			≥ 6	OP8	3107	
terc-AMIL-PEROXI-ACETÁT	≤ 62	≥ 38				OP7	3105	
terc-AMIL-PEROXI-BENZOÁT	≤ 100					OP5	3103	
terc-AMIL-PEROXI-2-ETIL-HEXANOÁT	≤ 100						3115	kizárva
terc-AMIL-PEROXI-2-ETIL-HEXIL-KARBONÁT	≤ 100					OP7	3105	
terc-AMIL-PEROXI-IZOPROPIL-KARBONÁT	≤ 77	≥ 23				OP5	3103	
terc-AMIL-PEROXI-NEODEKANOÁT	≤ 77		≥ 23				3115	kizárva
“	≤ 47	≥ 53					3119	kizárva
terc-AMIL-PEROXI-PIVALÁT	≤ 77		≥ 23				3113	kizárva
terc-AMIL-PEROXI-3,5,5-TRIMETIL-HEXANOÁT	≤ 100					OP7	3105	3)
n-BUTIL-4,4-DI(terc-BUTIL-PEROXI)-VALERÁT	> 52 – 100					OP5	3103	
“	≤ 52			≥ 48		OP8	3108	
terc-BUTIL-HIDROPEROXID	> 79 – 90				≥ 10	OP5	3103	13)
“	≤ 80	≥ 20				OP7	3105	4) 13)
“	≤ 79				> 14	OP8	3107	13) 23)
“	≤ 72				≥ 28	OP8	3109	13)
terc-BUTIL-HIDROPEROXID + DI-terc-BUTIL-PEROXID	< 82 + > 9				≥ 7	OP5	3103	13)
terc-BUTIL-KUMIL-PEROXID	> 42 – 100					OP8	3107	
“	≤ 52			≥ 48		OP8	3108	
terc-BUTIL-MONOPEROXI-MALEÁT	> 52 – 100					OP5	3102	3)
“	≤ 52	≥ 48				OP6	3103	
“	≤ 52			≥ 48		OP8	3108	
“ (paszta)	≤ 52					OP8	3108	
terc-BUTIL-PEROXI-ACETÁT	> 52 – 77	≥ 23				OP5	3101	3)
“	> 32 – 52	≥ 48				OP6	3103	
“	≤ 32		≥ 68			OP8	3109	
terc-BUTIL-PEROXI-BENZOÁT	> 77 – 100					OP5	3103	
“	> 52 – 77	≥ 23				OP7	3105	
“	≤ 52			≥ 48		OP7	3106	
terc-BUTIL-PEROXI-BUTIL-FUMARÁT	≤ 52	≥ 48				OP7	3105	
terc-BUTIL-PEROXI-DIETIL-ACETÁT	≤ 100						3113	kizárva
terc-BUTIL-PEROXI-2-ETIL-HEXANOÁT	> 52 – 100						3113	kizárva
“	> 32 – 52		≥ 48				3117	kizárva
“	≤ 52			≥ 48			3118	kizárva

SZERVES PEROXID	Koncentráció (%)	A típusú hígító (%)	B típusú hígító <sup>1)</sup> (%)	Inert szilárd anyag (%)	Víz (%)	Csomagolási módszer	UN szám (generikus tétel)	Járulékos veszélyek és megjegyzések
terc-BUTIL-PEROXI-2-ETIL-HEXANOÁT	≤ 32		≥ 68				3119	kizárva
terc-BUTIL-PEROXI-2-ETIL-HEXANOÁT + 2,2-DI(terc-BUTILPEROXI)-BUTÁN	≤ 12 + ≤ 14	≥ 14		≥ 60		OP7	3106	
“	≤ 31 + ≤ 36		≥ 33				3115	kizárva
terc-BUTIL-PEROXI-2-ETIL-HEXIL-KARBONÁT	≤ 100					OP7	3105	
terc-BUTIL-PEROXI-IZOBUTIRÁT	> 52 – 77		≥ 23				3111	kizárva
“	≤ 52		≥ 48				3115	kizárva
1-(2-terc-BUTIL-PEROXI-IZOPROPIL)-3-IZOPROPENIL-BENZOL	≤ 77	≥ 23				OP7	3105	
“	≤ 42			≥ 58		OP8	3108	
terc-BUTIL-PEROXI-IZOPROPIL-KARBONÁT	≤ 77	≥ 23				OP5	3103	
terc-BUTIL-PEROXI-KROTONÁT	≤ 77	≥ 23				OP7	3105	
terc-BUTIL-PEROXI-2-METIL-BENZOÁT	≤ 100					OP5	3103	
terc-BUTIL-PEROXI-NEODEKANOÁT	> 77 – 100						3115	kizárva
“	≤ 77		≥ 23				3115	kizárva
“ (stabil vizes diszperzió)	≤ 52						3119	kizárva
“ [stabil vizes diszperzió (fagyasztott)]	≤ 42						3118	kizárva
“	≤ 32	≥ 68					3119	kizárva
terc-BUTIL-PEROXI-NEOHEPTANOÁT	≤ 77	≥ 23					3115	kizárva
“ (stabil vizes diszperzió)	≤ 42						3117	kizárva
terc-BUTIL-PEROXI-PIVALÁT	> 67 – 77	≥ 23					3113	kizárva
“	> 27 – 67		≥ 33				3115	kizárva
“	≤ 27		≥ 73				3119	kizárva
terc-BUTIL-PEROXI-SZTEARIL-KARBONÁT	≤ 100					OP7	3106	
terc-BUTIL-PEROXI-3,5,5-TRIMETIL-HEXANOÁT	> 32 – 100					OP7	3105	
“	≤ 42			≥ 58		OP7	3106	
“	≤ 32		≥ 68			OP8	3109	
CIKLOHEXANON-PEROXID(OK)	≤ 91				≥ 9	OP6	3104	13)
“	≤ 72	≥ 28				OP7	3105	5)
“ (paszta)	≤ 72					OP7	3106	5) 20)
“	≤ 32			≥ 68			mentesítve	29)
DIACETON-ALKOHOL-PEROXIDOK	≤ 57		≥ 26		≥ 8		3115	kizárva
DIACETIL-PEROXID	≤ 27		≥ 73				3115	kizárva
2,2-DI-(terc-AMIL-PEROXI)-BUTÁN	≤ 57	≥ 43				OP7	3105	
DI-terc-AMIL-PEROXID	≤ 100					OP8	3107	
1,1-DI(terc-AMIL-PEROXI)-CIKLOHEXÁN	≤ 82	≥ 18				OP6	3103	
DIBENZOIL-PEROXID	> 51 – 100			≤ 48		OP2	3102	3)
“	> 77 – 94				≥ 6	OP4	3102	3)
“	≤ 77				≥ 23	OP6	3104	
“	≤ 62			≥ 28	≥ 10	OP7	3106	

SZERVES PEROXID	Koncentráció (%)	A típusú hígító (%)	B típusú hígító <sup>1)</sup> (%)	Inert szilárd anyag (%)	Víz (%)	Csomagolási módszer	UN szám (generikus tétel)	Járulékos veszélyek és megjegyzések
DIBENZOIL-PEROXID (paszta)	> 52 – 62					OP7	3106	20)
“	> 35 – 52			≥ 48		OP7	3106	
“	> 36 – 42	≥ 18			≤ 40	OP8	3107	
“ (paszta)	≤ 56,5				≥ 15	OP8	3108	
“ (paszta)	≤ 52					OP8	3108	20)
“ (stabil vizes diszperzió)	≤ 42					OP8	3109	
“	≤ 35			≥ 65			mentesítve 3114	29)
DI(4-terc-BUTIL-CIKLOHEXIL)-PEROXI-DIKARBONÁT	≤ 100							kizárva
“ (stabil vizes diszperzió)	≤ 42						3119	kizárva
DI-terc-BUTIL-PEROXID	> 52 – 100					OP8	3107	
“	≤ 52		≥ 48			OP8	3109	25)
DI-terc-BUTIL-PEROXI-AZELÁT	≤ 52	≥ 48				OP7	3105	
2,2-DI(terc-BUTIL-PEROXI)-BUTÁN	≤ 52	≥ 48				OP6	3103	
1,1-DI(terc-BUTIL-PEROXI)-CIKLOHEXÁN	> 80 – 100					OP5	3101	3)
“	≤ 72		≥ 28			OP5	3103	30)
“	> 52 – 80	≥ 20				OP5	3103	
“	> 42 – 52	≥ 48				OP7	3105	
“	≤ 42	≥ 13		≥ 45		OP7	3106	
“	≤ 27	≥ 25				OP8	3107	21)
“	≤ 42	≥ 58				OP8	3109	
“	≤ 13	≥ 13	≥ 74			OP8	3109	
1,1-DI(terc-BUTIL-PEROXI)-CIKLOHEXÁN + terc-BUTIL-PEROXI-2-ETIL-HEXANOÁT	≤ 43 + ≤ 16	≥ 41				OP7	3105	
DI-n-BUTIL-PEROXI-DIKARBONÁT	> 27 – 52		≥ 48				3115	kizárva
DI-n-BUTIL-PEROXI-DIKARBONÁT	≤ 27		≥ 73				3117	kizárva
“ [stabil vizes diszperzió (fagyasztott)]	≤ 42						3118	kizárva
DI-szek-BUTIL-PEROXI-DIKARBONÁT	> 52 – 100						3113	kizárva
“	≤ 52		≥ 48				3115	kizárva
DI(2-terc-BUTIL-PEROXI-IZOPROPIL)-BENZOL(OK)	> 42 – 100			≤ 57		OP7	3106	
“	≤ 42			≥ 58			mentesítve 3105	29)
DI(terc-BUTIL-PEROXI)-FTALÁT	> 42 – 52	≥ 48				OP7	3105	
“ (paszta)	≤ 52					OP7	3106	20)
“	≤ 42	≥ 58				OP8	3107	
1,6-DI(terc-BUTIL-PEROXI)-KARBONILOXI-HEXÁN	≤ 72	≥ 28				OP5	3103	
2,2-DI(terc-BUTIL-PEROXI)-PROPÁN	≤ 52	≥ 48				OP7	3105	
“	≤ 42	≥ 13		≥ 45		OP7	3106	
1,1-DI(terc-BUTIL-PEROXI)-3,3,5-TRIMETIL-CIKLOHEXÁN	> 90 – 100					OP5	3101	3)

SZERVES PEROXID	Koncentráció (%)	A típusú hígító (%)	B típusú hígító <sup>1)</sup> (%)	Inert szilárd anyag (%)	Víz (%)	Csomagolási módszer	UN szám (generikus tétel)	Járulékos veszélyek és megjegyzések
1,1-DI(terc-BUTIL-PEROXI)-3,3,5-TRIMETIL-CIKLOHEXÁN	≤ 90		≥ 10			OP5	3103	30)
“	> 57 – 90	≥ 10				OP5	3103	
“	≤ 77		≥ 23			OP5	3103	
“	≤ 57			≥ 43		OP8	3110	
“	≤ 57	≥ 43				OP8	3107	
“	≤ 32	≥ 26	≥ 42			OP8	3107	
DICETIL-PEROXI-DIKARBONÁT	≤ 100						3116	kizárva
DICETIL-PEROXI-DIKARBONÁT (stabil vizes diszperzió)	≤ 42						3119	kizárva
DICIKLOHEXIL-PEROXI-DIKARBONÁT	> 91 – 100						3112	kizárva
“	≤ 91				≥ 9		3114	kizárva
“ (stabil vizes diszperzió)	≤ 42						3119	kizárva
DIDEKANOIL-PEROXID	≤ 100						3114	kizárva
2,2-DI(4,4-DI(terc-BUTIL-PEROXI)-CIKLOHEXIL)-PROPÁN	≤ 42			≥ 58		OP7	3106	
“	≤ 22		≥ 78			OP8	3107	
DI(2,4-DIKLÓR-BENZOIL)-PEROXID	≤ 77				≥ 23	OP5	3102	3)
“ (paszta)	≤ 52						3118	kizárva
“ (paszta szilikonolajjal)	≤ 52					OP7	3106	
DI(2-ETOXI-ETIL)-PEROXI-DIKARBONÁT	≤ 52		≥ 48				3115	kizárva
DI(2-ETIL-HEXIL)-PEROXI-DIKARBONÁT	> 77 – 100						3113	kizárva
“	≤ 77		≥ 23				3115	kizárva
“ (stabil vizes diszperzió)	≤ 62						3119	kizárva
“ [stabil vizes diszperzió (fagyasztott)]	≤ 52						3120	kizárva
DI(2-FENOXI-ETIL)-PEROXI-DIKARBONÁT	> 85 – 100					OP5	3102	3)
“	≤ 85				≥ 15	OP7	3106	
2,2-DIHIDROPEROXI-PROPÁN	≤ 27			≥ 73		OP5	3102	3)
DI(1-HIDROXI-CIKLOHEXIL)-PEROXID	≤ 100					OP7	3106	
DIIZOBUTIRIL-PEROXID	> 32 – 52		≥ 48				3111	kizárva
“	≤ 32		≥ 68				3115	kizárva
DIIZOPROPIL-BENZOL-DIHIDRO-PEROXID	≤ 82	≥ 5			≥ 5	OP7	3106	24)
DIIZOPROPIL-PEROXI-DIKARBONÁT	> 52 – 100						3112	kizárva
“	≤ 52		≥ 48				3115	kizárva
“	≤ 28	≥ 72					3115	kizárva
DI(4-KLÓR-BENZOIL)-PEROXID	≤ 77				≥ 23	OP5	3102	3)
“ (paszta)	≤ 52					OP7	3106	20)
“	≤ 32			≥ 68			mentesítve	29)
DIKUMIL-PEROXID	> 52 – 100					OP8	3110	12)
“	≤ 52			≥ 48			mentesítve	29)
DILAUILOIL-PEROXID	≤ 100					OP7	3106	
“ (stabil vizes diszperzió)	≤ 42					OP8	3109	
DI(2-METIL-BENZOIL)-PEROXID	≤ 87				≥ 13		3112	kizárva



SZERVES PEROXID	Koncentráció (%)	A típusú hígító (%)	B típusú hígító <sup>1)</sup> (%)	Inert szilárd anyag (%)	Víz (%)	Csomagolási módszer	UN szám (generikus tétel)	Járulékos veszélyek és megjegyzések
DI(3-METIL-BENZOIL)-PEROXID + BENZOIL-(3-METIL-BENZOIL)-PEROXID + DIBENZOIL-PEROXID	≤ 20 + ≤ 18 + ≤ 4		≥ 58				3115	kizárva
DI(4-METIL-BENZOIL)-PEROXID (paszta szilikonolajjal)	≤ 52					OP7	3106	
2,5-DIMETIL-2,5-DI(BENZOIL-PEROXI)-HEXÁN	> 82 – 100					OP5	3102	3)
“	≤ 82			≥ 18		OP7	3106	
“	≤ 82				≥ 18	OP5	3104	
2,5-DIMETIL-2,5-DI(terc-BUTIL-PEROXI)-HEXÁN	> 52 – 100					OP7	3105	
2,5-DIMETIL-2,5-DI(terc-BUTIL-PEROXI)-HEXÁN (paszta)	≤ 47					OP8	3108	
2,5-DIMETIL-2,5-DI(terc-BUTIL-PEROXI)-HEXÁN	≤ 52	≥ 48				OP8	3109	
“	≤ 77			≥ 23		OP8	3108	
2,5-DIMETIL-2,5-DI(terc-BUTIL-PEROXI)-3-HEXIN	> 86 – 100					OP5	3101	3)
“	> 52 – 86	≥ 14				OP5	3103	26)
“	≤ 52			≥ 48		OP7	3106	
2,5-DIMETIL-2,5-DI(2-ETIL-HEXANOIL-PEROXI)-HEXÁN	≤ 100						3113	kizárva
2,5-DIMETIL-2,5-DIHIDROPEROXI-HEXÁN	≤ 82				≥ 18	OP6	3104	
2,5-DIMETIL-2,5-DI(3,5,5-TRIMETIL-HEXANOIL-PEROXI)-HEXÁN	≤ 77	≥ 23				OP7	3105	
1,1-DIMETIL-3-HIDROXI-BUTIL-PEROXI-NEOHEPTANOÁT	≤ 52	≥ 48					3117	kizárva
DI(3-METOXI-BUTIL)-PEROXI-DIKARBONÁT	≤ 52		≥ 48				3115	kizárva
DIMIRISZTIL-PEROXI-DIKARBONÁT	≤ 100						3116	kizárva
“ (stabil vizes diszperzió)	≤ 42						3119	kizárva
DI(2-NEODEKANOIL-PEROXI-IZOPROPIL)-BENZOL	≤ 52	≥ 48					3115	kizárva
DI-n-NONANOIL-PEROXID	≤ 100						3116	kizárva
DI-n-OKTANOIL-PEROXID	≤ 100						3114	kizárva
DIPROPIONIL-PEROXID	≤ 27		≥ 73				3117	kizárva
DI-n-PROPIL-PEROXI-DIKARBONÁT	≤ 100						3113	kizárva
“	≤ 77		≥ 23				3113	kizárva
DISZUKCINIL-PEROXID	> 72 – 100					OP4	3102	3) 17)
“	≤ 72				≥ 28		3116	kizárva
DI(3,5,5-TRIMETIL-HEXANOIL)-PEROXID	> 38 – 82	≥ 18					3115	kizárva
“ (stabil vizes diszperzió)	≤ 52						3119	kizárva
“	≤ 38	≥ 62					3119	kizárva
ETIL-3,3-DI(terc-AMIL-PEROXI)-BUTIRÁT	≤ 67	≥ 33				OP7	3105	
ETIL-3,3-DI(terc-BUTIL-PEROXI)-BUTIRÁT	> 77 – 100					OP5	3103	
“	≤ 77	≥ 23				OP7	3105	
“	≤ 52			≥ 48		OP7	3106	
1-(2-ETIL-HEXANOIL-PEROXI)-1,3-DIMETIL-BUTIL-PEROXI-PIVALÁT	≤ 52	≥ 45	≥ 10				3115	kizárva

SZERVES PEROXID	Koncentráció (%)	A típusú hígító (%)	B típusú hígító <sup>1)</sup> (%)	Inert szilárd anyag (%)	Víz (%)	Csomagolási módszer	UN szám (generikus tétel)	Járulékos veszélyek és megjegyzések
FOLYÉKONY SZERVES PEROXID MINTA						OP2	3103	11)
FOLYÉKONY SZERVES PEROXID MINTA, HŐMÉRSÉKLET-SZABÁLYOZÁSSAL							3113	kizárva
terc-HEXIL-PEROXI-NEODEKANOÁT	≤ 71	≥ 29					3115	kizárva
terc-HEXIL-PEROXI-PIVALÁT	≤ 72		≥ 28				3115	kizárva
3-HIDROXI-1,1-DIMETIL-BUTIL-PEROXI-NEODEKANOÁT	≤ 77	≥ 23					3115	kizárva
“(stabil vizes diszperzió)	≤ 52						3119	kizárva
“	≤ 52	≥ 48					3117	kizárva
IZOPROPIL-szek-BUTIL-PEROXI-DIKARBONÁT +DI-szek-BUTIL-PEROXI-DIKARBONÁT + DIIZOPROPIL-PEROXIDIKARBONÁT	≤ 32 + ≤15 – 18 +≤12–15	≥ 38					3115	kizárva
„	≤ 52 + ≤ 28 + ≤ 22						3111	kizárva
IZOPROPIL-KUMIL-HIDROPEROXID	≤ 72	≥ 28				OP8	3109	13)
3-KLÓR-PEROXI-BENZOESAV	> 57 – 86			≥ 14		OP1	3102	3)
“	≤ 57			≥ 3	≥ 40	OP7	3106	
“	≤ 77			≥ 6	≥ 17	OP7	3106	
KUMIL-HIDROPEROXID	> 90 – 98	≤ 10				OP8	3107	13)
“	≤ 90	≥ 10				OP8	3109	13) 18)
KUMIL-PEROXI-NEODEKANOÁT	≤ 87	≥ 13					3115	kizárva
“	≤ 77		≥ 23				3115	kizárva
“(stabil vizes diszperzió)	≤ 52						3119	kizárva
KUMIL-PEROXI-NEOHEPTANOÁT	≤ 77	≥ 23					3115	kizárva
KUMIL-PEROXI-PIVALÁT	≤ 77		≥ 23				3115	kizárva
p-MENTIL-HIDROPEROXID	> 72 – 100					OP7	3105	13)
“	≤ 72	≥ 28				OP8	3109	27)
METIL-CIKLOHEXANON-PEROXID(OK)	≤ 67		≥ 33				3115	kizárva
METIL-ETIL-KETON-PEROXID(OK)	lásd a 8) megjegyzést	≥ 48				OP5	3101	3) 8) 13)
“	lásd a 9) megjegyzést	≥ 55				OP7	3105	9)
“	lásd a 10) megjegyzést	≥ 60				OP8	3107	10)
METIL-IZOBUTIL-KETON-PEROXID(OK)	≤ 62	≥ 19				OP7	3105	22)
METIL-IZOPROPIL-KETON-PEROXID(OK)	lásd a 31) megjegyzést	≥ 70				OP8	3109	31)
3,3,5,7,7-PENTAMETIL-1,2,4-TRIOXEPÁN	≤ 100					OP8	3107	
PEROXI-ECETSAV, D TÍPUSÚ, stabilizált	≤ 43					OP7	3105	13) 14) 19)
PEROXI-ECETSAV, E TÍPUSÚ, stabilizált	≤ 43					OP8	3107	13) 15) 19)
PEROXI-ECETSAV, F TÍPUSÚ, stabilizált	≤ 43					OP8	3109	13) 16) 19)

SZERVES PEROXID	Koncentráció (%)	A típusú hígító (%)	B típusú hígító <sup>1)</sup> (%)	Inert szilárd anyag (%)	Víz (%)	Csomagolási módszer	UN szám (generikus tétel)	Járolékos veszélyek és megjegyzések
PEROXI-LAURINSAV	≤ 100						3118	kizárva
PINANIL-HIDROPEROXID	> 56 – 100					OP7	3105	13)
“	≤ 56	≥ 44				OP8	3109	
POLIÉTER-POLI(terc-BUTIL-PEROXI-KARBONÁT)	≤ 52		≥ 48			OP8	3107	
SZILÁRD SZERVES PEROXID MINTA						OP2	3104	11)
SZILÁRD SZERVES PEROXID MIN-TA, HŐMÉRSÉKLET-SZABÁLYO-ZÁSSAL							3114	kizárva
1,1,3,3-TETRAMETIL-BUTIL-HIDRO-PEROXID	≤ 100					OP7	3105	
1,1,3,3-TETRAMETIL-BUTIL-PEROXI-2-ETIL-HEXANOÁT	≤ 100						3115	kizárva
1,1,3,3-TETRAMETIL-BUTIL-PEROXI-NEODEKANOÁT	≤ 72		≥ 28				3115	kizárva
“ (stabil vizes diszperzió)	≤ 52						3119	kizárva
1,1,3,3-TETRAMETIL-BUTIL-PEROXI-PIVALÁT	≤ 77	≥ 23					3115	kizárva
3,6,9-TRIETIL-3,6,9-TRIMETIL-1,4,7-TRIPEROXONÁN	≤ 42	≥ 58				OP7	3105	28)

**Megjegyzés:** (lásd a 2.2.52.4 bekezdés táblázatának utolsó oszlopát)

- 1) B típusú hígító mindig kicserélhető A típusú hígítóra. A B típusú hígító forráspontjának legalább 60 °C-kal magasabbnak kell lennie, mint a szerves peroxid ÖBH értéke.
- 2) Szabad oxigéntartalom ≤ 4,7%.
- 3) „ROBBANÁSVESZÉLY” járulékos veszély bárca szükséges (1 sz. bárca, lásd az 5.2.2.2.2 pontot).
- 4) A hígító helyettesíthető di-terc-butil-peroxiddal.
- 5) Szabad oxigéntartalom ≤ 9%.
- 6) (fenntartva)
- 7) (fenntartva)
- 8) Szabad oxigéntartalom > 10% és ≤ 10,7%, vízzel vagy víz nélkül.
- 9) Szabad oxigéntartalom ≤ 10%, vízzel vagy víz nélkül.
- 10) Szabad oxigéntartalom ≤ 8,2%, vízzel vagy víz nélkül.
- 11) Lásd a 2.2.52.1.9 pontot.
- 12) Tartályonként 2000 kg-ig a nagy méreteken végzett vizsgálatok alapján az F TÍPUSÚ SZERVES PEROXID alá sorolva.
- 13) „MARÓ” járulékos veszély bárca szükséges (8 sz. bárca, lásd az 5.2.2.2.2 pontot).
- 14) Peroxi-ecetsav készítmények, amelyek a „Vizsgálatok és kritériumok kézikönyv” 20.4.3 d) pontjának megfelelnek.
- 15) Peroxi-ecetsav készítmények, amelyek a „Vizsgálatok és kritériumok kézikönyv” 20.4.3 e) pontjának megfelelnek.
- 16) Peroxi-ecetsav készítmények, amelyek a „Vizsgálatok és kritériumok kézikönyv” 20.4.3

*f) pontjának megfelelnek.*

- 17) *Víz hozzáadásával a szerves peroxid termikus stabilitása csökken.*
- 18) *80% alatti koncentrációnál nincs szükség „MARÓ” járulékos veszély bárcára (8 sz. bárca, lásd az 5.2.2.2.2 pontot).*
- 19) *Keverékek hidrogén-peroxiddal, vízzel és savakkal.*
- 20) *A típusú hígítóval, vízzel vagy anélkül.*
- 21) *Legalább 25 tömeg% A típusú hígítóval és ezenkívül etil-benzollal.*
- 22) *Legalább 19 tömeg% A típusú hígítóval és ezenkívül metil-izobutil-ketonnal.*
- 23) *6%-nál kevesebb di-terc-butil-peroxiddal.*
- 24) *Legfeljebb 8% 1-izopropil-hidroperoxi-4-izopropil-hidroxi-benzollal.*
- 25) *B típusú hígító 110 °C-nál nagyobb forrásponttal.*
- 26) *0,5%-nál kisebb hidroperoxid tartalommal.*
- 27) *56% feletti koncentrációnál „MARÓ” járulékos veszély bárca szükséges (8 sz. bárca, lásd az 5.2.2.2.2 pontot).*
- 28) *Szabad aktív oxigéntartalom  $\leq 7,6\%$ , A típusú hígítóban, amelynek legalább 95%-a csak 200 °C – 260 °C között párolog el.*
- 29) *Nem tartozik a RID 5.2 osztályra vonatkozó előírásainak hatálya alá.*
- 30) *B típusú hígító 130 °C-nál nagyobb forrásponttal.*
- 31) *Aktív oxigéntartalom  $\leq 6,7\%$ .*

**2.2.61            6.1 osztály      Mérgező anyagok****2.2.61.1            *Kritériumok***

**2.2.61.1.1**      A 6.1 osztály fogalomköre azokra a mérgező anyagokra terjed ki, amelyekről tapasztalat alapján tudják vagy amelyekről állatokon végzett kísérletek alapján feltételezhető, hogy viszonylag csekély mennyiségben, egyszeri vagy rövid ideig tartó behatással, belélegzés, bőrrel való érintkezés vagy lenyelés útján károsíthatják az emberi egészséget vagy halált okozhatnak.

**2.2.61.1.2**      A 6.1 osztály anyagai a következők szerint vannak csoportosítva:

T      Mérgező anyagok járulékos veszély nélkül:

T1      Szerves folyékony anyagok

T2      Szerves szilárd anyagok

T3      Szerves fémvegyületek

T4      Szervetlen folyékony anyagok

T5      Szervetlen szilárd anyagok

T6      Peszticidként használt folyékony anyagok

T7      Peszticidként használt szilárd anyagok

T8      Minták

T9      Egyéb mérgező anyagok

TF      Mérgező, gyúlékony anyagok:

TF1      Folyékony anyagok

TF2      Peszticidként használt folyékony anyagok

TF3      Szilárd anyagok

TS      Mérgező, önmelegedő, szilárd anyagok

TW      Mérgező anyagok, amelyek vízzel érintkezve gyúlékony gázokat fejlesztenek:

TW1      Folyékony anyagok

TW2      Szilárd anyagok

TO      Mérgező, gyújtó hatású anyagok:

TO1      Folyékony anyagok

TO2      Szilárd anyagok

TC      Mérgező, maró anyagok:

TC1      Szerves folyékony anyagok

TC2      Szerves szilárd anyagok

TC3      Szervetlen folyékony anyagok

TC4      Szervetlen szilárd anyagok

TFC      Mérgező, gyúlékony, maró anyagok.

*Fogalommeghatározások***2.2.61.1.3** A RID alkalmazásában

A *heveny mérgezőképesség LD<sub>50</sub> (közepes halálos dózis) értéke lenyelés esetén* az anyag statisztikailag számított egyszeri dózisa, amely lenyelés esetén várhatóan a fiatal, felnőtt, fehér patkányok 50%-ánál okoz 14 napon belüli halált. Az LD<sub>50</sub> értéket a vizsgált anyag beadott mennyiségének a vizsgált állatok testtömegére vonatkoztatott arányával (mg/kg) fejezik ki.

A *heveny mérgezőképesség LD<sub>50</sub> értéke bőrön át való felszívódás esetén* az a dózis, amely ha fehér nyulak csupasz bőrével 24 órán át folyamatosan érintkezésbe került, nagy valószínűséggel 14 napon belül halált okoz a kísérleti állatok felénél. A kísérleti állatok számának elegendőnek kell lenni ahhoz, hogy az eredmény statisztikailag szignifikáns legyen és megfeleljen a jó gyógyszerészeti gyakorlatnak. Az eredményt testtömegre vonatkoztatva mg/kg-ban fejezik ki.

A *heveny mérgezőképesség LC<sub>50</sub> értéke belélegzés esetén* az a gőz, köd vagy porkoncentráció, amely egy órán át tartó folyamatos belélegzés esetén fiatal, felnőtt, hím és nőstény, fehér patkányok csoportjának egyaránt felénél nagy valószínűséggel 14 napon belüli halált okoz. Szilárd anyagot akkor kell így vizsgálni, ha az anyag össz mennyiségének legalább 10 tömeg%-a belélegezhető por, azaz ezen részecskefrakció aerodinamikai átmérője 10 µm vagy ennél kisebb. Folyékony anyagot akkor kell így vizsgálni, ha a szállított anyag szivárgása esetén fennáll a ködképződés lehetősége. Mind szilárd, mind folyékony anyag esetén a belélegzési mérgezőképesség vizsgálatára előkészített minta több mint 90 tömeg%-ának az előzőekben meghatározott belélegezhető tartományban kell lennie. Az eredményt egységnyi térfogatú levegőre vonatkoztatva adják meg, por és köd esetén mg/liter-ben, gőz esetén milliliter/m<sup>3</sup>-ben (ppm-ben).

*Besorolás és csomagolási csoporthoz való hozzárendelés***2.2.61.1.4** A 6.1 osztály anyagait a szállítás során általuk képviselt veszély mértéke szerint a következő három csomagolási csoport valamelyikéhez kell hozzárendelni:

- I csomagolási csoport: nagyon mérgező anyagok;
- II csomagolási csoport: mérgező anyagok;
- III csomagolási csoport: enyhén mérgező anyagok.

**2.2.61.1.5** A 6.1 osztályba sorolt anyagokat, keverékeket, oldatokat és tárgyakat a 3.2 fejezet „A” táblázata sorolja fel. A 3.2 fejezet „A” táblázatában név szerint nem említett anyagokat, keverékeket és oldatokat a 2.1 fejezet szerinti a 2.2.61.3 bekezdés megfelelő tétele alá és a megfelelő csomagolási csoportba a 2.2.61.1.6 – 2.2.61.1.11 pontban található kritériumok alapján kell besorolni.**2.2.61.1.6** A mérgezési veszély megállapításához számításba kell venni az embereken bekövetkezett véletlen mérgezési esetek tapasztalatait, valamint az egyes anyagok különleges tulajdonságait, mint a folyékony halmazállapotot, nagymértékű illékonyságot, a bőrön át való felszívódás valószínűségét, különleges biológiai hatásokat.**2.2.61.1.7** Embereken történt megfigyelések hiányában a mérgezési veszélyt állatokon végzett kísérletekből származó, rendelkezésre álló adatok segítségével a következő táblázatnak megfelelően kell meghatározni:

	Csomagolási csoport	Mérgezőképesség lenyelés esetén, $LD_{50}$ (mg/kg)	Mérgezőképesség bőrön át való felszívódás esetén, $LD_{50}$ (mg/kg)	Mérgezőképesség por és köd belélegzése esetén, $LC_{50}$ (mg/l)
Nagyon mérgező	I	$LD_{50} \leq 5$	$LD_{50} \leq 50$	$LC_{50} \leq 0,2$
Mérgező	II	$5 < LD_{50} \leq 50$	$50 < LD_{50} \leq 200$	$0,2 < LC_{50} \leq 2$
Enyhén mérgező	III <sup>a)</sup>	$50 < LD_{50} \leq 300$	$200 < LD_{50} \leq 1000$	$2 < LC_{50} \leq 4$

a) A könnygáz anyagokat a II csomagolási csoportba kell sorolni, még ha mérgezőképességük a III csomagolási csoport értékeinek felel is meg.

**2.2.61.1.7.1** Ha egy anyag két vagy több mérgezési mód esetén különböző mérgezőképességű, a legnagyobb mérgezőképesség szerint kell besorolni.

**2.2.61.1.7.2** A 8 osztály kritériumait kielégítő anyagok az I csomagolási csoportnak megfelelő por és köd belélegzési mérgezőképességgel ( $LC_{50}$ ) csak akkor fogadhatók el a 6.1 osztályba történő besoroláshoz, ha lenyelés vagy bőrön át való felszívódás esetére vonatkozó mérgezőképességük alapján legalább az I vagy a II csomagolási csoportba tartoznak. Ellenkező esetben a 8 osztályba történő besorolást kell végezni, ha az lehetséges (lásd a 2.2.8.1.5 pontot).

**2.2.61.1.7.3** Por és köd belélegzése esetén a mérgezőképesség kritériuma az 1 órán át tartó belélegzés  $LC_{50}$  adatain alapul. Ahol ezek az adatok rendelkezésre állnak, ezeket kell használni. Amennyiben csak a 4 órán át tartó belélegzés  $LC_{50}$  adatai állnak rendelkezésre, ezek négyszeresével lehet helyettesíteni az előző értéket, vagyis a 4 órás  $LC_{50}$  négyszerese egyenlőnek tekinthető az 1 órás  $LC_{50}$ -nel.

*Mérgezőképesség gőz belélegzése esetén*

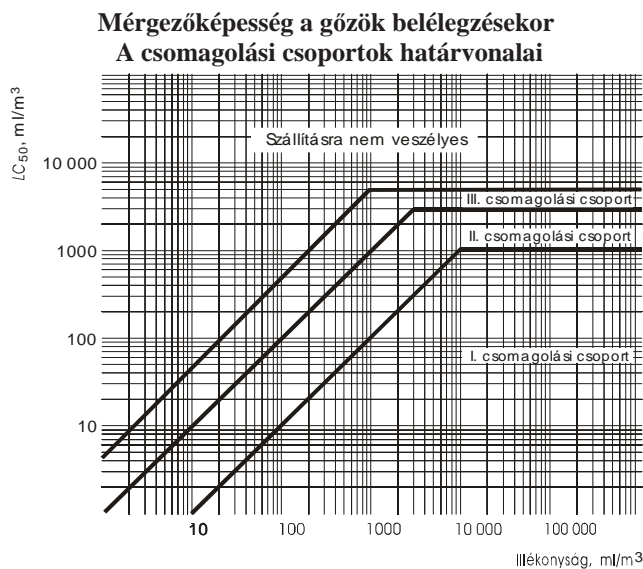
**2.2.61.1.8** A mérgező gőzöket kibocsátó folyadékokat a következő csoportok alá kell besorolni, ahol „V” jelenti a telített gőz koncentrációját ( $\text{ml/m}^3$  levegő egységben) (illékonyság) 20 °C-on és normál atmoszferikus nyomáson.

A mérgező hatás fokozata	Csomagolási csoport	Feltétel
Nagyon mérgező	I	ha $V \geq 10LC_{50}$ és $LC_{50} \leq 1000 \text{ ml/m}^3$
Mérgező	II	ha $V \geq LC_{50}$ és $LC_{50} \leq 3000 \text{ ml/m}^3$ és az I csomagolási csoport kritériumai nem teljesülnek
Enyhén mérgező	III <sup>a)</sup>	ha $V \geq 0,2LC_{50}$ és $LC_{50} \leq 5000 \text{ ml/m}^3$ és sem az I, sem a II csomagolási csoport kritériumai nem teljesülnek

a) A könnygáz anyagokat a II csomagolási csoportba kell sorolni, még ha mérgezőképességük a III csomagolási csoport értékeinek felel is meg.

Gőz belélegzése esetén a mérgezőképesség kritériuma az 1 órán át tartó belélegzés  $LC_{50}$  adatain alapul. Ahol ezek az adatok rendelkezésre állnak, ezeket kell használni.

Amennyiben csak a 4 órán át tartó belélegzés  $LC_{50}$  adatai állnak rendelkezésre, ezek kétszeresével lehet helyettesíteni az előző értéket, vagyis a 4 órás  $LC_{50}$  kétszerese egyenlőnek tekinthető az 1 órás  $LC_{50}$ -nel.



Az ábra a besorolás megkönnyítésére grafikusán ábrázolja a mérgezési kritériumokat. Mivel a grafikus ábrázolás közelítő pontosságú, az egyes csomagolási csoportok határvonalára vagy azok közelébe eső anyagokat a számszerű kritériumok alapján kell ellenőrizni.

#### *Folyékony anyagok keverékei*

**2.2.61.1.9** A folyékony anyagok olyan keverékeit, amelyek a belélegzési mérgezés veszélyével bírnak, a következő kritériumok szerint kell a veszélyességi kategóriák alá besorolni:

**2.2.61.1.9.1** Ha a keveréket alkotó minden egyes mérgező anyagra az  $LC_{50}$  értéke ismeretes, a csomagolási csoportot a következők szerint kell meghatározni:

a) a keverék  $LC_{50}$  értékének kiszámítása:

$$LC_{50}(\text{keverék}) = \frac{1}{\sum_{i=1}^n \frac{f_i}{LC_{50i}}}, \text{ ahol}$$

$f_i$  = a keverék  $i$ -edik alkotórészének molaránya;

$LC_{50i}$  = az  $i$ -edik alkotórész átlagos halálos koncentrációja  $\text{ml/m}^3$ -ben;

b) az egyes alkotórészek illékonyságának kiszámítása:

$$V_i = P_i \times \frac{10^6}{101,3} \text{ ml/m}^3, \text{ ahol}$$

$P_i$  = az  $i$ -edik alkotórész parciális nyomása kPa-ban 20 °C-on és normál atmoszférikus nyomáson;

c) az illékonyági arány kiszámítása  $LC_{50}$ -re:

$$R = \sum_{i=1}^n \frac{V_i}{LC_{50i}};$$

d) felhasználva az  $LC_{50}$  (keverék) és  $R$  kiszámított értékét, a keverékére meghatározható a csoport:



I csomagolási csoport	$R \leq 10$ és $LC_{50}$ (keverék) $\leq 1000 \text{ ml/m}^3$ ;
II csomagolási csoport	$R \leq 1$ és $LC_{50}$ (keverék) $\leq 3000 \text{ ml/m}^3$ , ha a keverék az I csomagolási csoport kritériumainak nem felel meg;
III csomagolási csoport	$R \leq 1/5$ és $LC_{50}$ (keverék) $\leq 5000 \text{ ml/m}^3$ , ha a keverék sem az I, sem a II csomagolási csoport kritériumainak nem felel meg.

**2.2.61.1.9.2** A mérgező alkotórészekre vonatkozó  $LC_{50}$  értékek hiányában a keverék a következő egyszerűsített mérgezési küszöb próbák alapján rendelhető valamely csoporthoz. Ha ilyen mérgezési küszöb vizsgálatokat használunk, meg kell határozni a leginkább korlátozó csoportot és ezt kell használni a keverék szállításához.

**2.2.61.1.9.3** Valamely keverék csak akkor sorolható a I csomagolási csoportba, ha mindkét következő kritériumot teljesíti:

- A folyékony keverék mintáját elpárologtatjuk és levegővel hígítjuk  $1000 \text{ ml/m}^3$  elpárologtatott keverék vizsgálati atmoszférát alakítva ki a levegőben. Tíz fehér patkányt (öt hímet és öt nőtényt) egy órán át kiteszünk a vizsgálati atmoszférának és tizennégy napon keresztül megfigyeljük azokat. Ha a tizennégy napos megfigyelési időszak alatt öt vagy több állat hullik el, a keverék feltételezeten  $1000 \text{ ml/m}^3$  vagy ennél kisebb  $LC_{50}$  értékkel rendelkezik.
- A folyékony keverékkel egyensúlyban levő gőzmintát 9-szeres levegőtérfogattal hígítjuk a vizsgálati atmoszféra kialakításához. Tíz fehér patkányt (öt hímet és öt nőtényt) egy órán át kiteszünk a vizsgálati atmoszférának és tizennégy napon keresztül megfigyeljük azokat. Ha a tizennégy napos megfigyelési időszak alatt öt vagy több állat hullik el, a keverék feltételezeten a keverék  $LC_{50}$  értékének 10-szeresével egyenlő vagy nagyobb illékonysággal rendelkezik.

**2.2.61.1.9.4** Valamely keverék csak akkor sorolható a II csomagolási csoportba, ha mindkét következő kritériumot teljesíti és a keverék nem elégti ki az I csomagolási csoportra vonatkozó kritériumokat:

- A folyékony keverék mintáját elpárologtatjuk és levegővel hígítjuk  $3000 \text{ ml/m}^3$  elpárologtatott keverék vizsgálati atmoszférát alakítva ki a levegőben. Tíz fehér patkányt (öt hímet és öt nőtényt) egy órán át kiteszünk a vizsgálati atmoszférának és tizennégy napon keresztül megfigyeljük azokat. Ha a tizennégy napos megfigyelési időszak alatt öt vagy több állat hullik el, a keverék feltételezeten  $3000 \text{ ml/m}^3$  vagy ennél kisebb  $LC_{50}$  értékkel rendelkezik.
- A folyékony keverékkel egyensúlyban levő gőzmintát használjuk a vizsgálati atmoszféra kialakításához. Tíz fehér patkányt (öt hímet és öt nőtényt) egy órán át kiteszünk a vizsgálati atmoszférának és tizennégy napon keresztül megfigyeljük azokat. Ha a tizennégy napos megfigyelési időszak alatt öt vagy több állat hullik el, a keverék feltételezeten a keverék  $LC_{50}$  értékével egyenlő vagy nagyobb illékonysággal rendelkezik.

**2.2.61.1.9.5** Valamely keverék csak akkor sorolható a III csomagolási csoportba, ha mindkét következő kritériumot teljesíti és a keverék nem elégti ki sem az I, sem a II csomagolási csoportra vonatkozó kritériumokat:

- A folyékony keverék mintáját elpárologtatjuk és levegővel hígítjuk  $5000 \text{ ml/m}^3$  elpárologtatott keverék vizsgálati atmoszférát alakítva ki a levegőben. Tíz fehér patkányt (öt hímet és öt nőtényt) egy órán át kiteszünk a vizsgálati atmoszférának és tizennégy napon keresztül megfigyeljük azokat. Ha a tizennégy napos megfigyelési időszak alatt öt vagy több állat hullik el, a keverék feltételezeten  $5000 \text{ ml/m}^3$  vagy

ennél kisebb  $LC_{50}$  értékkel rendelkezik.

- b) A folyékony keverék gőzkoncentrációját megmérjük és ha a gőzkoncentráció  $1000 \text{ ml/m}^3$ -rel egyenlő vagy annál nagyobb, az illékonyság feltételezeten a keverék  $LC_{50}$  értékének  $1/5$ -ével egyenlő vagy annál nagyobb.

*A keverékek lenyelési és bőrön keresztüli mérgezőképességének meghatározására szolgáló módszerek*

**2.2.61.1.10** A keverékek 6.1 osztályba történő besorolásához és a megfelelő csomagolási csoport meghatározásához a lenyelési és bőrön keresztüli mérgezőképesség alapján (lásd a 2.2.61.1.3 pontot) meg kell határozni a keverék heveny  $LD_{50}$  értékét.

**2.2.61.1.10.1** Ha a keverék csak egy hatóanyagot tartalmaz, és ennek az  $LD_{50}$  értéke ismeretes, a szállítandó keverékre megbízható lenyelési vagy bőrön keresztüli heveny mérgezőképességi adatok hiányában a lenyelési  $LD_{50}$  érték a következő képlettel határozható meg:

$$a \text{ készítmény } LD_{50} \text{ értéke} = \frac{a \text{ hatóanyag } LD_{50} \text{ értéke} \times 100}{a \text{ hatóanyag tömegszázaléka}}.$$

**2.2.61.1.10.2** Ha a keverék egynél több hatóanyagot tartalmaz, három módszer lehetséges a keverék lenyelési vagy bőrön keresztüli  $LD_{50}$  értékének meghatározására. A legalkalmasabb módszer a szállítandó keverékre megbízható lenyelési vagy bőrön keresztüli mérgezőképességi adatok beszerzése. Ha megbízható, pontos adatok nem állnak rendelkezésre, akkor a következő módszerek valamelyike használható:

- a) A készítményt a keverék legveszélyesebb alkotórésze alapján soroljuk be, mintha ez az alkotórész olyan koncentrációban lenne jelen, mint az összes hatóanyag együttesen; vagy
- b) A következő képletet alkalmazzuk:

$$\frac{C_A}{T_A} + \frac{C_B}{T_B} + \dots + \frac{C_Z}{T_Z} = \frac{100}{T_M}$$

ahol:

$C$  = a keverékben az A, B, ... Z alkotórész %-os koncentrációja;

$T$  = az A, B, ... Z alkotórész lenyelési  $LD_{50}$  értéke;

$T_M$  = a keverék lenyelési  $LD_{50}$  értéke.

**Megjegyzés:** Ez a képlet használható a bőrön keresztüli mérgezőképesség meghatározásához is, amennyiben ez az információ ugyanarra a fajra vonatkozóan minden alkotórészre rendelkezésre áll. E képlet használata nem veszi figyelembe az erősítő vagy védő hatásokat.

*Peszticidek besorolása*

**2.2.61.1.11** Minden peszticid hatóanyagot és ezek készítményeit, amelyekre az  $LC_{50}$  és/vagy az  $LD_{50}$  érték ismeretes és amelyek a 6.1 osztályba vannak besorolva, a 2.2.61.1.6 – 2.2.61.1.9 pontban található kritériumok szerint kell a megfelelő csomagolási csoporthoz hozzárendelni. Azokat az anyagokat és készítményeket, amelyeknek járulékos veszélye van, a 2.1.3.10 bekezdésben található veszélyességi rangsor táblázat alapján kell besorolni és a megfelelő csomagolási csoporthoz hozzárendelni.

**2.2.61.1.11.1** Ha a peszticid készítmény lenyelési vagy bőrön keresztüli mérgezőképesség  $LD_{50}$  értéke nem

ismeretes, de hatóanyagainak  $LD_{50}$  értéke ismeretes, akkor a készítmény  $LD_{50}$  értéke a 2.2.61.1.10 pontban leírt eljárás alkalmazásával határozható meg.

**Megjegyzés:** A használatos peszticidekre vonatkozóan  $LD_{50}$  mérgezőképességi adatok találhatóak a „WHO Ajánlás a peszticidek osztályozására veszélyességük alapján és az osztályozási irányelvek” kiadványban, amely az International Programme on Chemical Safety, World Health Organization (WHO), CH-1211 Geneva 27, Switzerland címen szerezhető be. Bár ez a dokumentum felhasználható a peszticidek  $LD_{50}$  értékeinek forrásaként, ennek osztályozási rendszere nem használható a peszticidek szállítási besorolásához és a csomagolási csoportokhoz történő hozzárendeléséhez, azt a RID előírásai szerint kell elvégezni.

**2.2.61.1.11.2** A peszticid szállításánál használt helyes szállítási megnevezést a hatóanyag, a peszticid halmazállapota és a lehetséges járulékos veszélyek alapján kell megválasztani (lásd a 3.1.2 szakaszt).

**2.2.61.1.12** Ha a 6.1 osztály anyagai valamilyen adalékanyag hozzáadása révén eltérő veszélyességi kategóriákba kerülnek át, mint ahová 3.2 fejezet „A” táblázatában név szerint említett anyagok, ezeket a keverékeket vagy oldatokat azok alá a tételek alá kell besorolni, ahová tényleges veszélyességük mértéke alapján tartoznak.

**Megjegyzés:** Az oldatok és keverékek (készítmények és hulladékok) besorolására lásd a 2.1.3 szakaszt is.

**2.2.61.1.13** A 2.2.61.1.6 – 2.2.61.1.11 bekezdésben található kritériumok alapján az is meghatározható, hogy egy név szerint feltüntetett anyag vagy név szerint feltüntetett anyagot tartalmazó oldat vagy keverék természete olyan, hogy az oldat vagy keverék nem esik ezen osztály előírásainak hatálya alá.

**2.2.61.1.14** Azok az anyagok, oldatok és keverékek – kivéve a peszticidként használt anyagokat és készítményeket –, amelyek a módosított 67/548/EGK<sup>4)</sup> vagy az 1999/45/EK<sup>5)</sup> Irányelv kritériumai alapján, ezen irányelvek szerint nem számítanak nagyon mérgezőnek, mérgezőnek vagy ártalmasnak, a 6.1 osztályba nem tartozó anyagoknak tekinthetők.

**2.2.61.2** *A fuvarozásból kizárt anyagok*

**2.2.61.2.1** A 6.1 osztály vegyileg nem állandó anyagai csak akkor adhatók át szállításra, ha megtették a szükséges intézkedéseket, hogy megakadályozzák a szállítás alatti veszélyes bomlásukat vagy polimerizációjukat. Ennek elérésére különösen azt kell biztosítani, hogy a tartályok, ill. tartányok ne tartalmazzanak olyan anyago(ka)t, amelyek ilyen reakciókat okozhatnak.

**2.2.61.2.2** A következő anyagok a fuvarozásból ki vannak zárva:

- azok a vízmentes vagy oldatban levő hidrogén-cianidok, amelyek nem felelnek meg az UN 1051, 1613, 1614 vagy 3294 tétel leírásának;
- a fém-karbonilok, amelyek lobbanáspontja 23 °C alatt van, az UN 1259 nikkel-tetra-karbonil és az UN 1994 vas-pentakarbonil kivételével;

4) Az Európai Közösségek Tanácsának 1967. június 27-i 67/548/EGK Irányelve a tagállamok veszélyes anyagok osztályozására, csomagolására és címkézésére vonatkozó jogszabályainak és közigazgatási előírásainak közelítéséről (lásd az EK Hivatalos Lapja, L 196. szám, 1967.08.16.).

5) Az Európai Parlament és a Tanács 1999. május 31-i 1999/45/EK Irányelve a tagállamok veszélyes készítmények osztályozására, csomagolására és címkézésére vonatkozó jogszabályainak és közigazgatási előírásainak közelítéséről (lásd az EK Hivatalos Lapja, L 200. szám, 1999.07.30., p. 1-68.).

- a 2,3,7,8-tetraklór-dibenzo-p-dioxin (TCDD) olyan koncentrációban, amely a 2.2.61.1.7 pontban foglalt feltételek alapján nagyon mérgező;
- az UN 2249 diklór-dimetil-éter, szimmetrikus;
- a foszfid készítmények a mérgező, gyúlékony gázok fejlődését gátló adalékok nélkül.

A következő anyagok a vasúti fuvarozásból ki vannak zárva:

- UN 0224 bárium-azid, száraz vagy 50%-nál kevesebb víztartalommal;
- UN 0135 higany-fulminát, nedvesített.

## 2.2.61.3 A gyűjtőmegnevezések felsorolása

Járálekos veszély	Osztályozási kód	UN szám	Az anyag vagy tárgy megnevezése
Mérgező anyagok járálekos veszély nélkül			
Szerves anyagok	folyékony anyagok <sup>a)</sup>	T1	1583 KLÓRPIKRIN KEVERÉK, M.N.N. 1602 FOLYÉKONY, MÉRGEZŐ SZÍNEZÉK, M.N.N. vagy 1602 FOLYÉKONY, MÉRGEZŐ SZÍNEZÉK INTERMEDIER, M.N.N. 1693 FOLYÉKONY KÖNNYGÁZ ANYAG, M.N.N. 1851 FOLYÉKONY, MÉRGEZŐ GYÓGYSZER, M.N.N. 2206 MÉRGEZŐ IZOCIANÁTOK, M.N.N. vagy 2206 MÉRGEZŐ IZOCIANÁT OLDATOK, M.N.N. 3140 FOLYÉKONY ALKALOIDÁK, M.N.N. vagy 3140 FOLYÉKONY ALKALOIDA SÓK, M.N.N. 3142 MÉRGEZŐ, FOLYÉKONY FERTŐTLENÍTŐSZER, M.N.N. 3144 FOLYÉKONY NIKOTINVEGYÜLET, M.N.N. vagy 3144 FOLYÉKONY NIKOTIN KÉSZÍTMÉNY, M.N.N. 3172 ÉLŐ SZERVEZETEKBŐL KIVONT FOLYÉKONY TOXINOK, M.N.N. 3276 FOLYÉKONY, MÉRGEZŐ NITRILEK, M.N.N. 3278 FOLYÉKONY, MÉRGEZŐ, SZERVES FOSZFORVEGYÜLET, M.N.N. 3381 BELÉLEGEZVE MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa 3382 BELÉLEGEZVE MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese 2810 SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
		T2	1544 SZILÁRD ALKALOIDOK, M.N.N. vagy 1544 SZILÁRD ALKALOIDA SÓK, M.N.N. 1601 SZILÁRD, MÉRGEZŐ FERTŐTLENÍTŐSZER, M.N.N. 1655 SZILÁRD NIKOTINVEGYÜLET, M.N.N. vagy 1655 SZILÁRD NIKOTIN KÉSZÍTMÉNY, M.N.N. 3143 MÉRGEZŐ, SZILÁRD SZÍNEZÉK, M.N.N. vagy 3143 MÉRGEZŐ, SZILÁRD SZÍNEZÉK INTERMEDIER, M.N.N. 3249 SZILÁRD, MÉRGEZŐ GYÓGYSZER, M.N.N. 3439 SZILÁRD, MÉRGEZŐ NITRILEK, M.N.N. 3448 SZILÁRD KÖNNYGÁZ ANYAG, M.N.N. 3462 ÉLŐ SZERVEZETEKBŐL KIVONT SZILÁRD TOXINOK, M.N.N. 3464 SZILÁRD, MÉRGEZŐ, SZERVES FOSZFORVEGYÜLET, M.N.N. 2811 SZERVES, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
		T3	2026 FENIL-HIGANY VEGYÜLET, M.N.N. 2788 FOLYÉKONY, SZERVES ÓNVEGYÜLET, M.N.N. 3146 SZILÁRD, SZERVES ÓNVEGYÜLET, M.N.N. 3280 FOLYÉKONY, SZERVES ARZÉNVEGYÜLET, M.N.N. 3281 FOLYÉKONY, FÉM-KARBONILEK, M.N.N. 3465 SZILÁRD, SZERVES ARZÉNVEGYÜLET, M.N.N. 3466 SZILÁRD, FÉM-KARBONILEK, M.N.N. 3282 FOLYÉKONY, MÉRGEZŐ, SZERVES FÉMVEGYÜLET, M.N.N. 3467 SZILÁRD, MÉRGEZŐ, SZERVES FÉMVEGYÜLET, M.N.N.
		T4	1556 FOLYÉKONY ARZÉNVEGYÜLET, M.N.N., szervetlen, beleértve: arzenátok, m.n.n.; arzenitek, m.n.n.; arzén-szulfidok, m.n.n. 1935 CIANID OLDAT, M.N.N. 2024 FOLYÉKONY HIGANYVEGYÜLET, M.N.N. 3141 SZERVETLEN, FOLYÉKONY ANTIMONVEGYÜLET, M.N.N. 3440 FOLYÉKONY SZELÉNVEGYÜLET, M.N.N. 3287 SZERVETLEN, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N. 3381 BELÉLEGEZVE MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa 3382 BELÉLEGEZVE MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese
Szerves fémvegyületek <sup>c,d)</sup>			
Szervetlen anyagok			

## 2.2.61.3 A gyűjtőmegnevezések felsorolása (folyt.)

Járlékos veszély	Osztályozási kód	UN szám	Az anyag vagy tárgy megnevezése
Mérgező anyagok járulékos veszély nélkül (folyt.)			
	szilárd anyagok <sup>(g)</sup>	T5	2570 KADMIUMVEGYÜLET
			2630 SZELENÁTOK vagy
			2630 SZELENITEK
1549 SZERVETLEN, SZILÁRD ANTIMONVEGYÜLET, M.N.N.			
1557 SZILÁRD ARZÉNVEGYÜLET, M.N.N., szervetlen, beleértve: arzenátok, m.n.n.; arzenitek, m.n.n.; arzén-szulfidok, m.n.n.			
1564 BÁRIUMVEGYÜLET, M.N.N.			
1566 BERILLIUMVEGYÜLET, M.N.N.			
1588 SZERVETLEN, SZILÁRD CIANIDOK, M.N.N.			
1707 TALLIUMVEGYÜLET, M.N.N.			
2025 SZILÁRD HIGANYVEGYÜLET, M.N.N.			
2291 OLDHATÓ ÓLOMVEGYÜLET, M.N.N.			
2856 FLUORO-SZILIKÁTOK, M.N.N.			
3283 SZILÁRD SZELENVEGYÜLET, M.N.N.			
3284 TELLÚRVEGYÜLET, M.N.N.			
3285 VANÁDIUMVEGYÜLET, M.N.N.			
3288 SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.			
	folyékony <sup>h)</sup>	T6	2992 FOLYÉKONY, MÉRGEZŐ KARBAMÁT PESZTICID
			2994 FOLYÉKONY, MÉRGEZŐ ARZÉN PESZTICID
			2996 FOLYÉKONY, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID
			2998 FOLYÉKONY, MÉRGEZŐ TRIAZIN PESZTICID
			3006 FOLYÉKONY, MÉRGEZŐ TIOKARBAMÁT PESZTICID
			3010 FOLYÉKONY, MÉRGEZŐ RÉZ ALAPÚ PESZTICID
			3012 FOLYÉKONY, MÉRGEZŐ HIGANY ALAPÚ PESZTICID
			3014 FOLYÉKONY, MÉRGEZŐ HELYETTESÍTETT NITRO-FENOL PESZTICID
			3016 FOLYÉKONY, MÉRGEZŐ BIPYRIDILIUM PESZTICID
			3018 FOLYÉKONY, MÉRGEZŐ SZERVES FOSZFORTARTALMÚ PESZTICID
			3020 FOLYÉKONY, MÉRGEZŐ SZERVES ÓN PESZTICID
			3026 FOLYÉKONY, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID
			3348 FOLYÉKONY, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID
			3352 FOLYÉKONY, MÉRGEZŐ PIRETROID PESZTICID
			2902 FOLYÉKONY, MÉRGEZŐ PESZTICID, M.N.N.
Peszticidek	szilárd <sup>h)</sup>	T7	2757 SZILÁRD, MÉRGEZŐ KARBAMÁT PESZTICID
			2759 SZILÁRD, MÉRGEZŐ ARZÉN PESZTICID
			2761 SZILÁRD, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID
			2763 SZILÁRD, MÉRGEZŐ TRIAZIN PESZTICID
			2771 SZILÁRD, MÉRGEZŐ TIOKARBAMÁT PESZTICID
			2775 SZILÁRD, MÉRGEZŐ RÉZ ALAPÚ PESZTICID
			2777 SZILÁRD, MÉRGEZŐ HIGANY ALAPÚ PESZTICID
			2779 SZILÁRD, MÉRGEZŐ HELYETTESÍTETT NITROFENOL PESZTICID
			2781 SZILÁRD, MÉRGEZŐ BIPYRIDILIUM PESZTICID
			2783 SZILÁRD, MÉRGEZŐ SZERVES FOSZFORTARTALMÚ PESZTICID
			2786 SZILÁRD, MÉRGEZŐ SZERVES ÓN PESZTICID
			3027 SZILÁRD, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID
			3048 ALUMÍNIUM-FOSZFID PESZTICID
			3345 SZILÁRD, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID
			3349 SZILÁRD, MÉRGEZŐ PIRETROID PESZTICID
2588 SZILÁRD, MÉRGEZŐ PESZTICID, M.N.N.			
Minták	T8	3315 MÉRGEZŐ VEGYIANYAG MINTA	
Egyéb mérgező anyagok <sup>1)</sup>	T9	3243 MÉRGEZŐ FOLYADÉK TARTALMÚ SZILÁRD ANYAG, M.N.N.	

### 2.2.61.3 A gyújtómegnevezések felsorolása (folyt.)

Járlékos veszély	Osztályozási kód	UN szám	Az anyag vagy tárgy megnevezése
Mérgező anyagok járulékos veszéllyel			
Gyúlékony TF	folyékony <sup>j,k)</sup> TF1	3071	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY MERKAPTÁNOK, M.N.N. vagy
		3071	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY MERKAPTÁN KEVERÉK, M.N.N.
		3080	MÉRGEZŐ, GYÚLÉKONY IZOCIANÁTOK, M.N.N. vagy
		3080	MÉRGEZŐ, GYÚLÉKONY IZOCIANÁT OLDAT, M.N.N.
		3275	MÉRGEZŐ, GYÚLÉKONY NITRILEK, M.N.N.
		3279	MÉRGEZŐ, GYÚLÉKONY SZERVES FOSZFORVEGYÜLET, M.N.N.
		3383	BELÉLEGEZVE MÉRGEZŐ, GYÚLÉKONY, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa
		3384	BELÉLEGEZVE MÉRGEZŐ, GYÚLÉKONY, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese
		2929	MÉRGEZŐ, FOLYÉKONY, GYÚLÉKONY, SZERVES ANYAG, M.N.N.
		2991	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY KARBAMÁT PESZTICID
Gyúlékony TF	peszticidek (lobbanáspont legalább 23 °C) TF2	2993	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY ARZÉN PESZTICID
		2995	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES KLÓRTARTALMÚ PESZTICID
		2997	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY TRIAZIN PESZTICID
		3005	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY TIOKARBAMÁT PESZTICID
		3009	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY RÉZ ALAPÚ PESZTICID
		3011	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY HIGANY ALAPÚ PESZTICID
		3013	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY HELYETTESÍTETT NITRO-FENOL PESZTICID
		3015	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY BIPYRIDILIUM PESZTICID
		3017	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES FOSZFORTARTALMÚ PESZTICID
		3019	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES ÓN PESZTICID
Gyúlékony TF	szilárd TF3	3025	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY KUMARIN SZÁRMAZÉK PESZTICID
		3347	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY FENOXI-ECETSÁV SZÁRMAZÉK PESZTICID
		3351	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY PIRETROID PESZTICID
		2903	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY PESZTICID, M.N.N.
		1700	KÖNNYGÁZ GYERTYÁK
		2930	MÉRGEZŐ SZILÁRD, GYÚLÉKONY SZERVES ANYAG, M.N.N.
Önmelegedő szilárd <sup>c)</sup>	TS	3124	ÖNMELEGEDŐ, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
Vízrel reaktív <sup>d)</sup> TW	folyékony TW1	3385	BELÉLEGEZVE MÉRGEZŐ, VÍZZEL REAKTÍV, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa
		3386	BELÉLEGEZVE MÉRGEZŐ, VÍZZEL REAKTÍV, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese
		3123	VÍZZEL REAKTÍV, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
	szilárd <sup>m)</sup> TW2	3125	VÍZZEL REAKTÍV, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
Gyújtó hatású <sup>l)</sup> TO	folyékony TO1	3387	BELÉLEGEZVE MÉRGEZŐ, GYÚJTÓ HATÁSÚ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa
		3388	BELÉLEGEZVE MÉRGEZŐ, GYÚJTÓ HATÁSÚ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese
		3122	GYÚJTÓ HATÁSÚ, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
	szilárd TO2	3086	GYÚJTÓ HATÁSÚ, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.



## 2.2.61.3 A gyűjtőmegnevezések felsorolása (folyt.)

Járlékos veszély	Osztályozási kód	UN szám	Az anyag vagy tárgy megnevezése
Mérgező anyagok járulékos veszéllyel (folyt.)			
Maró <sup>m)</sup>	szerves	TC1	3277 MÉRGEZŐ, MARÓ KLÓR-FORMIÁTOK, M.N.N.
			3361 MÉRGEZŐ, MARÓ KLÓR-SZILÁNOK, M.N.N.
			3389 BELÉLEGEZVE MÉRGEZŐ, MARÓ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belégzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa
			3390 BELÉLEGEZVE MÉRGEZŐ, MARÓ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belégzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese
			2927 MARÓ, SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
	szilárd	TC2	2928 MARÓ, SZERVES, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
TC	szervetlen	TC3	3389 BELÉLEGEZVE MÉRGEZŐ, MARÓ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belégzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa
			3390 BELÉLEGEZVE MÉRGEZŐ, MARÓ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belégzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese
			3289 MARÓ, SZERVETLEN, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
	szilárd	TC4	3290 MARÓ, SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
Gyúlékony, maró	TFC		2742 MÉRGEZŐ, MARÓ, GYÚLÉKONY KLÓR-FORMIÁTOK, M.N.N.
			3362 MÉRGEZŐ, MARÓ, GYÚLÉKONY KLÓR-SZILÁNOK, M.N.N. (Ilyen osztályozási kóddal nincs más gyűjtőmegnevezés. Ha szükséges, a 2.1.3.10 bekezdés veszélyességi rangsor táblázata alapján meghatározandó, másik osztályozási kód valamely gyűjtőmegnevezése alá kell sorolni.)

## Megjegyzés:

- A peszticidként használt, alkaloidokat vagy nikotint tartalmazó anyagokat és készítményeket az UN 2588 szilárd, mérgező peszticid, m.n.n., a 2902 folyékony, mérgező peszticid, m.n.n. vagy a 2903 folyékony, mérgező, gyúlékony peszticid, m.n.n. tétel alá kell besorolni.
- A laboratóriumi vagy kísérleti célokra, valamint gyógyszerészeti termékek gyártására használt hatóanyagokat, ill. ezek más anyagokkal alkotott finom porát (tritúrátumát) és keverékét mérgezőképességük alapján kell besorolni (lásd 2.2.61.1.7 – 2.2.61.1.11).
- Az enyhén mérgező, önmelegedő anyagok és az öngyulladó szerves fémvegyületek a 4.2 osztály anyagai.
- Az enyhén mérgező, vízzel reaktív anyagok és a vízzel reaktív szerves fémvegyületek a 4.3 osztály anyagai.
- A higany-fulminát legalább 20 tömeg% vízzel (vagy víz és alkohol keverékével) nedvesítve az 1 osztály UN 0135 számú anyaga és a vasúti fuvarozásból ki van zárva (lásd a 2.2.61.2.2 pontot).
- A ferri-cianidok, a ferro-cianidok és az alkáli-tiocianátok nem esnek a RID előírásainak hatálya alá.
- Azok az ólomsók és ólompigmentek, amelyek a 0,07 M sósavoldattal 1:1000 arányban vegyítve, 23 °C ± 2 °C-on történő, egy órán keresztül tartó keverés után legfeljebb 5%-ban oldódnak, nem tartoznak a RID előírásainak hatálya alá.
- Az ilyen peszticiddal átitatott tárgyak, mint pl. papírtányérok, papírszalagok, vattacsomók, műanyag lapok stb. légmentesen zárt burkolatban nem tartoznak a RID előírásainak hatálya alá.
- A RID előírásainak hatálya alá nem tartozó szilárd anyagok és mérgező folyékony



*anyagok keverékei az UN 3243 tétel alatt szállíthatók anélkül, hogy a 6.1 osztály besorolási kritériumait alkalmazni kellene, amennyiben az anyag berakodása során, ill. a csomagolóeszköz, a konténer vagy a kocsi lezárása során szabad folyadék szemmel nem látható. Minden csomagolóeszköznek meg kell felelni a gyártási mintának, ami sikeresen elviselte a II csomagolási csoportra vonatkozó tömörségi próbát. Ez a tétel nem használható az I csomagolási csoportba tartozó folyadékot tartalmazó szilárd anyagokhoz.*

- j) A nagyon mérgező vagy mérgező, gyúlékony, folyékony anyagok 23 °C alatti lobbanásponttal – az UN 1051, 1092, 1098, 1143, 1163, 1182, 1185, 1238, 1239, 1244, 1251, 1259, 1613, 1614, 1695, 1994, 2334, 2382, 2407, 2438, 2480, 2482, 2484, 2485, 2606, 2929, 3279 és 3294 szám alá tartozó, belélegzés esetén nagyon mérgező anyagok kivételével – a 3 osztály anyagai.*
- k) Azok a gyúlékony folyékony anyagok, amelyek enyhén mérgezőek, a peszticidként használt anyagok és készítmények kivételével, 23 °C és 60 °C közötti lobbanásponttal a 3 osztály anyagai.*
- l) Az enyhén mérgező, gyújtó hatású anyagok az 5.1 osztály anyagai.*
- m) Az enyhén mérgező és gyengén maró anyagok a 8 osztály anyagai.*
- n) Az UN 1360, 1397, 1432, 1714, 2011 és 2013 szám alá besorolt fémfoszfidok a 4.3 osztály anyagai.*

**2.2.62            6.2 osztály        Fertőző anyagok****2.2.62.1            *Kritériumok***

**2.2.62.1.1**        A 6.2 osztály fogalmkörébe a fertőző anyagok tartoznak. A RID értelmében a fertőző anyagok olyan anyagok, amelyekről ismert vagy okkal feltételezhető, hogy kórokozókat tartalmaznak. A kórokozók olyan mikroorganizmusok (beleértve a baktériumokat, vírusokat, rickettsiákat, parazitákat, gombákat) és más hatóanyagok, pl. a prionok, amelyek képesek ember vagy állat megbetegedését okozni.

*Megjegyzés: 1. A géntechnológiával módosított mikroorganizmusokat és élő szervezeteket, biológiai termékeket, diagnosztikai mintákat és fertőzött élő állatokat ebbe az osztályba kell besorolni, ha kielégítik ennek az osztálynak a feltételeit.*

*2. Azok a növényi, állati vagy baktérium forrásokból származó toxinok, amelyek nem tartalmaznak semmiféle fertőző anyagot vagy élő szervezetet, vagy nem fertőző anyagban vagy élő szervezetben vannak, a 6.1 osztály UN 3172 vagy UN 3462 szám alá tartozó anyagok.*

**2.2.62.1.2**        A 6.2 osztály anyagai a következők szerint vannak csoportosítva:

- I1    Emberekre ártalmas, fertőző anyagok
- I2    Csak állatokra ártalmas, fertőző anyagok
- I3    Kórházi hulladék
- I4    Biológiai anyagok.

*Fogalommeghatározások*

**2.2.62.1.3**        A RID alkalmazásában:

*Biológiai termékek* azok a termékek, amelyeket élő szervezetekből az illetékes nemzeti közegészségügyi hatóságok előírásai szerint – szükség esetén az ilyen hatóságok speciális engedélyével – gyártanak és forgalmaznak, és a humán- vagy állatgyógyászatban megelőzésre, kezelésre vagy diagnosztizálásra vagy ezekkel kapcsolatos kutatásra, kísérleti vagy vizsgálati célokra szolgálnak. A teljesség igénye nélkül ide tartoznak a félkész vagy kész termékek, pl. a vakcinák.

*A tenyészet* olyan eljárás eredménye, amely által a kórokozókat szándékosan szaporítják. Ez a meghatározás nem terjed ki az e pontban meghatározott, betegtől származó mintára.

*A géntechnológiával módosított mikroorganizmusok és élő szervezetek* olyan mikroorganizmusok és élő szervezetek, amelyek genetikai anyagát szándékosan, génszűrés beavatkozással úgy változtatták meg, ami a természetben nem fordul elő.

*A gyógyászati vagy kórházi hulladékok* az állatok vagy emberek gyógykezeléséből vagy biológiai kísérletekből származó hulladékok.

*A betegtől származó minta* olyan, közvetlenül emberből vagy állatból levett anyag, beleértve többek között a váladékot, székletet, vért és alkotóelemeit, szövetmintákat, testnedveket, keneteket, valamint testrészeket, amelyet kutatás, vizsgálat, kórmeghatározás, gyógykezelés vagy kórmegelőzés céljából szállítanak.

*Besorolás*

**2.2.62.1.4** A fertőző anyagokat a 6.2 osztályba, az UN 2814, az UN 2900, az UN 3291, ill. az UN 3373 tételekhez kell besorolni.

A fertőző anyagok a következő kategóriákra vannak felosztva:

**2.2.62.1.4.1 „A” kategória:** Olyan fertőző anyag, amelyet olyan formában szállítanak, hogy kitétel esetén képes – egyébként egészséges – emberben vagy állatban tartós egészségkárosodást, életveszélyes vagy halálos megbetegedést okozni. Az e kritériumot kielégítő anyagokra\* tájékoztató példák találhatók az ebben a pontban levő táblázatban.

**Megjegyzés:** *Kitétel az, ha egy fertőző anyag a védőcsomagolásból kiszabadul és ennek eredményeként emberrel vagy állattal fizikai kapcsolatba kerül.*

- a) Azokat a fertőző anyagokat, amelyek ezeket a kritériumokat kielégítik és csak emberi, vagy emberi és állati megbetegedést okoznak, az UN 2814 tételhez kell besorolni. Azokat a fertőző anyagokat, amelyek csak állati megbetegedést okoznak, az UN 2900 tételhez kell besorolni;
- b) Az UN 2814, ill. az UN 2900 tételhez történő besorolást a páciens, ill. az állat ismert kórtörténetére, a helyi járvány körülményekre, a páciens, ill. az állat tüneteire vagy a páciens, ill. az állat egyedi körülményeinek szakszerű megítélésére kell alapozni.

**Megjegyzés: 1.** Az UN 2814 tétel esetében a helyes szállítási megnevezés „EMBEREKRE ÁRTALMAS FERTŐZŐ ANYAG”. Az UN 2900 tétel esetében a helyes szállítási megnevezés „csak ÁLLATOKRA ÁRTALMAS FERTŐZŐ ANYAG”.

**2.** A következő táblázat felsorolása nem teljes. Azokat a fertőző anyagokat, beleértve az új vagy kialakult patogéneket, amelyek nem szerepelnek a táblázatban, de ugyanazon kritériumoknak megfelelnek, szintén az „A” kategóriába kell besorolni. Ezenkívül, ha egy anyag esetében kétséges, hogy kielégíti-e a kritériumokat, akkor az „A” kategóriába kell besorolni.

**3** A következő táblázatban a dőlt betűvel szedett mikroorganizmusok baktériumok, mikoplazmák, rickettsiák vagy gombák.

Tájékoztató példák az „A” kategóriába tartozó anyagokra, amelyek minden formájukban ebbe a kategóriába tartoznak – kivéve, ha másként van jelölve (lásd 2.2.62.1.4.1)

UN szám és megnevezés	Mikroorganizmus
UN 2814 Emberekre ártalmas fertőző anyag	<i>Bacillus anthracis</i> (csak ha tenyészet) <i>Brucella abortus</i> (csak ha tenyészet) <i>Brucella melitensis</i> (csak ha tenyészet) <i>Brucella suis</i> (csak ha tenyészet) <i>Burkholderia mallei</i> - <i>Pseudomonas mallei</i> - takonykór (csak ha tenyészet)

\* Magyarországon lásd még a 61/1999. (XII. 1.) EüM rendelet 3. számú mellékletét.

UN szám és megnevezés	Mikroorganizmus
UN 2814 Emberekre ártalmas fertőző anyag (folyt.)	<p><i>Burkholderia pseudomallei</i> – <i>Pseudomas pseudomallei</i> (csak ha tenyészet)</p> <p><i>Chlamydia psittaci</i> - madár törzsek (csak ha tenyészet)</p> <p><i>Clostridium botulinum</i> (csak ha tenyészet)</p> <p><i>Coccidioides immitis</i> (csak ha tenyészet)</p> <p><i>Coxiella burnetii</i> (csak ha tenyészet)</p> <p>Krími-kongói haemorrhagiás láz vírus</p> <p>Dengue vírus (csak ha tenyészet)</p> <p>Keleti ló encephalitis vírus (csak ha tenyészet)</p> <p><i>Escherichia coli</i>, verotoxigén (csak ha tenyészet)<sup>a)</sup></p> <p>Ebola vírus</p> <p>Flexal vírus</p> <p><i>Francisella tularensis</i> (csak ha tenyészet)</p> <p>Guanarito vírus</p> <p>Hantaan vírus</p> <p>Hantavírus, amely vesetünetekkel járó haemorrhagiás lázat okoz</p> <p>Hendra vírus</p> <p>Hepatitis B vírus (csak ha tenyészet)</p> <p>Herpes B vírus (csak ha tenyészet)</p> <p>Humán immunhiány vírus (csak ha tenyészet)</p> <p>Erősen patogén madárinfluenza vírus (csak ha tenyészet)</p> <p>Japán encephalitis vírus (csak ha tenyészet)</p> <p>Junin vírus</p> <p>Kyasanur erdei betegség vírus</p> <p>Lassa vírus</p> <p>Machupo vírus</p> <p>Marburg vírus</p> <p>Majomhimlő vírus</p> <p><i>Mycobacterium tuberculosis</i> (csak ha tenyészet)<sup>a)</sup></p> <p>Nipah vírus</p> <p>Omszki haemorrhagiás láz vírus</p> <p>Poliovírus (csak ha tenyészet)</p> <p>Veszétség vírus (csak ha tenyészet)</p> <p><i>Rickettsia prowazekii</i> (csak ha tenyészet)</p> <p><i>Rickettsia rickettsii</i> (csak ha tenyészet)</p> <p>Rift-völgyi láz vírus (csak ha tenyészet)</p> <p>Orosz tavaszi-nyári encephalitis vírus (csak ha tenyészet)</p> <p>Sabia vírus</p> <p><i>Shigella dysenteriae</i> 1 típus (csak ha tenyészet)<sup>a)</sup></p> <p>Kullancs hordozta encephalitis vírus (csak ha tenyészet)</p> <p>Himlő vírus</p> <p>Venezuelai ló encephalitis vírus (csak ha tenyészet)</p> <p>Nyugat-nílusi vírus (csak ha tenyészet)</p>

UN szám és megnevezés	Mikroorganizmus
(folyt.)	Sárgaláz vírus (csak ha tenyészet) <i>Yersinia pestis</i> (csak ha tenyészet)
UN 2900 Csak állatokra ártalmas fertőző anyag	Afrikai sertésláz vírus (csak ha tenyészet) Madár paramyxovírus 1 típus - velogén Newcastle-betegség (baromfipestis) vírus (csak ha tenyészet) Klasszikus sertésláz vírus (csak ha tenyészet) Száj- és körömfájás vírus (csak ha tenyészet) Lumpy skin disease vírus (csak ha tenyészet) <i>Mycoplasma mycoides</i> - fertőző szarvasmarha tüdő- és mellhártyagyulladás (csak ha tenyészet) Kis termetű kérődző pestis vírus (csak ha tenyészet) Marhavész vírus (csak ha tenyészet) Juhhimlő vírus (csak ha tenyészet) Kecskehimlő vírus (csak ha tenyészet) Sertés hólyaggyulladás vírus (csak ha tenyészet) Hólyagos szájgyulladás vírus (csak ha tenyészet)

a) A diagnosztikai és a klinikai célú tenyészeteket „B” kategóriájú fertőző anyagnak is be lehet sorolni.

**2.2.62.1.4.2 „B” kategória:** Olyan fertőző anyag, amely nem elégíti ki az „A” kategóriába történő besorolás kritériumait. A „B” kategóriába tartozó fertőző anyagokat az UN 3373 tételhez kell besorolni.

**Megjegyzés:** Az UN 3373 szám esetében a helyes szállítási megnevezés: „B” KATEGÓRIÁJÚ BIOLÓGIAI ANYAG.

**2.2.62.1.5 Kivételek**

**2.2.62.1.5.1** Azok az anyagok, amelyek nem tartalmaznak fertőző anyagokat, vagy amelyek nem valószínű, hogy emberi vagy állati megbetegedést okoznak, nem tartoznak a RID előírásainak hatálya alá, ha egyetlen más osztályba sorolás feltételeit sem elégítik ki.

**2.2.62.1.5.2** Az emberi vagy állati megbetegedést nem okozó mikroorganizmust tartalmazó anyagok nem tartoznak a RID előírásainak hatálya alá, ha egyetlen más osztályba sorolás feltételeit sem elégítik ki.

**2.2.62.1.5.3** Azok az anyagok, amelyekben a bennük lévő kórokozók olyan módon vannak semlegesítve vagy inaktíválva, hogy már nem jelentenek egészségi kockázatot, nem tartoznak a RID előírásainak hatálya alá, ha egyetlen más osztályba sorolás feltételeit sem elégítik ki.

**2.2.62.1.5.4** Azok az anyagok (ideértve az élelmiszer- és a vízmintákat is), amelyekben a kórokozók koncentrációja természetesen előforduló szinten van és a fertőzési kockázatuk nem tekinthető jelentősnek, nem tartoznak a RID előírásainak hatálya alá, ha egyetlen más osztályba sorolás feltételeit sem elégítik ki.

**2.2.62.1.5.5** A felszívóanyagra csöppentett, megszáradt vér, a belső vérzés megállapítására szolgáló székletminta, a vérátömlesztés céljából vagy szervátültetéshez, ill. vérátömlesztéshez használt vérkészítmények előállítás céljából gyűjtött vér és vér alkotórészek, valamint a szervátültetésre szolgáló szövetek és szervek nem tartoznak a RID előírásainak hatálya alá.

**2.2.62.1.5.6** Azok az emberi, ill. állati minták, amelyeknél elenyésző annak a valószínűsége, hogy

kórokozókat tartalmaznak, nem tartoznak a RID előírásainak hatálya alá, ha olyan csomagolásban szállítják, amely megakadályozza, hogy kiszivároghassanak, és az „**emberi minta, az ADR/RID egyéb előírásainak betartása nélkül szállítható**”, ill. „**állati minta, az ADR/RID egyéb előírásainak betartása nélkül szállítható**” felirattal meg vannak jelölve.

A csomagolás akkor elégíti ki az előző követelményt, ha megfelel a következőknek:

- a) A csomagolásnak három részből kell állnia:
  - i) szivárgásmentes elsődleges tartály(ok)ból;
  - ii) szivárgásmentes másodlagos csomagolásból; és
  - iii) olyan külső csomagolásból, amely úrtartalmának, tömegének és rendeltetésének megfelelően erős, és legalább egy oldalfelületének mérete legalább  $100\text{ mm} \times 100\text{ mm}$ ;
- b) Folyadékok esetén az elsődleges tartály(ok) és a másodlagos csomagolás közé az elsődleges tartály(ok) teljes tartalmának felszívására elegendő felszívóképes párnázóanyagot kell helyezni, hogy a folyékony anyag a szállítás során történő kiszabadulása vagy kiszivárgása esetén ne érhesse el a külső csomagolást, ill. ne okozza sem a párnázóanyag, sem a külső csomagolás sérülését;
- c) Amennyiben több törékeny elsődleges tartály van elhelyezve egyetlen másodlagos csomagolásban, úgy ezeket egyenként be kell burkolni vagy úgy kell elválasztani egymástól, hogy ne érintkezhessenek egymással.

**Megjegyzés:** 1. Annak eldöntését, hogy valamely anyag ezen alpont alapján kivételnek számít-e a páciens, ill. az állat ismert kórtörténetének, tüneteinek, egyedi körülményeinek és a helyi járvány körülményeknek a szakszerű megítélésére kell alapozni. Az ezen alpont szerint szállítható minta lehet pl.

- a koleszterinszint, vércukorszint, hormonszint, prosztatata specifikus antitestek (PSA) meghatározására szolgáló vér- és vizeletminta;
- a nemfertőző emberi vagy állati betegségekben a szív-, máj-, vesefunkció vagy terápiás célú gyógyszer szint meghatározásához szükséges minta;
- a biztosítás kötésnél vagy foglalkoztatáskor szükséges, kábítószer vagy alkohol kimutatására szolgáló minta
- a terhesség kimutatására szolgáló minta;
- a rák kimutatása céljából vett szövettani minta; és
- emberben vagy állatban lévő antitestek kimutatására szolgáló minta fertőzésre utaló gyanú nélkül (pl. oltóanyaggal létrehozott immunitás értékelése, autoimmun betegségek kórmeghatározása, stb).

2. Légi szállítás esetén az e pont szerint kivételnek számító minták csomagolóeszközeinek meg kell felelniük az a) – c) pontok feltételeinek.

2.2.62.1.6 –

2.2.62.1.8 (fenntartva)

2.2.62.1.9 Biológiai termékek

A RID alkalmazásában a biológiai termékek a következő csoportokra vannak osztva:

- a) olyan termékek, amelyeket az illetékes hatóságok követelményei szerint állítanak elő és csomagolnak be, és végső csomagolás (kiszerezés), illetve elosztás céljából szállítanak, hivatásos egészségügyi személyzet vagy magánszemély által történő egyéni gyógykezelés céljára. Az ebbe a csoportba tartozó anyagok nem tartoznak a RID előírásainak hatálya alá;

- b) olyan termékek, amelyek nem elégítik ki előző a) pont kritériumait, és amelyekről ismert vagy okkal feltételezhető, hogy fertőző anyagot tartalmaznak, és az „A” vagy a „B” kategóriába való feltételeknek megfelelnek. Az ebbe a csoportba tartozó anyagokat az UN 2814, az UN 2900, ill. az UN 3373 tételhez kell besorolni.

**Megjegyzés:** Egyes engedélyezett biológiai termékek csak a világ egyes részein képezhetnek biológiai veszélyt. Ilyen esetben az illetékes hatóság előírhatja, hogy ezek a biológiai termékek feleljenek meg a fertőző anyagokra vonatkozó követelményeknek vagy egyéb korlátozásokat foganatosíthat.

**2.2.62.1.10** Géntechnológiával módosított mikroorganizmusok és élő szervezetek

Azokat a géntechnológiával módosított mikroorganizmusokat, amelyek nem elégítik ki a fertőző anyagok meghatározását, a 2.2.9 szakasz szerint kell besorolni.

**2.2.62.1.11** Gyógyászati vagy kórházi hulladék

**2.2.62.1.11.1** Azokat a gyógyászati vagy kórházi hulladékokat, amelyek az „A” kategóriába tartozó fertőző anyagot tartalmaznak, az UN 2814, ill. az UN 2900 tételhez kell besorolni. Azokat a gyógyászati vagy kórházi hulladékokat, amelyek a „B” kategóriába tartozó fertőző anyagokat tartalmaznak, az UN 3291 tételhez kell besorolni.

**Megjegyzés:** Ezen előírások szerint kell besorolni a Bizottság 2000/532/EK<sup>6)</sup> módosított határozata mellékletét képező hulladékjegyzék szerinti 18 01 03 számú (Emberek, illetve állatok egészségügyi ellátásból és/vagy az azzal kapcsolatos kutatásból származó hulladékok – szülészeti, illetve az emberi betegségek diagnosztizálásából, kezeléséből, illetve megelőzéséből származó hulladékok – egyéb hulladékok, amelyek gyűjtése és ártalmatlanítása speciális követelményekhez kötött a fertőzések elkerülése érdekében) és a 18 02 02 számú (Emberek, illetve állatok egészségügyi ellátásból és/vagy az azzal kapcsolatos kutatásból származó hulladékok – állatbetegségek kutatásából, diagnosztizálásából, kezeléséből, illetve megelőzéséből származó hulladékok – egyéb hulladékok, amelyek gyűjtése és ártalmatlanítása speciális követelményekhez kötött a fertőzések elkerülése érdekében) gyógyászati vagy klinikai hulladékokat a páciens, ill. az állat orvosi, ill. állatorvosi diagnózis alapján.

**2.2.62.1.11.2** Azokat a gyógyászati vagy kórházi hulladékokat, amelyekről okkal feltételezhető, hogy csekély annak a valószínűsége, hogy fertőző anyag(ka)t tartalmaznak, az UN 3291 tételhez kell besorolni. A besoroláshoz a nemzetközi, regionális vagy belföldi hulladék jegyzékek is figyelembe vehetők.

**Megjegyzés:** 1. Az UN 3291 szám esetében a helyes szállítási megnevezés „NEM SPECIFIKÁLT KÓRHÁZI HULLADÉK M.N.N.” vagy „(BIO)GYÓGYÁSZATI HULLADÉK, M.N.N.” vagy „SZABÁLYOZOTT GYÓGYÁSZATI HULLADÉK, M.N.N.”

2. Az előző besorolási kritériumokkal ellentétben nem tartoznak a RID hatálya alá a Bizottság 2000/532/EK<sup>6)</sup> módosított határozata mellékletét képező hulladékjegyzék szerinti 18 01 04 számú (Emberek, illetve állatok egészségügyi ellátásból és/vagy az azzal kapcsolatos kutatásból származó

6) A Bizottság 2000/532/EK határozata (2000. május 3.) a hulladékjegyzéknek a hulladékokról szóló 75/442/EGK tanácsi irányelv [felváltotta a 2006/12/EK parlamenti és tanácsi irányelv (az EK Hivatalos Lapja L 114 szám, 2006. 04. 27., 9. oldal)] 1. cikkének a) pontja értelmében történő meghatározásáról szóló 94/3/EK határozat, valamint a veszélyes hulladékok jegyzékének a veszélyes hulladékokról szóló 91/689/EGK tanácsi irányelv 1. cikkének (4) bekezdése értelmében történő meghatározásáról szóló 94/904/EK tanácsi határozat felváltásáról (az EK Hivatalos Lapja, L 226 szám, 2000. 09. 06., 3. o.) Magyarországon lásd még a 16/2001. (VII. 18.) KőM rendeletet a hulladékok jegyzékéről.



*hulladékok – szülészeti, illetve az emberi betegségek diagnosztizálásából, kezeléséből, illetve megelőzéséből származó hulladékok – hulladékok, amelyek gyűjtése és ártalmatlanítása nem kötött speciális követelményekhez a fertőzések elkerülése érdekében) és a 18 02 03 számú (Emberek, illetve állatok egészségügyi ellátásból és/vagy az azzal kapcsolatos kutatásból származó hulladékok – állatbetegségek kutatásából, diagnosztizálásából, kezeléséből, illetve megelőzéséből származó hulladékok – hulladékok, amelyek gyűjtése és ártalmatlanítása nem kötött speciális követelményekhez a fertőzések elkerülése érdekében) gyógyászati vagy klinikai hulladékok.*

**2.2.62.1.11.3** Azok a fertőtlenített gyógyászati vagy kórházi hulladékok, amelyek korábban fertőző anyago(ka)t tartalmaztak, nem tartoznak a RID előírásainak hatálya alá, ha egyetlen más osztályba való besorolás kritériumát sem elérik ki.

**2.2.62.1.11.4** Az UN 3291 szám alá besorolt gyógyászati vagy kórházi hulladékok a II csomagolási csoporthoz vannak hozzárendelve.

**2.2.62.1.12** *Fertőzőtt állatok*

**2.2.62.1.12.1** Élő állatok fertőző anyag szállítására nem használhatók, kivéve, ha az anyag más módon nem szállítható. Azokat az élő állatokat, amelyeket szándékosan megfertőztek vagy amelyekről ismert vagy gyanítható, hogy fertőző anyagot tartalmaznak, csak az illetékes hatóság által előírt feltételek<sup>7)</sup> szerint lehet szállítani.

**2.2.62.1.12.2** Az „A” kategóriájú kórokozókkal, ill. a csak tenyészet esetén „A” kategóriába sorolandó kórokozókkal fertőzőtt állati eredetű anyagokat az UN 2814, ill. az UN 2900 tétel alá kell sorolni. A „B” kategóriájú kórokozókkal – kivéve azokat a kórokozókat, amelyek tenyészet esetén „A” kategóriába sorolandók – fertőzőtt állati eredetű anyagokat az UN 3373 tétel alá kell sorolni.

**2.2.62.2** *A fuvarozásból kizárt anyagok*

Gerinces vagy gerinctelen élő állatok fertőző anyagok szállítására nem használhatók, hacsak az anyag más módon nem szállítható, ill. a szállítást az illetékes hatóság jóvá nem hagyta (lásd a 2.2.62.1.12.1 pontot).

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7) Az élő állatok szállítását szabályozó előírásokat tartalmaz pl. a 91/628/EGK irányelv az állatok szállítás közbeni védelméről (az EK Hivatalos Lapja L 340. szám, 1991. 12. 11., 17. old.) és az Európa Tanács (Miniszteri Bizottság) Ajánlásai egyes állatfajok szállítására. Magyarországon lásd még a 52/2003. (VIII. 15.) GKM-FVM együttes rendeletet.



**2.2.62.3 A gyűjtőmegnevezések felsorolása**

	Osztályozási kód	UN szám	Az anyag vagy tárgy megnevezése
Fertőző anyagok			
Emberekre ártalmas anyagok	I1	2814	EMBEREKRE ÁRTALMAS FERTŐZŐ ANYAG
Csak állatokra ártalmas anyagok	I2	2900	csak ÁLLATOKRA ÁRTALMAS FERTŐZŐ ANYAG
Kórházi hulladék	I3	3291	NEM SPECIFIKÁLT KÓRHÁZI HULLADÉK, M.N.N. vagy
		3291	(BIO)GYÓGYÁSZATI HULLADÉK, M.N.N. vagy
		3291	SZABÁLYOZOTT GYÓGYÁSZATI HULLADÉK, M.N.N,
Biológiai anyagok	I4	3373	„B” KATEGÓRIÁJÚ BIOLÓGIAI ANYAG

**2.2.7 7 osztály Radioaktív anyagok****2.2.7.1 Fogalommeghatározás**

**2.2.7.1.1 Radioaktív anyag** minden olyan anyag, amely radionuklidokat tartalmaz és mind az aktivitás koncentráció, mind a küldemény teljes aktivitása nagyobb, mint a 2.2.7.2.2.1 – 2.2.7.2.2.6 pontban meghatározott érték.

**2.2.7.1.2 Szennyezettség**

**Szennyezettségen** értendő valamely radioaktív anyag jelenléte egy felületen  $0,4 \text{ Bq/cm}^2$ -nél nagyobb mennyiségben béta-, gamma-sugárzók és csekély toxicitású alfa-sugárzók esetén, vagy  $0,04 \text{ Bq/cm}^2$ -nél nagyobb mennyiségben minden más alfa-sugárzó esetén.

**Nem tapadó szennyezettség** az olyan szennyezettség, amely rendes kezelési feltételek között a felületről eltávolítható.

**Tapadó szennyezettség** a nem tapadó szennyezettség kivételével minden más szennyezettség.

**2.2.7.1.3 Különleges fogalmak meghatározása** **$A_1$  és  $A_2$** 

**$A_1$ -en** a különleges formájú radioaktív anyagok azon aktivitása értendő, amely a 2.2.7.2.2.1 táblázatban fel van tüntetve vagy a 2.2.7.2.2.2 pont szerint van levezetve és a RID előírásaihoz az aktivitás határok megállapítására használatos.

**$A_2$ -n** a különleges formájú radioaktív anyagoktól eltérő, más radioaktív anyagok azon aktivitása értendő, amely a 2.2.7.2.2.1 táblázatban fel van tüntetve vagy a 2.2.7.2.2.2 pont szerint van levezetve, és a RID előírásaihoz az aktivitás határok megállapítására használatos.

A **besugárzatlan tórium** olyan tórium, amely 232-tórium grammonként legfeljebb  $10^{-7} \text{ g}$  233-uránt tartalmaz.

A **besugárzatlan urán** olyan urán, amely 235-urán grammonként legfeljebb  $2 \cdot 10^3 \text{ Bq}$  plutóniumot, 235-urán grammonként legfeljebb  $9 \cdot 10^6 \text{ Bq}$  hasadási terméket és 235-urán grammonként legfeljebb  $5 \cdot 10^{-3} \text{ g}$  236-uránt tartalmaz.

**Csekély toxicitású alfa-sugárzók:** természetes urán, szegényített urán, természetes tórium, 235-urán vagy 238-urán, 232-tórium, 228-tórium és 230-tórium, ha ezeket érczek vagy fizikai vagy kémiai koncentrátumok tartalmazzák; és a 10 napnál rövidebb felezési idejű alfa-sugárzók.

**Hasadóanyagok** a következők: 233-urán, 235-urán, 239-plutónium, 241-plutónium és ezen radionuklidok minden keveréke. Nem tartozik e meghatározás alá:

- a) a besugárzatlan természetes urán vagy szegényített urán, és
- b) az olyan természetes vagy szegényített urán, amit csak termikus reaktorokban sugároztak be.

**Kis fajlagos aktivitású (LSA) anyag:** Olyan radioaktív anyag, amelynek fajlagos aktivitása természeténél fogva korlátozott, vagy olyan radioaktív anyag, amelyre becsült közepes fajlagos aktivitás határérték vonatkozik. Az LSA anyagot körülvevő árnyékoló anyagot a becsült közepes fajlagos aktivitás meghatározásánál nem szabad figyelembe venni.

A **kis mértékben diszpergálódó radioaktív anyag** olyan szilárd radioaktív anyag vagy kapszulába zárt szilárd radioaktív anyag, amelynek diszpergálódási képessége korlátozott és nem por formájú.

**Különleges formájú (special form) radioaktív anyag:**

- a) szétterjedésre nem képes szilárd radioaktív anyagot; vagy
- b) radioaktív anyagot tartalmazó, tömören lezárt kapszulát jelent.

**Low specific activity (LSA):** lásd **kis fajlagos aktivitású (LSA) anyag**.

Egy **radionuklid fajlagos aktivitása** a nuklid egységnyi tömegére jutó aktivitás. Egy anyag fajlagos aktivitását úgy kell tekinteni, mint egy olyan anyagnak az egységnyi tömegére jutó aktivitását, amelyben a radionuklidok lényegében egyenletesen vannak elosztatva.

**Surface contaminated object (SCO):** lásd **szennyezett felületű tárgy (SCO)**.

**Szennyezett felületű tárgy (SCO):** A szennyezett felületű tárgy (SCO) olyan szilárd tárgy, amely önmagában nem radioaktív, de amelynek felületén radioaktív anyag van elosztatva (radioaktív anyaggal van szennyezve).

Az **urán (természetes, szegényített, dúsított)** a következőket jelenti:

A **természetes urán** olyan urán, amelyben az uránizotópok természetben előforduló eloszlásúak (kb. 99,28 tömeg% 238-urán és 0,72 tömeg% 235-urán). Ez lehet kémiaiilag elkülönített urán is.

A **szegényített urán** olyan urán, amelynek százalékos 235-urán tartalma kisebb, mint a természetes uráné.

A **dúsított urán** olyan urán, amelynek százalékos 235-urán tartalma nagyobb, mint 0,72%.

Mind a természetes, mind a dúsított, mind a szegényített uránban kis százalékban 234-urán is jelen van.

## 2.2.7.2 Besorolás

### 2.2.7.2.1 Általános előírások

**2.2.7.2.1.1** A radioaktív anyagokat a 2.2.7.2.2 – 2.2.7.2.5 pontok előírásai szerint, a küldeménydarabban lévő radionuklidok aktivitás szintje és hasadó, ill. nem hasadó volta, a szállítandó küldeménydarab típusa, a küldeménydarab tartalmának természete, ill. formája, valamint a szállításra vonatkozó külön megegyezés figyelembevételével kell a 2.2.7.2.1.1 táblázatban meghatározott valamely UN számhoz rendelni.

#### 2.2.7.2.1.1 táblázat – UN számhoz való hozzárendelés

##### Engedményes küldeménydarabok

(1.7.1.5)

UN 2908	RADIOAKTÍV ANYAG, ENGEDMÉNYES KÜLDEMÉNYDARABBAN – ÜRES CSOMAGOLÓESZKÖZ
UN 2909	RADIOAKTÍV ANYAG, ENGEDMÉNYES KÜLDEMÉNYDARABBAN – TERMÉSZETES URÁNBÓL vagy SZEGÉNYÍTETT URÁNBÓL vagy TERMÉSZETES TÓRIUMBÓL KÉSZÜLT GYÁRTMÁNYOK
UN 2910	RADIOAKTÍV ANYAG, ENGEDMÉNYES KÜLDEMÉNYDARABBAN – KORLÁTOZOTT ANYAGMENNYISÉG
UN 2911	RADIOAKTÍV ANYAG, ENGEDMÉNYES KÜLDEMÉNYDARABBAN – KÉSZÜLÉKEK vagy GYÁRTMÁNYOK

<b>Kis fajlagos aktivitású radioaktív anyag</b> (2.2.7.2.3.1)		
UN 2912	KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-I), nem hasadó vagy hasadó-engedményes	
UN 3321	KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-II), nem hasadó vagy hasadó-engedményes	
UN 3322	KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-III), nem hasadó vagy hasadó-engedményes	
UN 3324	KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-II), HASADÓ	
UN 3325	KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-III), HASADÓ	
<b>Szennevezett felületű tárgyak</b> (2.2.7.2.3.2)		
UN 2913	RADIOAKTÍV ANYAG, SZENNYEZETT FELÜLETŰ TÁRGYAK (SCO-I vagy SCO-II), nem hasadó vagy hasadó-engedményes	
UN 3326	RADIOAKTÍV ANYAG, HASADÓ, SZENNYEZETT FELÜLETŰ TÁRGYAK (SCO-I vagy SCO-II)	
<b>A típusú küldeménydarabok</b> (2.2.7.2.4.4)		
UN 2915	RADIOAKTÍV ANYAG, A TÍPUSÚ KÜLDEMÉNYDARABBAN, nem különleges formában, nem hasadó vagy hasadó-engedményes	
UN 3327	RADIOAKTÍV ANYAG, HASADÓ, A TÍPUSÚ KÜLDEMÉNYDARABBAN, nem különleges formában	
UN 3332	RADIOAKTÍV ANYAG, A TÍPUSÚ KÜLDEMÉNYDARABBAN, KÜLÖNLEGES FORMÁBAN, nem hasadó vagy hasadó-engedményes	
UN 3333	RADIOAKTÍV ANYAG, HASADÓ, A TÍPUSÚ KÜLDEMÉNYDARABBAN, KÜLÖNLEGES FORMÁBAN	
<b>B(U) típusú küldeménydarabok</b> (2.2.7.2.4.6)		
UN 2916	RADIOAKTÍV ANYAG, B(U) TÍPUSÚ KÜLDEMÉNYDARABBAN nem hasadó vagy hasadó-engedményes	
UN 3328	RADIOAKTÍV ANYAG, HASADÓ, B(U) TÍPUSÚ KÜLDEMÉNYDARABBAN	
<b>B(M) típusú küldeménydarabok</b> (2.2.7.2.4.6)		
UN 2917	RADIOAKTÍV ANYAG, B(M) TÍPUSÚ KÜLDEMÉNYDARABBAN nem hasadó vagy hasadó-engedményes	
UN 3329	RADIOAKTÍV ANYAG, HASADÓ, B(M) TÍPUSÚ KÜLDEMÉNYDARABBAN	
<b>C típusú küldeménydarabok</b> (2.2.7.2.4.6)		
UN 3323	RADIOAKTÍV ANYAG, C TÍPUSÚ KÜLDEMÉNYDARABBAN nem hasadó vagy hasadó-engedményes	
UN 3330	RADIOAKTÍV ANYAG, HASADÓ, C TÍPUSÚ KÜLDEMÉNYDARABBAN	
<b>Külön megegyezés</b> (2.2.7.2.5)		
UN 2919	RADIOAKTÍV ANYAG, KÜLÖN MEGEGYEZÉS ALAPJÁN SZÁLLÍTOTT, nem hasadó vagy hasadó-engedményes	
UN 3331	RADIOAKTÍV ANYAG, HASADÓ, KÜLÖN MEGEGYEZÉS ALAPJÁN SZÁLLÍTOTT	
<b>Urán-hexafluorid</b> (2.2.7.2.4.5)		
UN 2977	RADIOAKTÍV ANYAG, HASADÓ URÁN-HEXAFLUORID	
UN 2978	RADIOAKTÍV ANYAG, URÁN-HEXAFLUORID, nem hasadó vagy hasadó-engedményes	

**2.2.7.2.2** *Az aktivitás szintek meghatározása***2.2.7.2.2.1** Az egyedi radionuklidokra a 2.2.7.2.2.1 táblázat a következő alapértékeket tartalmazza:

- a)  $A_1$  és  $A_2$  TBq-ben;
- b) mentességi aktivitás koncentráció az anyagra Bq/g-ban; és
- c) mentességi aktivitás határ a küldeményre Bq-ben.

**2.2.7.2.2.1 táblázat – Radionuklid alapértékek az egyes radionuklidokra**

Radionuklid (rendszer)	$A_1$  (TBq)	$A_2$  (TBq)	Mentességi aktivitás koncentráció anyagra (Bq/g)	Mentességi aktivitás küldeményre (Bq)
<b>Aktínium (89)</b>				
Ac-225 <sup>a)</sup>	$8 \times 10^{-1}$	$6 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
Ac-227 <sup>a)</sup>	$9 \times 10^{-1}$	$9 \times 10^{-5}$	$1 \times 10^{-1}$	$1 \times 10^3$
Ac-228	$6 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
<b>Ezüst (47)</b>				
Ag-105	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Ag-108m <sup>a)</sup>	$7 \times 10^{-1}$	$7 \times 10^{-1}$	$1 \times 10^1$ <sup>b)</sup>	$1 \times 10^6$ <sup>b)</sup>
Ag-110m <sup>a)</sup>	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Ag-111	$2 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
<b>Alumínium (13)</b>				
Al-26	$1 \times 10^{-1}$	$1 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
<b>Amerícium (95)</b>				
Am-241	$1 \times 10^1$	$1 \times 10^{-3}$	$1 \times 10^0$	$1 \times 10^4$
Am-242m <sup>a)</sup>	$1 \times 10^1$	$1 \times 10^{-3}$	$1 \times 10^0$ <sup>b)</sup>	$1 \times 10^4$ <sup>b)</sup>
Am-243 <sup>a)</sup>	$5 \times 10^0$	$1 \times 10^{-3}$	$1 \times 10^0$ <sup>b)</sup>	$1 \times 10^3$ <sup>b)</sup>
<b>Argon (18)</b>				
Ar-37	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^6$	$1 \times 10^8$
Ar-39	$4 \times 10^1$	$2 \times 10^1$	$1 \times 10^7$	$1 \times 10^4$
Ar-41	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^9$
<b>Arzén (33)</b>				
As-72	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
As-73	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^3$	$1 \times 10^7$
As-74	$1 \times 10^0$	$9 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
As-76	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^5$
As-77	$2 \times 10^1$	$7 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
<b>Asztácium (85)</b>				
At-211 <sup>a)</sup>	$2 \times 10^1$	$5 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^7$
<b>Arany (79)</b>				
Au-193	$7 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
Au-194	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Au-195	$1 \times 10^1$	$6 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$

Radionuklid (rendsám)	$A_1$  (TBq)	$A_2$  (TBq)	Mentességi aktivitás koncentráció anyagra (Bq/g)	Mentességi aktivitás küldeményre (Bq)
Au-198	$1 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Au-199	$1 \times 10^1$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Bárium (56)				
Ba-131 <sup>a)</sup>	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Ba-133	$3 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Ba-133m	$2 \times 10^1$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Ba-140 <sup>a)</sup>	$5 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^1$ <sup>b)</sup>	$1 \times 10^5$ <sup>b)</sup>
Berillium (4)				
Be-7	$2 \times 10^1$	$2 \times 10^1$	$1 \times 10^3$	$1 \times 10^7$
Be-10	$4 \times 10^1$	$6 \times 10^{-1}$	$1 \times 10^4$	$1 \times 10^6$
Bizmut (83)				
Bi-205	$7 \times 10^{-1}$	$7 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Bi-206	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Bi-207	$7 \times 10^{-1}$	$7 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Bi-210	$1 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Bi-210m <sup>a)</sup>	$6 \times 10^{-1}$	$2 \times 10^{-2}$	$1 \times 10^1$	$1 \times 10^5$
Bi-212 <sup>a)</sup>	$7 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^1$ <sup>b)</sup>	$1 \times 10^5$ <sup>b)</sup>
Berkélium (97)				
Bk-247	$8 \times 10^0$	$8 \times 10^{-4}$	$1 \times 10^0$	$1 \times 10^4$
Bk-249 <sup>a)</sup>	$4 \times 10^1$	$3 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Bróm (35)				
Br-76	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Br-77	$3 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Br-82	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Szén (6)				
C-11	$1 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
C-14	$4 \times 10^1$	$3 \times 10^0$	$1 \times 10^4$	$1 \times 10^7$
Kalcium (20)				
Ca-41	Nincs korlátozva	Nincs korlátozva	$1 \times 10^5$	$1 \times 10^7$
Ca-45	$4 \times 10^1$	$1 \times 10^0$	$1 \times 10^4$	$1 \times 10^7$
Ca-47 <sup>a)</sup>	$3 \times 10^0$	$3 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Kadmium (48)				
Cd-109	$3 \times 10^1$	$2 \times 10^0$	$1 \times 10^4$	$1 \times 10^6$
Cd-113m	$4 \times 10^1$	$5 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Cd-115 <sup>a)</sup>	$3 \times 10^0$	$4 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Cd-115m	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Cérium (58)				
Ce-139	$7 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$

Radionuklid (rendsám)	$A_1$  (TBq)	$A_2$  (TBq)	Mentességi aktivitás koncentráció anyagra (Bq/g)	Mentességi aktivitás küldeményre (Bq)
Ce-141	$2 \times 10^1$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^7$
Ce-143	$9 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Ce-144 <sup>a)</sup>	$2 \times 10^{-1}$	$2 \times 10^{-1}$	$1 \times 10^2$ <sup>b)</sup>	$1 \times 10^5$ <sup>b)</sup>
Kalifornium (98)				
Cf-248	$4 \times 10^1$	$6 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
Cf-249	$3 \times 10^0$	$8 \times 10^{-4}$	$1 \times 10^0$	$1 \times 10^3$
Cf-250	$2 \times 10^1$	$2 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
Cf-251	$7 \times 10^0$	$7 \times 10^{-4}$	$1 \times 10^0$	$1 \times 10^3$
Cf-252	$1 \times 10^{-1}$	$3 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
Cf-253 <sup>a)</sup>	$4 \times 10^1$	$4 \times 10^{-2}$	$1 \times 10^2$	$1 \times 10^5$
Cf-254	$1 \times 10^{-3}$	$1 \times 10^{-3}$	$1 \times 10^0$	$1 \times 10^3$
Klór (17)				
Cl-36	$1 \times 10^1$	$6 \times 10^{-1}$	$1 \times 10^4$	$1 \times 10^6$
Cl-38	$2 \times 10^{-1}$	$2 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Kürüm (96)				
Cm-240	$4 \times 10^1$	$2 \times 10^{-2}$	$1 \times 10^2$	$1 \times 10^5$
Cm-241	$2 \times 10^0$	$1 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Cm-242	$4 \times 10^1$	$1 \times 10^{-2}$	$1 \times 10^2$	$1 \times 10^5$
Cm-243	$9 \times 10^0$	$1 \times 10^{-3}$	$1 \times 10^0$	$1 \times 10^4$
Cm-244	$2 \times 10^1$	$2 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
Cm-245	$9 \times 10^0$	$9 \times 10^{-4}$	$1 \times 10^0$	$1 \times 10^3$
Cm-246	$9 \times 10^0$	$9 \times 10^{-4}$	$1 \times 10^0$	$1 \times 10^3$
Cm-247 <sup>a)</sup>	$3 \times 10^0$	$1 \times 10^{-3}$	$1 \times 10^0$	$1 \times 10^4$
Cm-248	$2 \times 10^{-2}$	$3 \times 10^{-4}$	$1 \times 10^0$	$1 \times 10^3$
Kobalt (27)				
Co-55	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Co-56	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Co-57	$1 \times 10^1$	$1 \times 10^1$	$1 \times 10^2$	$1 \times 10^6$
Co-58	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Co-58m	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^4$	$1 \times 10^7$
Co-60	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Króóm (24)				
Cr-51	$3 \times 10^1$	$3 \times 10^1$	$1 \times 10^3$	$1 \times 10^7$
Cézium (55)				
Cs-129	$4 \times 10^0$	$4 \times 10^0$	$1 \times 10^2$	$1 \times 10^5$
Cs-131	$3 \times 10^1$	$3 \times 10^1$	$1 \times 10^3$	$1 \times 10^6$
Cs-132	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^5$
Cs-134	$7 \times 10^{-1}$	$7 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^4$

Radionuklid (rendsám)	$A_1$  (TBq)	$A_2$  (TBq)	Mentességi aktivitás koncentráció anyagra (Bq/g)	Mentességi aktivitás küldeményre (Bq)
Cs-134m	$4 \times 10^1$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^5$
Cs-135	$4 \times 10^1$	$1 \times 10^0$	$1 \times 10^4$	$1 \times 10^7$
Cs-136	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Cs-137 <sup>a)</sup>	$2 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^1$ <sup>b)</sup>	$1 \times 10^4$ <sup>b)</sup>
Réz (29)				
Cu-64	$6 \times 10^0$	$1 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Cu-67	$1 \times 10^1$	$7 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Diszprózium (66)				
Dy-159	$2 \times 10^1$	$2 \times 10^1$	$1 \times 10^3$	$1 \times 10^7$
Dy-165	$9 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Dy-166 <sup>a)</sup>	$9 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Erbium (68)				
Er-169	$4 \times 10^1$	$1 \times 10^0$	$1 \times 10^4$	$1 \times 10^7$
Er-171	$8 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Európium (63)				
Eu-147	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Eu-148	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Eu-149	$2 \times 10^1$	$2 \times 10^1$	$1 \times 10^2$	$1 \times 10^7$
Eu-150 (rövid felezési idejű)	$2 \times 10^0$	$7 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Eu-150 (hosszú felezési idejű)	$7 \times 10^{-1}$	$7 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Eu-152	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Eu-152m	$8 \times 10^{-1}$	$8 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Eu-154	$9 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Eu-155	$2 \times 10^1$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
Eu-156	$7 \times 10^{-1}$	$7 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Fluor (9)				
F-18	$1 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Vas (26)				
Fe-52 <sup>a)</sup>	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Fe-55	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^4$	$1 \times 10^6$
Fe-59	$9 \times 10^{-1}$	$9 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Fe-60 <sup>a)</sup>	$4 \times 10^1$	$2 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^5$
Gallium (31)				
Ga-67	$7 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Ga-68	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Ga-72	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Gadolínium (64)				



Radionuklid (rendszer)	$A_1$  (TBq)	$A_2$  (TBq)	Mentességi aktivitás koncentráció anyagra (Bq/g)	Mentességi aktivitás küldeményre (Bq)
Gd-146 <sup>a)</sup>	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Gd-148	$2 \times 10^1$	$2 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
Gd-153	$1 \times 10^1$	$9 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
Gd-159	$3 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Germánium (32)				
Ge-68 <sup>a)</sup>	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Ge-71	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^4$	$1 \times 10^8$
Ge-77	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Hafnium (72)				
Hf-172 <sup>a)</sup>	$6 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Hf-175	$3 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Hf-181	$2 \times 10^0$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Hf-182	Nincs korlátozva	Nincs korlátozva	$1 \times 10^2$	$1 \times 10^6$
Higany (80)				
Hg-194 <sup>a)</sup>	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Hg-195m <sup>a)</sup>	$3 \times 10^0$	$7 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Hg-197	$2 \times 10^1$	$1 \times 10^1$	$1 \times 10^2$	$1 \times 10^7$
Hg-197m	$1 \times 10^1$	$4 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Hg-203	$5 \times 10^0$	$1 \times 10^0$	$1 \times 10^2$	$1 \times 10^5$
Holmium (67)				
Ho-166	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^5$
Ho-166m	$6 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Jód (53)				
I-123	$6 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
I-124	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
I-125	$2 \times 10^1$	$3 \times 10^0$	$1 \times 10^3$	$1 \times 10^6$
I-126	$2 \times 10^0$	$1 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
I-129	Nincs korlátozva	Nincs korlátozva	$1 \times 10^2$	$1 \times 10^5$
I-131	$3 \times 10^0$	$7 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
I-132	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
I-133	$7 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
I-134	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
I-135 <sup>a)</sup>	$6 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Indium (49)				
In-111	$3 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
In-113m	$4 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
In-114m <sup>a)</sup>	$1 \times 10^1$	$5 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
In-115m	$7 \times 10^0$	$1 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$

Radionuklid (rendszer)	$A_1$  (TBq)	$A_2$  (TBq)	Mentességi aktivitás koncentráció anyagra (Bq/g)	Mentességi aktivitás küldeményre (Bq)
Iridium (77)				
Ir-189 <sup>a)</sup>	$1 \times 10^1$	$1 \times 10^1$	$1 \times 10^2$	$1 \times 10^7$
Ir-190	$7 \times 10^{-1}$	$7 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Ir-192	$1 \times 10^0$ <sup>c)</sup>	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^4$
Ir-194	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^5$
Kálium (19)				
K-40	$9 \times 10^{-1}$	$9 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
K-42	$2 \times 10^{-1}$	$2 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
K-43	$7 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Krypton (36)				
Kr-79	$4 \times 10^0$	$1 \times 10^0$	$1 \times 10^3$	$1 \times 10^5$
Kr-81	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^4$	$1 \times 10^7$
Kr-85	$1 \times 10^1$	$1 \times 10^1$	$1 \times 10^5$	$1 \times 10^4$
Kr-85m	$8 \times 10^0$	$3 \times 10^0$	$1 \times 10^3$	$1 \times 10^{10}$
Kr-87	$2 \times 10^{-1}$	$2 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^9$
Lantán (57)				
La-137	$3 \times 10^1$	$6 \times 10^0$	$1 \times 10^3$	$1 \times 10^7$
La-140	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Lutécium (71)				
Lu-172	$6 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Lu-173	$8 \times 10^0$	$8 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
Lu-174	$9 \times 10^0$	$9 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
Lu-174m	$2 \times 10^1$	$1 \times 10^1$	$1 \times 10^2$	$1 \times 10^7$
Lu-177	$3 \times 10^1$	$7 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^7$
Magnézium (12)				
Mg-28 <sup>a)</sup>	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Mangán (25)				
Mn-52	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Mn-53	Nincs korlátozva	Nincs korlátozva	$1 \times 10^4$	$1 \times 10^9$
Mn-54	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Mn-56	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Molibdén (42)				
Mo-93	$4 \times 10^1$	$2 \times 10^1$	$1 \times 10^3$	$1 \times 10^8$
Mo-99 <sup>a)</sup>	$1 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Nitrogén (7)				
N-13	$9 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^9$
Nátrium (11)				
Na-22	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$

Radionuklid (rendszer)	$A_1$  (TBq)	$A_2$  (TBq)	Mentességi aktivitás koncentráció anyagra (Bq/g)	Mentességi aktivitás küldeményre (Bq)
Na-24	$2 \times 10^{-1}$	$2 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Nióbium (41)				
Nb-93m	$4 \times 10^1$	$3 \times 10^1$	$1 \times 10^4$	$1 \times 10^7$
Nb-94	$7 \times 10^{-1}$	$7 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Nb-95	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Nb-97	$9 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Neodímium (60)				
Nd-147	$6 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Nd-149	$6 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Nikkel (28)				
Ni-59	Nincs korlátozva	Nincs korlátozva	$1 \times 10^4$	$1 \times 10^8$
Ni-63	$4 \times 10^1$	$3 \times 10^1$	$1 \times 10^5$	$1 \times 10^8$
Ni-65	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Neptúnium (93)				
Np-235	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^3$	$1 \times 10^7$
Np-236 (rövid felezési idejű)	$2 \times 10^1$	$2 \times 10^0$	$1 \times 10^3$	$1 \times 10^7$
Np-236 (hosszú felezési idejű)	$9 \times 10^0$	$2 \times 10^{-2}$	$1 \times 10^2$	$1 \times 10^5$
Np-237	$2 \times 10^1$	$2 \times 10^{-3}$	$1 \times 10^0$ b)	$1 \times 10^3$ b)
Np-239	$7 \times 10^0$	$4 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^7$
Ozmium (76)				
Os-185	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Os-191	$1 \times 10^1$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
Os-191m	$4 \times 10^1$	$3 \times 10^1$	$1 \times 10^3$	$1 \times 10^7$
Os-193	$2 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Os-194 <sup>a)</sup>	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^5$
Foszfor (15)				
P-32	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^5$
P-33	$4 \times 10^1$	$1 \times 10^0$	$1 \times 10^5$	$1 \times 10^8$
Protaktínium (91)				
Pa-230 <sup>a)</sup>	$2 \times 10^0$	$7 \times 10^{-2}$	$1 \times 10^1$	$1 \times 10^6$
Pa-231	$4 \times 10^0$	$4 \times 10^{-4}$	$1 \times 10^0$	$1 \times 10^3$
Pa-233	$5 \times 10^0$	$7 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^7$
Ólom (82)				
Pb-201	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Pb-202	$4 \times 10^1$	$2 \times 10^1$	$1 \times 10^3$	$1 \times 10^6$
Pb-203	$4 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Pb-205	Nincs korlátozva	Nincs korlátozva	$1 \times 10^4$	$1 \times 10^7$

Radionuklid (rendszer)	$A_1$  (TBq)	$A_2$  (TBq)	Mentességi aktivitás koncentráció anyagra (Bq/g)	Mentességi aktivitás küldeményre (Bq)
Pb-210 <sup>a)</sup>	$1 \times 10^0$	$5 \times 10^{-2}$	$1 \times 10^1$ <sup>b)</sup>	$1 \times 10^4$ <sup>b)</sup>
Pb-212 <sup>a)</sup>	$7 \times 10^{-1}$	$2 \times 10^{-1}$	$1 \times 10^1$ <sup>b)</sup>	$1 \times 10^5$ <sup>b)</sup>
Palládium (46)				
Pd-103 <sup>a)</sup>	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^3$	$1 \times 10^8$
Pd-107	Nincs korlátozva	Nincs korlátozva	$1 \times 10^5$	$1 \times 10^8$
Pd-109	$2 \times 10^0$	$5 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Prométium (61)				
Pm-143	$3 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Pm-144	$7 \times 10^{-1}$	$7 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Pm-145	$3 \times 10^1$	$1 \times 10^1$	$1 \times 10^3$	$1 \times 10^7$
Pm-147	$4 \times 10^1$	$2 \times 10^0$	$1 \times 10^4$	$1 \times 10^7$
Pm-148m <sup>a)</sup>	$8 \times 10^{-1}$	$7 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Pm-149	$2 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Pm-151	$2 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Polónium (84)				
Po-210	$4 \times 10^1$	$2 \times 10^{-2}$	$1 \times 10^1$	$1 \times 10^4$
Prazeodímium (59)				
Pr-142	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^5$
Pr-143	$3 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^4$	$1 \times 10^6$
Platina (78)				
Pt-188 <sup>a)</sup>	$1 \times 10^0$	$8 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Pt-191	$4 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Pt-193	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^4$	$1 \times 10^7$
Pt-193m	$4 \times 10^1$	$5 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^7$
Pt-195m	$1 \times 10^1$	$5 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Pt-197	$2 \times 10^1$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Pt-197m	$1 \times 10^1$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Plutónium (94)				
Pu-236	$3 \times 10^1$	$3 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
Pu-237	$2 \times 10^1$	$2 \times 10^1$	$1 \times 10^3$	$1 \times 10^7$
Pu-238	$1 \times 10^1$	$1 \times 10^{-3}$	$1 \times 10^0$	$1 \times 10^4$
Pu-239	$1 \times 10^1$	$1 \times 10^{-3}$	$1 \times 10^0$	$1 \times 10^4$
Pu-240	$1 \times 10^1$	$1 \times 10^{-3}$	$1 \times 10^0$	$1 \times 10^3$
Pu-241 <sup>a)</sup>	$4 \times 10^1$	$6 \times 10^{-2}$	$1 \times 10^2$	$1 \times 10^5$
Pu-242	$1 \times 10^1$	$1 \times 10^{-3}$	$1 \times 10^0$	$1 \times 10^4$
Pu-244 <sup>a)</sup>	$4 \times 10^{-1}$	$1 \times 10^{-3}$	$1 \times 10^0$	$1 \times 10^4$
Rádium (88)				
Ra-223 <sup>a)</sup>	$4 \times 10^{-1}$	$7 \times 10^{-3}$	$1 \times 10^2$ <sup>b)</sup>	$1 \times 10^5$ <sup>b)</sup>

Radionuklid (rendszer)	$A_1$  (TBq)	$A_2$  (TBq)	Mentességi aktivitás koncentráció anyagra (Bq/g)	Mentességi aktivitás küldeményre (Bq)
Ra-224 <sup>a)</sup>	$4 \times 10^{-1}$	$2 \times 10^{-2}$	$1 \times 10^1$ <sup>b)</sup>	$1 \times 10^5$ <sup>b)</sup>
Ra-225 <sup>a)</sup>	$2 \times 10^{-1}$	$4 \times 10^{-3}$	$1 \times 10^2$	$1 \times 10^5$
Ra-226 <sup>a)</sup>	$2 \times 10^{-1}$	$3 \times 10^{-3}$	$1 \times 10^1$ <sup>b)</sup>	$1 \times 10^4$ <sup>b)</sup>
Ra-228 <sup>a)</sup>	$6 \times 10^{-1}$	$2 \times 10^{-2}$	$1 \times 10^1$ <sup>b)</sup>	$1 \times 10^5$ <sup>b)</sup>
Rubídium (37)				
Rb-81	$2 \times 10^0$	$8 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Rb-83 <sup>a)</sup>	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Rb-84	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Rb-86	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^5$
Rb-87	Nincs korlátozva	Nincs korlátozva	$1 \times 10^4$	$1 \times 10^7$
Rb (természetes)	Nincs korlátozva	Nincs korlátozva	$1 \times 10^4$	$1 \times 10^7$
Rénium (75)				
Re-184	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Re-184m	$3 \times 10^0$	$1 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Re-186	$2 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Re-187	Nincs korlátozva	Nincs korlátozva	$1 \times 10^6$	$1 \times 10^9$
Re-188	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^5$
Re-189 <sup>a)</sup>	$3 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Re (természetes)	Nincs korlátozva	Nincs korlátozva	$1 \times 10^6$	$1 \times 10^9$
Ródium (45)				
Rh-99	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Rh-101	$4 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
Rh-102	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Rh-102m	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Rh-103m	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^4$	$1 \times 10^8$
Rh-105	$1 \times 10^1$	$8 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^7$
Radon (86)				
Ra-222 <sup>a)</sup>	$3 \times 10^{-1}$	$4 \times 10^{-3}$	$1 \times 10^1$ <sup>b)</sup>	$1 \times 10^8$ <sup>b)</sup>
Ruténium (44)				
Ru-97	$5 \times 10^0$	$5 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
Ru-103 <sup>a)</sup>	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Ru-105	$1 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Ru-106 <sup>a)</sup>	$2 \times 10^{-1}$	$2 \times 10^{-1}$	$1 \times 10^2$ <sup>b)</sup>	$1 \times 10^5$ <sup>b)</sup>
Kén (16)				
S-35	$4 \times 10^1$	$3 \times 10^0$	$1 \times 10^5$	$1 \times 10^8$
Antimon (51)				
Sb-122	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^4$
Sb-124	$6 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$

Radionuklid (rendszer)	$A_1$  (TBq)	$A_2$  (TBq)	Mentességi aktivitás koncentráció anyagra (Bq/g)	Mentességi aktivitás küldeményre (Bq)
Sb-125	$2 \times 10^0$	$1 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Sb-126	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Szkandium (21)				
Sc-44	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Sc-46	$5 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Sc-47	$1 \times 10^1$	$7 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Sc-48	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Szelén (34)				
Se-75	$3 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Se-79	$4 \times 10^1$	$2 \times 10^0$	$1 \times 10^4$	$1 \times 10^7$
Szilícium (14)				
Si-31	$6 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Si-32	$4 \times 10^1$	$5 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Szamárrium (62)				
Sm-145	$1 \times 10^1$	$1 \times 10^1$	$1 \times 10^2$	$1 \times 10^7$
Sm-147	Nincs korlátozva	Nincs korlátozva	$1 \times 10^1$	$1 \times 10^4$
Sm-151	$4 \times 10^1$	$1 \times 10^1$	$1 \times 10^4$	$1 \times 10^8$
Sm-153	$9 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Ón (50)				
Sn-113 <sup>a)</sup>	$4 \times 10^0$	$2 \times 10^0$	$1 \times 10^3$	$1 \times 10^7$
Sn-117m	$7 \times 10^0$	$4 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Sn-119m	$4 \times 10^1$	$3 \times 10^1$	$1 \times 10^3$	$1 \times 10^7$
Sn-121m <sup>a)</sup>	$4 \times 10^1$	$9 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^7$
Sn-123	$8 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Sn-125	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^5$
Sn-126 <sup>a)</sup>	$6 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Stroncium (38)				
Sr-82 <sup>a)</sup>	$2 \times 10^{-1}$	$2 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Sr-85	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Sr-85m	$5 \times 10^0$	$5 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
Sr-87m	$3 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Sr-89	$6 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Sr-90 <sup>a)</sup>	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^2$ <sup>b)</sup>	$1 \times 10^4$ <sup>b)</sup>
Sr-91 <sup>a)</sup>	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Sr-92 <sup>a)</sup>	$1 \times 10^0$	$3 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Trícium (1)				
T (H-3)	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^6$	$1 \times 10^9$
Tantál (73)				

Radionuklid (rendszer)	$A_1$  (TBq)	$A_2$  (TBq)	Mentességi aktivitás koncentráció anyagra (Bq/g)	Mentességi aktivitás küldeményre (Bq)
Ta-178 (hosszú felezési idejű)	$1 \times 10^0$	$8 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Ta-179	$3 \times 10^1$	$3 \times 10^1$	$1 \times 10^3$	$1 \times 10^7$
Ta-182	$9 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^4$
Terbium (65)				
Tb-157	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^4$	$1 \times 10^7$
Tb-158	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Tb-160	$1 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Technécium (43)				
Tc-95m <sup>a)</sup>	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Tc-96	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Tc-96m <sup>a)</sup>	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^7$
Tc-97	Nincs korlátozva	Nincs korlátozva	$1 \times 10^3$	$1 \times 10^8$
Tc-97m	$4 \times 10^1$	$1 \times 10^0$	$1 \times 10^3$	$1 \times 10^7$
Tc-98	$8 \times 10^{-1}$	$7 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Tc-99	$4 \times 10^1$	$9 \times 10^{-1}$	$1 \times 10^4$	$1 \times 10^7$
Tc-99m	$1 \times 10^1$	$4 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
Tellúr (52)				
Te-121	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Te-121m	$5 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Te-123m	$8 \times 10^0$	$1 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
Te-125m	$2 \times 10^1$	$9 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^7$
Te-127	$2 \times 10^1$	$7 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Te-127m <sup>a)</sup>	$2 \times 10^1$	$5 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^7$
Te-129	$7 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Te-129m <sup>a)</sup>	$8 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Te-131m <sup>a)</sup>	$7 \times 10^{-1}$	$5 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Te-132m <sup>a)</sup>	$5 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^7$
Tórium (90)				
Th-227	$1 \times 10^1$	$5 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
Th-228 <sup>a)</sup>	$5 \times 10^{-1}$	$1 \times 10^{-3}$	$1 \times 10^0$ <sup>b)</sup>	$1 \times 10^4$ <sup>b)</sup>
Th-229	$5 \times 10^0$	$5 \times 10^{-4}$	$1 \times 10^0$ <sup>b)</sup>	$1 \times 10^3$ <sup>b)</sup>
Th-230	$1 \times 10^1$	$1 \times 10^{-3}$	$1 \times 10^0$	$1 \times 10^4$
Th-231	$4 \times 10^1$	$2 \times 10^{-2}$	$1 \times 10^3$	$1 \times 10^7$
Th-232	Nincs korlátozva	Nincs korlátozva	$1 \times 10^1$	$1 \times 10^4$
Th-234 <sup>a)</sup>	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^3$ <sup>b)</sup>	$1 \times 10^5$ <sup>b)</sup>
Th (természetes)	Nincs korlátozva	Nincs korlátozva	$1 \times 10^0$ <sup>b)</sup>	$1 \times 10^3$ <sup>b)</sup>
Titán (22)				

Radionuklid (rendszer)	$A_1$  (TBq)	$A_2$  (TBq)	Mentességi aktivitás koncentráció anyagra (Bq/g)	Mentességi aktivitás küldeményre (Bq)
Ti-44 <sup>a)</sup>	$5 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
Tallium (81)				
Tl-200	$9 \times 10^{-1}$	$9 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Tl-201	$1 \times 10^1$	$4 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Tl-202	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Tl-204	$1 \times 10^1$	$7 \times 10^{-1}$	$1 \times 10^4$	$1 \times 10^4$
Tórium (90)				
Th-232	$7 \times 10^0$	$8 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Th-230	$3 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Th-231	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^4$	$1 \times 10^8$
Urán (92)				
U-230 (gyors tüdő- abszorpció) <sup>a, d)</sup>	$4 \times 10^1$	$1 \times 10^{-1}$	$1 \times 10^1$ <sup>b)</sup>	$1 \times 10^5$ <sup>b)</sup>
U-230 (közepes tüdő- abszorpció) <sup>a, e)</sup>	$4 \times 10^1$	$4 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
U-230 (lassú tüdő- abszorpció) <sup>a, f)</sup>	$3 \times 10^1$	$3 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
U-232 (gyors tüdő- abszorpció) <sup>d)</sup>	$4 \times 10^1$	$1 \times 10^{-2}$	$1 \times 10^0$ <sup>b)</sup>	$1 \times 10^3$ <sup>b)</sup>
U-232 (közepes tüdő- abszorpció) <sup>e)</sup>	$4 \times 10^1$	$7 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
U-232 (lassú tüdő- abszorpció) <sup>f)</sup>	$1 \times 10^1$	$1 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$
U-233 (gyors tüdő- abszorpció) <sup>d)</sup>	$4 \times 10^1$	$9 \times 10^{-2}$	$1 \times 10^1$	$1 \times 10^4$
U-233 (közepes tüdő- abszorpció) <sup>e)</sup>	$4 \times 10^1$	$2 \times 10^{-2}$	$1 \times 10^2$	$1 \times 10^5$
U-233 (lassú tüdő- abszorpció) <sup>f)</sup>	$4 \times 10^1$	$6 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^5$
U-234 (gyors tüdőabszorpció) <sup>d)</sup>	$4 \times 10^1$	$9 \times 10^{-2}$	$1 \times 10^1$	$1 \times 10^4$
U-234 (közepes tüdő- abszorpció) <sup>e)</sup>	$4 \times 10^1$	$2 \times 10^{-2}$	$1 \times 10^2$	$1 \times 10^5$
U-234 (lassú tüdő- abszorpció) <sup>f)</sup>	$4 \times 10^1$	$6 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^5$
U-235 (minden tüdő- abszorpció típus) <sup>a,d,e,f)</sup>	Nincs korlátozva	Nincs korlátozva	$1 \times 10^1$ <sup>b)</sup>	$1 \times 10^4$ <sup>b)</sup>
U-236 (gyors tüdő- abszorpció) <sup>d)</sup>	Nincs korlátozva	Nincs korlátozva	$1 \times 10^1$	$1 \times 10^4$
U-236 (közepes tüdő- abszorpció) <sup>e)</sup>	$4 \times 10^1$	$2 \times 10^{-2}$	$1 \times 10^2$	$1 \times 10^5$
U-236 (lassú tüdő- abszorpció) <sup>f)</sup>	$4 \times 10^1$	$6 \times 10^{-3}$	$1 \times 10^1$	$1 \times 10^4$



Radionuklid (rendsám)	$A_1$  (TBq)	$A_2$  (TBq)	Mentességi aktivitás koncentráció anyagra (Bq/g)	Mentességi aktivitás küldeményre (Bq)
U-238 (minden tüdő- abszorpciós típus) <sup>d, e, f)</sup>	Nincs korlátozva	Nincs korlátozva	$1 \times 10^1$ <sup>b)</sup>	$1 \times 10^4$ <sup>b)</sup>
U (természetes)	Nincs korlátozva	Nincs korlátozva	$1 \times 10^0$ <sup>b)</sup>	$1 \times 10^3$ <sup>b)</sup>
U (20%-ig vagy kevésbé dúsított) <sup>g)</sup>	Nincs korlátozva	Nincs korlátozva	$1 \times 10^0$	$1 \times 10^3$
U (szegényített)	Nincs korlátozva	Nincs korlátozva	$1 \times 10^0$	$1 \times 10^3$
Vanádium (23)				
V-48	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^5$
V-49	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^4$	$1 \times 10^7$
Volfrám (74)				
W-178 <sup>a)</sup>	$9 \times 10^0$	$5 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
W-181	$3 \times 10^1$	$3 \times 10^1$	$1 \times 10^3$	$1 \times 10^7$
W-185	$4 \times 10^1$	$8 \times 10^{-1}$	$1 \times 10^4$	$1 \times 10^7$
W-187	$2 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
W-188 <sup>a)</sup>	$4 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^5$
Xenon (54)				
Xe-122 <sup>a)</sup>	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^9$
Xe-123	$2 \times 10^0$	$7 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^9$
Xe-127	$4 \times 10^0$	$2 \times 10^0$	$1 \times 10^3$	$1 \times 10^5$
Xe-131m	$4 \times 10^1$	$4 \times 10^1$	$1 \times 10^4$	$1 \times 10^4$
Xe-133	$2 \times 10^1$	$1 \times 10^1$	$1 \times 10^3$	$1 \times 10^4$
Xe-135	$3 \times 10^0$	$2 \times 10^0$	$1 \times 10^3$	$1 \times 10^{10}$
Ittrium (39)				
Y-87 <sup>a)</sup>	$1 \times 10^0$	$1 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Y-88	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Y-90	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^5$
Y-91	$6 \times 10^{-1}$	$6 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^6$
Y-91m	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$
Y-92	$2 \times 10^{-1}$	$2 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^5$
Y-93	$3 \times 10^{-1}$	$3 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^5$
Itterbium (70)				
Yb-169	$4 \times 10^0$	$1 \times 10^0$	$1 \times 10^2$	$1 \times 10^7$
Yb-175	$3 \times 10^1$	$9 \times 10^{-1}$	$1 \times 10^3$	$1 \times 10^7$
Cink (30)				
Zn-65	$2 \times 10^0$	$2 \times 10^0$	$1 \times 10^1$	$1 \times 10^6$
Zn-69	$3 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^4$	$1 \times 10^6$
Zn-69m <sup>a)</sup>	$3 \times 10^0$	$6 \times 10^{-1}$	$1 \times 10^2$	$1 \times 10^6$
Cirkónium (40)				
Zr-88	$3 \times 10^0$	$3 \times 10^0$	$1 \times 10^2$	$1 \times 10^6$

Radionuklid (rendsám)	$A_1$  (TBq)	$A_2$  (TBq)	Mentességi aktivitás koncentráció anyagra (Bq/g)	Mentességi aktivitás küldeményre (Bq)
Zr-93	Nincs korlátozva	Nincs korlátozva	$1 \times 10^3$ <sup>b)</sup>	$1 \times 10^7$ <sup>b)</sup>
Zr-95 <sup>a)</sup>	$2 \times 10^0$	$8 \times 10^{-1}$	$1 \times 10^1$	$1 \times 10^6$
Zr-97 <sup>a)</sup>	$4 \times 10^{-1}$	$4 \times 10^{-1}$	$1 \times 10^1$ <sup>b)</sup>	$1 \times 10^5$ <sup>b)</sup>

a) A következő anyaelemeknél az  $A_1$  és/vagy az  $A_2$  értékek tartalmazzák a 10 napnál rövidebb felezési idejű leányelemek hozzájárulását az alábbiak szerint:

Mg-28	Al-28
Ar-42	K-42
Ca-47	Sc-47
Ti-44	Sc-44
Fe-52	Mn-52m
Fe-60	Co-60m
Zn-69m	Zn-69
Ge-68	Ga-68
Rb-83	Kr-83m
Sr-82	Rb-82
Sr-90	Y-90
Sr-91	Y-91m
Sr-92	Y-92
Y-87	Sr-87m
Zr-95	Nb-95m
Zr-97	Nb-97m, Nb-97
Mo-99	Tc-99m
Tc-95m	Tc-95
Tc-96m	Tc-96
Ru-103	Rh-103m
Ru-106	Rh-106
Pd-103	Rh-103m
Ag-108m	Ag-108
Ag-110m	Ag-110
Cd-115	In-115m
In-114m	In-114
Sn-113	In-113m
Sn-121m	Sn-121
Sn-126	Sb-126m
Te-118	Sb-118
Te-127m	Te-127
Te-129m	Te-129
Te-131m	Te-131

<i>Te-132</i>	<i>I-132</i>
<i>I-135</i>	<i>Xe-135m</i>
<i>Xe-122</i>	<i>I-122</i>
<i>Cs-137</i>	<i>Ba-137m</i>
<i>Ba-131</i>	<i>Cs-131</i>
<i>Ba-140</i>	<i>La-140</i>
<i>Ce-144</i>	<i>Pr-144m, Pr-144</i>
<i>Pm-148m</i>	<i>Pm-148</i>
<i>Gd-146</i>	<i>Eu-146</i>
<i>Dy-166</i>	<i>Ho-166</i>
<i>Hf-172</i>	<i>Lu-172</i>
<i>W-178</i>	<i>Ta-178</i>
<i>W-188</i>	<i>Re-188</i>
<i>Re-189</i>	<i>Os-189m</i>
<i>Os-194</i>	<i>Ir-194</i>
<i>Ir-189</i>	<i>Os-189m</i>
<i>Pt-188</i>	<i>Ir-188</i>
<i>Hg-194</i>	<i>Au-194</i>
<i>Hg-195m</i>	<i>Hg-195</i>
<i>Pb-210</i>	<i>Bi-210</i>
<i>Pb-212</i>	<i>Bi-212, Tl-208, Po-212</i>
<i>Bi-210m</i>	<i>Tl-206</i>
<i>Bi-212</i>	<i>Tl-208, Po-212</i>
<i>At-211</i>	<i>Po-211</i>
<i>Rn-222</i>	<i>Po-218, Pb-214, At-218, Bi-214, Po-214</i>
<i>Ra-223</i>	<i>Rn-219, Po-215, Pb-211, Bi-211, Po-211, Tl-207</i>
<i>Ra-224</i>	<i>Rn-220, Po-216, Pb-212, Bi-212, Tl-208, Po-212</i>
<i>Ra-225</i>	<i>Ac-225, Fr-221, At-217, Bi-213, Tl-209, Po-213, Pb-209</i>
<i>Ra-226</i>	<i>Rn-222, Po-218, Pb-214, At-218, Bi-214, Po-214</i>
<i>Ra-228</i>	<i>Ac-228</i>
<i>Ac-225</i>	<i>Fr-221, At-217, Bi-213, Tl-209, Po-213, Pb-209</i>
<i>Ac-227</i>	<i>Fr-223</i>
<i>Th-228</i>	<i>Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208, Po-212</i>
<i>Th-234</i>	<i>Pa-234m, Pa-234</i>
<i>Pa-230</i>	<i>Ac-226, Th-226, Fr-222, Ra-222, Rn-218, Po-214</i>
<i>U-230</i>	<i>Th-226, Ra-222, Rn-218, Po-214</i>
<i>U-235</i>	<i>Th-231</i>
<i>Pu-241</i>	<i>U-237</i>
<i>Pu-244</i>	<i>U-240, Np-240m</i>
<i>Am-242m</i>	<i>Am-242, Np-238</i>
<i>Am-243</i>	<i>Np-239</i>
<i>Cm-247</i>	<i>Pu-243</i>

- Bk-249      Am-245*  
*Cf-253      Cm-249*
- b) *Az anyaelemeket és a velük szekuláris egyensúlyban levő bomlástermékeiket a következő felsorolás tartalmazza:*
- Sr-90      Y-90*  
*Zr-93      Nb-93m*  
*Zr-97      Nb-97*  
*Ru-106      Rh-106*  
*Ag-108m      Ag-108*  
*Cs-137      Ba-137m*  
*Ce-144      Pr-144*  
*Ba-140      La-140*  
*Bi-212      Tl-208 (0,36), Po-212 (0,64)*  
*Pb-210      Bi-210, Po-210*  
*Pb-212      Bi-212, Tl-208 (0,36), Po-212 (0,64)*  
*Rn-222      Po-218, Pb-214, Bi-214, Po-214*  
*Ra-223      Rn-219, Po-215, Pb-211, Bi-211, Tl-207*  
*Ra-224      Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0,36), Po-212 (0,64)*  
*Ra-226      Rn-222, Po-218, Pb-214, Bi-214, Po-214, Pb-210, Bi-210, Po-210*  
*Ra-228      Ac-228*  
*Th-228      Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0,36), Po-212 (0,64)*  
*Th-229      Ra-225, Ac-225, Fr-221, At-217, Bi-213, Po-213, Pb-209*  
*Th-term.      Ra-228, Ac-228, Th-228, Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0,36), Po-212 (0,64)*  
*Th-234      Pa-234m*  
*U-230      Th-226, Ra-222, Rn-218, Po-214*  
*U-232      Th-228, Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208 (0,36), Po-212 (0,64)*  
*U-235      Th-231*  
*U-238      Th-234, Pa-234m*  
*U-term.      Th-234, Pa-234m, U-234, Th-230, Ra-226, Rn-222, Po-218, Pb-214, Bi-214, Po-214, Pb-210, Bi-210, Po-210*  
*Np-237      Pa-233*  
*Am-242m      Am-242*  
*Am-243      Np-239*
- c) *A mennyiség a bomlási sebesség mérésével vagy a forrástól előírt távolságban a sugárzási szint mérésével határozható meg.*
- d) *Ezek az értékek csak olyan uránvegyületekre vonatkoznak, amelyek kémiai alakja normális szállítási körülmények között és baleset esetén is UF<sub>6</sub>, UO<sub>2</sub>F<sub>2</sub> vagy UO<sub>2</sub>(NO<sub>3</sub>)<sub>2</sub>.*
- e) *Ezek az értékek csak olyan uránvegyületekre vonatkoznak, amelyek kémiai alakja normális szállítási körülmények között és baleset esetén is UO<sub>3</sub>, UF<sub>4</sub>, UCl<sub>4</sub> vagy hatvegyértékű uránvegyület.*
- f) *Ezek az értékek az előző d) és e) pont alatt meghatározottakon kívüli egyéb más uránvegyületekre vonatkoznak.*
- g) *Ezek az értékek csak a besugárzatlan uránra vonatkoznak.*

**2.2.7.2.2.2** Azokra az egyedi radionuklidokra, amelyek nincsenek a 2.2.7.2.2.1 táblázatban felsorolva, a 2.2.7.2.2.1 pont szerinti radionuklid alapértékek meghatározásához többoldalú engedély szükséges. A Nemzetközi Sugárvédelmi Bizottság (ICRP) ajánlása szerint, a tüdőabszorpció típusnak megfelelő dózis tényezővel számított  $A_2$  érték használata is megengedett, ha mind a normális szállítási körülmények között, mind a baleset esetén lévő kémiai alakokat figyelembe veszik. Alternatívaként a 2.2.7.2.2.2 táblázatban található radionuklid alapértékek az illetékes hatóság engedélye nélkül használhatók.

**2.2.7.2.2.2 táblázat – Radionuklid alapértékek ismeretlen radionuklidokra vagy keverékekre**

Radioaktív tartalom	$A_1$ (TBq)	$A_2$ (TBq)	Mentességi aktivitás koncentráció anyagra (Bq/g)	Mentességi aktivitás küldeményre (Bq)
Csak béta- vagy gamma-sugarakat kibocsátó nuklidok jelenléte ismert	$1 \times 10^{-1}$	$2 \times 10^{-2}$	$1 \times 10^1$	$1 \times 10^4$
Alfa-sugarakat kibocsátó nuklidok jelenléte ismert, de neutron sugárzóké nem	$2 \times 10^{-1}$	$9 \times 10^{-5}$	$1 \times 10^{-1}$	$1 \times 10^3$
Neutron sugárzó nuklidok jelenléte ismert vagy nem áll tényleges adat rendelkezésre	$1 \times 10^{-3}$	$9 \times 10^{-5}$	$1 \times 10^{-1}$	$1 \times 10^3$

**2.2.7.2.2.3** A 2.2.7.2.2.1 táblázatban nem szereplő radionuklidokra az  $A_1$  és  $A_2$  számításakor az olyan radioaktív bomlási lánc, amelyben a radionuklidok a természetben előforduló arányban szerepelnek, és sem tíz napnál nagyobb, sem a kiindulási radionuklid felezési idejénél nagyobb felezési idejű leánynuklid nem szerepel, egy radionuklidnak tekintendő. Ekkor a figyelembe veendő aktivitás és az alkalmazandó  $A_1$  vagy  $A_2$  érték a kiindulási radionuklidra érvényes érték. Az olyan radioaktív bomlási láncban, amelyben a leánynuklidok felezési ideje nagyobb mint tíz nap, vagy nagyobb, mint a kiindulási radionuklid felezési ideje, a kiindulási nuklidot és az ilyen leánynuklidokat úgy kell kezelni, mint különböző nuklidok keverékét.

**2.2.7.2.2.4** Radionuklid keverékekre a 2.2.7.2.2.1 pont szerinti radionuklid alapértékek a következők szerint határozhatók meg:

$$X_m = \frac{1}{\sum_i \frac{f(i)}{X(i)}}, \text{ ahol}$$

$f(i)$  – a keverékben az  $i$ -edik radionuklid aktivitásának vagy aktivitás koncentrációjának részaránya;

$X(i)$  – az  $i$ -edik radionuklidra vonatkozó  $A_1$  vagy  $A_2$  érték, ill. az anyagra vonatkozó mentességi aktivitás koncentráció vagy a küldeményre vonatkozó mentességi aktivitás érték;

$X_m$  – keverék esetén a származtatott  $A_1$  vagy  $A_2$  érték, ill. az anyagra vonatkozó mentességi aktivitás koncentráció vagy a küldeményre vonatkozó mentességi aktivitás érték.

**2.2.7.2.2.5** Amennyiben minden egyes radionuklid azonossága ismert, azonban néhány radionuklid aktivitása ismeretlen, a radionuklidok csoportokba foglalhatók. Az egyes radionuklid csoportokra azután a 2.2.7.2.2.4 és a 2.2.7.2.4.4 pont szerinti képlet alkalmazása során a megfelelő legkisebb vonatkozó radionuklid értéket lehet alkalmazni. A csoportba sorolás alapja az összes alfa-aktivitás és az összes béta/gamma-aktivitás lehet, amennyiben ezek ismeretesek, amikor is az alfa-sugárzókra illetve béta/gamma-sugárzókra a legkisebb

radionuklid értéket kell alkalmazni.

**2.2.7.2.2.6** Azokra az egyedi radionuklidokra vagy radionuklid-keverékekre, amelyeknél tényleges adatok nem állnak rendelkezésre, a 2.2.7.2.2.2 táblázat értékeit kell alkalmazni.

**2.2.7.2.3** *Egyéb anyagjellemzők meghatározása*

**2.2.7.2.3.1** Kis fajlagos aktivitású (*LSA*) anyag

**2.2.7.2.3.1.1** (fenntartva)

**2.2.7.2.3.1.2** Az *LSA* anyagok az alábbi három csoport egyikéhez tartoznak:

a) *LSA-I*

- i) urán- és tóriumérccek és ezen érccek koncentrátumai és természetes radionuklidokat tartalmazó egyéb érccek, amelyeket ezen radionuklidok felhasználására kívánnak feldolgozni;
- ii) természetes urán vagy szegényített urán, vagy természetes tórium, vagy ezek vegyületei vagy keverékei, ha nincsenek besugározva és szilárdak vagy folyékonyak;
- iii) radioaktív anyagok, amelyek  $A_2$  értéke nincs korlátozva, kivéve a 2.2.7.2.3.5 pont szerint hasadónak besorolt anyagokat; vagy
- iv) egyéb radioaktív anyag, amelyben az aktivitás egyenletesen oszlik meg és a becsült közepes fajlagos aktivitás nem haladja meg a 2.2.7.2.2.1 – 2.2.7.2.2.6 pontban az aktivitás koncentrációra meghatározott érték 30-szorosát, kivéve a 2.2.7.2.3.5 pont szerint hasadónak besorolt anyagokat;

b) *LSA-II*

- i) a víz, legfeljebb 0,8 TBq/l trícium koncentrációval; vagy
- ii) egyéb anyagok, amelyekben az aktivitás egyenletesen oszlik meg, és amelyekben a becsült közepes fajlagos aktivitás szilárd anyagok és gázok esetében  $10^{-4}A_2/g$  értéket, folyadékok esetében a  $10^{-5}A_2/g$  értéket nem haladja meg;

c) *LSA-III*

Szilárd anyagok (pl. szilárdított hulladékok vagy felaktivált anyagok) a porok kivételével, amelyeknél

- i) a radioaktív anyagok szilárd anyagban vagy szilárd tárgyak együttesében vagy szilárd, tömör kötőanyagban (mint beton, bitumen, kerámia stb.) lényegében egyenletesen vannak eloszlva;
- ii) a radioaktív anyagok viszonylag oldhatatlanok, vagy azokat viszonylag oldhatatlan közeg tartalmazza úgy, hogy az egy küldeménydarabra jutó kilúgozódásból adódó radioaktív anyag veszteség a 7 napig tartó, vízben való áztatás során még a csomagolás elveszése esetén sem haladja meg a  $0,1A_2$  értéket; és
- iii) a szilárd anyagok becsült közepes fajlagos aktivitása az árnyékolóanyagok figyelembevétele nélkül a  $2 \cdot 10^{-3}A_2/g$  értéket nem haladja meg.

**2.2.7.2.3.1.3** Az *LSA-III* anyagnak olyan szilárd anyagnak kell lennie, hogy ha egy küldeménydarab teljes tartalmát alávetnék a 2.2.7.2.3.1.4 pont szerinti vizsgálatnak, a vízben mérhető aktivitás a  $0,1A_2$  értéket nem haladná meg.

**2.2.7.2.3.1.4** Az *LSA-III* anyagot a következők szerint kell vizsgálni:

A küldeménydarab teljes tartalmát reprezentáló szilárd anyag mintát hét napig környezeti hőmérsékletű vízbe kell meríteni. A vizsgálathoz használt víz mennyisége annyi legyen, hogy a hétnapos vizsgálati idő végén megmaradó el nem nyelt és hatástalan szabad vízmennyiség a szilárd vizsgálati minta térfogatának legkevesebb 10%-a legyen. A víz kezdeti pH-értéke 6...8 között kell legyen, miközben vezetőképessége 20 °C-on legfeljebb 1 mS/m lehet. A vizsgált minta 7 napig tartó bemerülését követően kell megmérni a szabad vízmennyiség teljes aktivitását.

**2.2.7.2.3.1.5** A 2.2.7.2.3.1.4 pontban meghatározott teljesítményszintnek való megfelelést a 6.4.12.1 és a 6.4.12.2 bekezdés szerint kell bizonyítani.

**2.2.7.2.3.2** Szennyezett felületű tárgyak (SCO)

A szennyezett felületű tárgyak (SCO) a következő két csoport egyikébe tartoznak:

- a) *SCO-I*: olyan szilárd tárgy, amelyen
  - i) a nem tapadó radioaktív szennyezettség aktivitása a hozzáférhető felületek 300 cm<sup>2</sup>-nyi részén (vagy a teljes felületen, ha az kisebb 300 cm<sup>2</sup>-nél) meghatározva, nem haladja meg a 4 Bq/cm<sup>2</sup> értéket béta- és gamma-sugárzók, valamint csekély toxicitású alfa-sugárzók esetén, ill. a 0,4 Bq/cm<sup>2</sup> értéket egyéb alfa-sugárzók esetén; és
  - ii) a tapadó radioaktív szennyezettség aktivitása a hozzáférhető felületek 300 cm<sup>2</sup>-nyi részén (vagy a teljes felületen, ha az kisebb 300 cm<sup>2</sup>-nél) meghatározva, nem haladja meg a 4·10<sup>4</sup> Bq/cm<sup>2</sup> értéket béta- és gamma-sugárzók, valamint csekély toxicitású alfa-sugárzók esetén, ill. a 4·10<sup>3</sup> Bq/cm<sup>2</sup> értéket egyéb alfa-sugárzók esetén; és
  - iii) a nem tapadó és a tapadó radioaktív szennyezettség aktivitásának összege a nem hozzáférhető felületek 300 cm<sup>2</sup>-nyi részén (vagy a teljes felületen, ha az kisebb 300 cm<sup>2</sup>-nél) meghatározva, nem haladja meg a 4·10<sup>4</sup> Bq/cm<sup>2</sup> értéket béta- és gamma-sugárzók, valamint csekély toxicitású alfa-sugárzók esetén, ill. a 4·10<sup>3</sup> Bq/cm<sup>2</sup> értéket egyéb alfa-sugárzók esetén.
- b) *SCO-II*: olyan szilárd tárgy, amelynek felületén olyan tapadó vagy nem tapadó radioaktív szennyezettség található, amely az a) pontban az *SCO-I*-re vonatkozó határokat meghaladja, és amelyen
  - i) a nem tapadó radioaktív szennyezettség aktivitása a hozzáférhető felületek 300 cm<sup>2</sup>-nyi részén (vagy a teljes felületen, ha az kisebb 300 cm<sup>2</sup>-nél) meghatározva, nem haladja meg a 400 Bq/cm<sup>2</sup> értéket béta- és gamma-sugárzók, valamint csekély toxicitású alfa-sugárzók esetén, ill. a 40 Bq/cm<sup>2</sup> értéket egyéb alfa-sugárzók esetén; és
  - ii) a tapadó radioaktív szennyezettség aktivitása a hozzáférhető felületek 300 cm<sup>2</sup>-nyi részén (vagy a teljes felületen, ha az kisebb 300 cm<sup>2</sup>-nél) meghatározva, nem haladja meg a 8·10<sup>5</sup> Bq/cm<sup>2</sup> értéket béta- és gamma-sugárzók, valamint csekély toxicitású alfa-sugárzók esetén, vagy a 8·10<sup>4</sup> Bq/cm<sup>2</sup> értéket egyéb alfa-sugárzók esetén; és
  - iii) a nem tapadó és a tapadó radioaktív szennyezettség aktivitásának összege a nem hozzáférhető felületek 300 cm<sup>2</sup>-nyi részén (vagy a teljes felületen, ha az kisebb 300 cm<sup>2</sup>-nél) meghatározva, nem haladja meg a 8·10<sup>5</sup> Bq/cm<sup>2</sup> értéket béta- és gamma-sugárzók, valamint csekély toxicitású alfa-sugárzók esetén, vagy a 8·10<sup>4</sup> Bq/cm<sup>2</sup> értéket egyéb alfa-sugárzók esetén.

**2.2.7.2.3.3** A különleges formájú radioaktív anyag

**2.2.7.2.3.3.1** A különleges formájú radioaktív anyag legalább egyik méretének el kell érnie az 5 mm-t. Ha egy tömören lezárt kapszula a különleges formájú radioaktív anyag részét képezi, azt úgy

kell kialakítani, hogy csak a kapszula szétroncsolásával lehessen kinyitni. A különleges formájú radioaktív anyag mintához egyoldalú engedély szükséges.

**2.2.7.2.3.3.2** A különleges formájú anyagnak olyan természetűnek vagy olyan szerkezetűnek kell lenni, hogy ha alávetnék a 2.2.7.2.3.3.4 – 2.2.7.2.3.3.8 pontban meghatározott vizsgálatoknak, kielégítené a következő előírásokat:

- a) nem szakad fel vagy nem törik össze a 2.2.7.2.3.3.5 a), b), c), és a 2.2.7.2.3.3.6 a) pontban ismertetett ejtési, ütési és hajlítási vizsgálat hatására (amelyik alkalmazható);
- b) nem olvad meg és nem diszpergálódik a 2.2.7.2.3.3.5 d) vagy a 2.2.7.2.3.3.6 b) pont szerinti hőpróba hatására (ha az alkalmazható); és
- c) a vízben mérhető aktivitás a 2.2.7.2.3.3.7 és a 2.2.7.2.3.3.8 pont szerinti kioldhatóság-vizsgálat során nem haladja meg a 2 kBq értéket; vagy helyette a zárt sugárforrásoknál az ISO 9978:1992 „Sugárzás elleni védelem – Zárt radioaktív sugárforrások – Zártságvizsgálati eljárások” szabvány alapján, a zártság mértékének megállapítására végzendő térfogati szivárgást meghatározó vizsgálat hatására nem lépi túl az elfogadott küszöböt, amely az illetékes hatóság számára elfogadható.

**2.2.7.2.3.3.3** A 2.2.7.2.3.3.2 pontban meghatározott teljesítményszintnek való megfelelést a 6.4.12.1 és a 6.4.12.2 bekezdés szerint kell bizonyítani.

**2.2.7.2.3.3.4** A különleges formájú radioaktív anyagból álló vagy azt modellező mintadarabokat a 2.2.7.2.3.3.5 pontban meghatározott ejtési, ütési, hajlítási és hőpróbának vagy a 2.2.7.2.3.3.6 pontban engedélyezett alternatív próbáknak kell kitenni. Minden vizsgálathoz használható másik mintadarab. Mindegyik vizsgálat után egy kioldhatóság- vagy térfogatvesztés-vizsgálatot kell végezni a mintán olyan eljárással, amely legalább olyan pontos, mint a nem diszpergálódó szilárd anyagra a 2.2.7.2.3.3.7 pontban megadott, ill. kapszulázott (tokozott) anyagra a 2.2.7.2.3.3.8 pontban megadott próbák.

**2.2.7.2.3.3.5** A megfelelő vizsgálati eljárások a következők:

- a) *Ejtési próba:* A mintát 9 m magasból ütközőlapra kell ejteni. Az ütközőlapnak a 6.4.14 szakaszban meghatározott kivitelűnek kell lennie.
- b) *Ütési próba:* A mintadarabot egy ólomlapra kell helyezni, amelyik sima, szilárd felületen nyugszik, és egy acélrúd lapos végével akkora ütést kell rá mérni, amely 1,4 kg tömeg 1 m magasból való függőleges ráejtésének felel meg. A rúd végének 25 mm átmérőjűnek kell lennie, a szélét  $3 \pm 0,3$  mm-es sugárral le kell kerekíteni. Az ólom 3,5...4,5 Vickers-keménységű és max. 25 mm vastagságú legyen; a felülete pedig nagyobb legyen, mint a próbatest által befedett felület. Minden ütéshez új ólomfelületet kell használni. A bélyeg (acélrúd) úgy üsse meg a mintát, hogy azon a legnagyobb sérülést okozza.
- c) *Hajlítási próba:* A próbát csak hosszú, vékony forrásokra kell alkalmazni, amelyeknek legkisebb hosszúsága 10 cm, és a hosszúságnak a legkisebb szélességhez viszonyított aránya legalább 10. A mintadarabot mereven, vízszintesen úgy kell befogni, hogy hosszúságának a fele nyúljon ki a befogásból. A mintadarabot úgy kell elhelyezni, hogy a mintadarab a legnagyobb sérülést szenvedje el, ha a szabad végét egy acélrúd lapos végével megütik. A rúdnak olyan erővel kell megütni a mintadarabot, hogy az egyenértékű legyen 1,4 kg tömeg 1 m-ről való függőleges ráejtésével. A rúd végének 25 mm átmérőjűnek kell lennie, a szélét  $3 \pm 0,3$  mm-es sugárral le kell kerekíteni.
- d) *Hőpróba:* A mintadarabot levegőn 800 °C-ra kell felhevíteni, és tíz percen át ezen a hőmérsékleten tartani, majd hagyni kell kihűlni.

**2.2.7.2.3.3.6** A zárt kapszulába tokozott radioaktív anyagból álló vagy azt modellező mintadarabokat a



következők alól lehet mentesíteni:

- a) a 2.2.7.2.3.3.5 a) és b) pontban leírt próbák alól, feltéve, hogy a különleges formájú radioaktív anyag tömege:
  - i) 200 g-nál kevesebb, és az ISO 2919:1999 „Sugárvédelem. Zárt radioaktív sugárforrások. Általános követelmények és osztályozás” szabványban meghatározott 4. osztályszámozású ütési próbát elvégezték; vagy
  - ii) 500 g-nál kevesebb, és az ISO 2919:1999 „Sugárvédelem. Zárt radioaktív sugárforrások. Általános követelmények és osztályozás” szabványban meghatározott 5. osztályszámozású ütési próbát elvégezték; és
- b) a 2.2.7.2.3.3.5 d) pontban leírt próba alól, feltéve, hogy helyette az ISO 2919:1999 „Sugárvédelem. Zárt radioaktív sugárforrások. Általános követelmények és osztályozás” szabványban meghatározott 6. osztályszámozású hőmérsékletpróbát elvégezték.

**2.2.7.2.3.3.7** A nem diszpergálódó, szilárd anyagokból álló vagy azt modellező mintadaraboknál kioldhatóság-vizsgálatot kell végezni a következők szerint:

- a) A mintadarabot hét napig környezeti hőmérsékletű vízbe kell meríteni. A vizsgálatához felhasznált víz mennyiségének elegendőnek kell lenni ahhoz, hogy a hétnapos vizsgálati idő végén megmaradó, el nem nyelt és hatástalan szabad vízmennyiség a szilárd vizsgálati minta térfogatának legkevesebb 10%-a legyen. A víz kezdeti pH-értéke 6...8 között legyen, miközben vezetőképessége 20 °C-on legfeljebb 1 mS/m lehet.
- b) A vizet a mintadarabbal együtt 50 °C ± 5 °C hőmérsékletre kell hevíteni, és négy órán át ezen a hőmérsékleten kell tartani.
- c) Ezután a víz aktivitását meg kell határozni.
- d) Ezt követően a mintadarabot legalább hét napon át legalább 90% relatív nedvességtartalmú és 30 °C-os mozdulatlan levegőn kell tárolni.
- e) Ezután a mintadarabot az a) pontban leírtakhoz hasonlóan vízbe kell meríteni, a vizet a mintadarabbal együtt ismét 50 °C ± 5 °C-ra fel kell melegíteni, és ezen a hőmérsékleten tartani négy órán át.
- f) Ezután a víz aktivitását meg kell határozni.

**2.2.7.2.3.3.8** A zárt kapszulába tokozott radioaktív anyagból álló vagy azt modellező mintadarabokon a minősítéshez vagy kioldhatóság- vagy térfogatvesztesség-vizsgálatot kell végezni a következők szerint:

- a) A kioldhatóság-vizsgálatnak a következő lépéseket kell tartalmazni:
  - i) A mintadarabot környezeti hőmérsékletű vízbe kell meríteni. A víz kezdeti pH-értéke 6-8 között legyen, miközben vezetőképessége 20 °C-on legfeljebb 1 mS/m lehet.
  - ii) A vizet a mintadarabbal együtt 50 °C ± 5 °C hőmérsékletre kell hevíteni, és négy órán át ezen a hőmérsékleten tartani.
  - iii) Ezután meg kell határozni a víz aktivitását.
  - iv) Ezt követően a mintadarabot legalább hét napon át legalább 90% relatív páratartalmú és 30 °C-os mozdulatlan levegőn kell tárolni.
  - v) Az i), ii), iii) alatti műveletet meg kell ismételni.
- b) A másik lehetőség szerinti térfogatvesztesség megállapításához az ISO 9978:1992 „Sugárzás elleni védelem – Zárt radioaktív sugárforrások – Zártságvizsgálati eljárások”

szabványban ismertetett azon próbákat kell alkalmazni, amelyek az illetékes hatóság számára elfogadhatók.

#### 2.2.7.2.3.4 Kis mértékben diszpergálódó radioaktív anyagok

**2.2.7.2.3.4.1** A kis mértékben diszpergálódó radioaktív anyag mintájához többoldalú engedély szükséges. A kis mértékben diszpergálódó radioaktív anyagnak olyannak kell lennie, hogy küldeménydarabban lévő összes radioaktív anyagra teljesüljenek a következő feltételek:

- a sugárzási szint a nem árnyékolt radioaktív anyagtól 3 m távolságban nem haladja meg a 10 mSv/h értéket;
- ha alávetnék a 6.4.20.3 és a 6.4.20.4 bekezdésben meghatározott próbáknak, a levegőbe történő gáz és legfeljebb 100 µm ekvivalens aerodinamikai átmérőjű részecske kibocsátás nem haladná meg a 100A<sub>2</sub> értéket. Mindegyik próbához külön mintadarabot lehet használni;
- ha alávetnék a 2.2.7.2.3.1.4 pontban meghatározott próbának, a vízben mérhető aktivitás nem haladná meg a 100A<sub>2</sub> értéket. A próba végrehajtásánál az előző b) pontban meghatározott próbák károsító hatását figyelembe kell venni.

**2.2.7.2.3.4.2** A kis mértékben diszpergálódó radioaktív anyagokat a következők szerint kell vizsgálni:

A kis mértékben diszpergálódó radioaktív anyagból álló vagy azt modellező mintadarabokat a 6.4.20.3 bekezdésben meghatározott fokozott hőpróbának és a 6.4.20.4 bekezdésben meghatározott ütépróbának kell alávetni. Mindegyik próbához külön mintadarabot lehet használni. A mintadarabot minden próba után alá kell vetni a 2.2.7.2.3.1.4. pont szerinti kioldhatóság-vizsgálatnak. Minden próba után meg kell vizsgálni, hogy a a 2.2.7.2.3.4.1 pont vonatkozó követelményei teljesülnek-e.

**2.2.7.2.3.4.3** A 2.2.7.2.3.4.1 és a 2.2.7.2.3.4.2 pontokban előírt követelményeknek való megfelelést a 6.4.12.1 és a 6.4.12.2 bekezdés szerint kell bizonyítani.

#### 2.2.7.2.3.5 Hasadóanyagok

A hasadó radionuklidot tartalmazó küldeménydarabot a 2.2.7.2.1.1 táblázat valamely hasadóanyag tételéhez kell sorolni, kivéve, ha a következő a) – d) alpontok valamelyikének megfelel. Küldeményenként csak egyfajta mentesítés engedélyezhető.

- a) A küldeményenkénti tömeghatár:

$$\frac{a \text{ 235 – urán tömege (g)}}{X} + \frac{az \text{ egyéb hasadóanyag tömege (g)}}{Y} < 1,$$

ahol X és Y a 2.2.7.2.3.5 táblázatban meghatározott tömeghatár, feltéve, hogy a küldeménydarabok legkisebb külső mérete legalább 10 cm, és amennyiben :

- vagy az egyes küldeménydarabok legfeljebb 15 g hasadóanyagot tartalmaznak; csomagolatlan anyagnál a mennyiségi korlát a kocsiban vagy a kocsin szállított küldeményre vonatkozik; vagy
- a hasadóanyag homogén hidrogéntartalmú oldat vagy keverék, amelyben a hasadó nuklid és a hidrogén aránya 5 tömeg%-nál kisebb; vagy
- az anyag bármely 10 liternyi térfogatában nincs 5 g-nál több hasadóanyag.

A hidrogénben természetes koncentrációban lévő deutériumot kivéve, sem berillium, sem deutérium nem lehet jelen a 2.2.7.2.3.5 táblázatban a küldeményre megadott tömeghatárok 1%-át meghaladó mennyiségben.

- b) Legfeljebb 1 tömeg% 235-urán tartalmú dúsított urán olyan összes plutónium- és 233-urán tartalommal, amely nem haladja meg a 235-urán tömegének 1%-át,

amennyiben a hasadóanyagok az anyagban lényegében egyenletesen vannak elosztatva. Ezenkívül a hasadóanyag a küldeménydarabon belül nem alkothat rácsszerű elrendeződést, ha a 235-urán mint fém, oxid vagy karbid van jelen.

- c) Uranil-nitrát folyékony oldata az urán tömegének legfeljebb 2%-át kitevő 235-urán dúsítással, olyan összes plutónium- és 233-urán tartalommal, amely a 235-urán tömegének 0,002%-át nem haladja meg; ezenkívül a nitrogén/urán atomarányának (N/U) legalább 2-nek kell lenni.
- d) Küldeménydarab, amely nem tartalmaz 1 kg-nál több plutóniumot, amely legfeljebb 20 tömeg% 239-plutóniumból, 241-plutóniumból vagy e két radionuklid bármilyen kombinációjából állhat.

**2.2.7.2.3.5 táblázat – Küldemény tömeghatárok a hasadóanyagot tartalmazó küldeménydarabokra vonatkozó előírások alóli mentességhez**

Hasadóanyag	A vízzel azonos vagy annál kisebb átlagos hidrogén-sűrűségű anyagokkal kevert hasadóanyag tömeg (g)	A víznél nagyobb átlagos hidrogén-sűrűségű anyagokkal kevert hasadóanyag tömeg (g)
235-urán (X)	400	290
Egyéb hasadóanyag (Y)	250	180

**2.2.7.2.4** *A küldeménydarabok és a csomagolatlan anyagok besorolása*

Egy küldeménydarab radioaktív anyag tartalma nem haladhatja meg a küldeménydarab típusra a következőkben meghatározott határértékeket.

**2.2.7.2.4.1** Engedményes küldeménydarabok besorolása

**2.2.7.2.4.1.1** Egy küldeménydarabot akkor lehet engedményes küldeménydarabnak besorolni, ha

- a) olyan üres csomagolóeszköz, amelyben radioaktív anyag volt;
- b) korlátozott mennyiségben tartalmaz készüléket vagy gyártmányt;
- c) természetes uránból, szegényített uránból vagy természetes tóriumból készült gyártmányt tartalmaz;
- d) korlátozott mennyiségű radioaktív anyagot tartalmaz.

**2.2.7.2.4.1.2** Egy radioaktív anyagot tartalmazó küldeménydarabot akkor lehet engedményes küldeménydarabnak besorolni, ha a sugárzási szint a külső felületének egyetlen pontján sem haladja meg az 5  $\mu\text{Sv/h}$  értéket.

**2.2.7.2.4.1.2 táblázat – Aktivitáshatárok engedményes küldeménydarabokra**

A tartalom halmazállapota	Készülékek és gyártmányok		Anyagok
	Határérték tárgyaként <sup>a)</sup>	Határérték küldeménydarabonként <sup>a)</sup>	Határérték küldeménydarabonként <sup>a)</sup>
<b>Szilárd anyagok</b>			
különleges formájúak	$10^{-2} A_1$	$A_1$	$10^{-3} A_1$
egyéb formájúak	$10^{-2} A_2$	$A_2$	$10^{-3} A_2$
<b>Folyékony anyagok</b>	$10^{-3} A_2$	$10^{-1} A_2$	$10^{-4} A_2$

A tartalom halmazállapota	Készülékek és gyártmányok		Anyagok
	Határérték tárgyanként <sup>a)</sup>	Határérték küldeménydara- bonként <sup>a)</sup>	Határérték küldeménydara- bonként <sup>a)</sup>
<b>Gázok</b>			
trícium	$2 \times 10^{-2} A_2$	$2 \times 10^{-1} A_2$	$2 \times 10^{-2} A_2$
különleges formájúak	$10^{-3} A_1$	$10^{-2} A_1$	$10^{-3} A_1$
egyéb formájúak	$10^{-3} A_2$	$10^{-2} A_2$	$10^{-3} A_2$

a) A radionuklidokból álló keverékekre lásd a 2.2.7.2.2.4 – 2.2.7.2.2.6 pontot.

#### 2.2.7.2.4.1.3

Azokat a radioaktív anyagokat, amelyeket bizonyos készülék vagy bizonyos gyártmány tartalmaz vagy amelyek e tárgyak alkotórészét képezik, akkor lehet az UN 2911 RADIOAKTÍV ANYAG, ENGEDMÉNYES KÜLDEMÉNYDARABBAN – KÉSZÜLÉKEK vagy GYÁRTMÁNYOK tétel alá sorolni, ha:

- a sugárzási szint a csomagolatlan készülék vagy gyártmány bármely pontjától 10 cm távolságban nem haladja meg a 0,1 mSv/h értéket, és
- minden készülék vagy gyártmány el van látva a „RADIOACTIVE” felirattal, kivéve:
  - a radiolumineszcens világító kijelzőjű órákat és készülékeket;
  - azokat a fogyasztási cikkeket, amelyek vagy a 1.7.1.4 d) pont szerinti hatósági engedéllyel rendelkeznek, vagy amelyek aktivitása egyedileg nem haladja meg a 2.2.7.2.2.1 táblázatban a küldeményre vonatkozó mentességi aktivitás határát (5. oszlop), amennyiben az ilyen cikkeket olyan küldeménydarabban szállítják, amelynek valamely belső felülete el van látva a „RADIOACTIVE” felirattal úgy, hogy a küldeménydarab felnyitásakor a radioaktív anyag jelenlétére utaló figyelmeztetés láthatóvá válik; és
- az aktív anyagot a nem aktív komponensek teljesen bezárják (az olyan eszköz, amelynek kizárólagos funkciója a radioaktív anyag megtartása, nem tekinthető készüléknek vagy gyártmánynak); és
- a 2.2.7.2.4.1.2 táblázatnak a 2, ill. 3 oszlopában feltüntetett határértékek minden egyes tárgyra és minden egyes küldeménydarabra teljesülnek.

#### 2.2.7.2.4.1.4

Azokat a radioaktív anyagokat, amelyek aktivitása nem haladja meg a 2.2.7.2.4.1.2 táblázatnak a 4 oszlopában feltüntetett határértéket, akkor lehet az UN 2910 RADIOAKTÍV ANYAG, ENGEDMÉNYES KÜLDEMÉNYDARABBAN – KORLÁTOZOTT ANYAG-MENNYISÉG tétel alá sorolni, ha:

- a küldeménydarab azon feltételek között, amelyek a normális szállítás során valószínűleg fennállnak, a tartalmat megtartja, és
- a küldeménydarab valamely belső felülete el van látva a „RADIOACTIVE” felirattal, úgy, hogy a küldeménydarab felnyitásakor a radioaktív anyag jelenlétére utaló figyelmeztetés láthatóvá válik.

#### 2.2.7.2.4.1.5

Valamely üres csomagolóeszközt, amely előzőleg radioaktív anyagot tartalmazott, és amelynek aktivitása nem haladja meg a 2.2.7.2.4.1.2 táblázatnak a 4 oszlopában feltüntetett határértéket, akkor lehet az UN 2908 RADIOAKTÍV ANYAG, ENGEDMÉNYES KÜLDEMÉNYDARABBAN – ÜRES CSOMAGOLÓESZKÖZ tétel alá sorolni, ha:

- jól karbantartott és biztonságosan zárva van;
- a szerkezetében levő urán vagy tórium külső felülete fémből vagy más szilárd anyagból álló inaktív burkolattal van ellátva;

- c) a belső, nem tapadó szennyezettség szintje a felület bármely 300 cm<sup>2</sup>-nyi részén képzett átlagra nem haladja meg
  - i) a 400 Bq/cm<sup>2</sup>-t béta-, gamma -, valamint csekély toxicitású alfa-sugárzók esetén; ill.
  - ii) a 40 Bq/cm<sup>2</sup>-t minden más alfa-sugárzó esetén, és
- d) az 5.2.2.1.11.1 pont szerint elhelyezett esetleges bárcák nem láthatóak.

**2.2.7.2.4.1.6** Az olyan gyártmányt, amelyben az egyetlen radioaktív anyag besugárzatlan természetes urán, besugárzatlan szegényített urán vagy besugárzatlan természetes tórium, akkor lehet az UN 2909 RADIOAKTÍV ANYAG, ENGEDMÉNYES KÜLDEMÉNYDARABBAN – TERMÉSZETES URÁNBÓL vagy SZEGÉNYÍTETT URÁNBÓL vagy TERMÉSZETES TÓRIUMBÓL KÉSZÜLT GYÁRTMÁNYOK tétel alá sorolni, ha az urán vagy a tórium külső felülete fémből vagy más szilárd anyagból álló inaktív burkolattal van ellátva.

**2.2.7.2.4.2** Kis fajlagos aktivitású (*LSA*) anyagok besorolása

Egy radioaktív anyag csak akkor sorolható be *LSA* anyagként, ha a 2.2.7.2.3.1 pont és a 4.1.9.2 bekezdés feltételei teljesülnek.

**2.2.7.2.4.3** Szennyezett felületű (*SCO*) tárgyak besorolása

Egy radioaktív anyag csak akkor sorolható be *SCO* tárgyként, ha a 2.2.7.2.3.2 pont és a 4.1.9.2 bekezdés feltételei teljesülnek.

**2.2.7.2.4.4** A típusú küldeménydarabok besorolása

Radioaktív anyagot tartalmazó küldeménydarabok akkor sorolhatók be *A* típusú küldeménydarabként, ha a következő feltételek teljesülnek:

Az *A* típusú küldeménydarabok nem tartalmazhatnak nagyobb aktivitást, mint a következő:

- a) különleges formájú radioaktív anyagból:  $A_1$ , ill.
- b) minden más radioaktív anyagból:  $A_2$ .

Azoknál a radionuklid-keverékeknél, amelyeknél minden egyes radionuklid azonossága és aktivitása ismert, a következő feltételeket kell alkalmazni az *A* típusú küldeménydarabok radioaktív tartalmára:

$$\sum_i \frac{B(i)}{A_1(i)} + \sum_j \frac{C(j)}{A_2(j)} \leq 1, \text{ ahol}$$

$B(i)$  a különleges formájú radioaktív anyagként jelen levő  $i$ -edik radionuklid aktivitása;

$A_1(i)$  az  $i$ -edik radionuklid  $A_1$  értéke;

$C(j)$  a nem különleges formájú radioaktív anyagként jelen levő  $j$ -edik radionuklid aktivitása; és

$A_2(j)$  a  $j$ -edik radionuklid  $A_2$  értéke.

**2.2.7.2.4.5** Urán-hexafluorid besorolása

Az urán-hexafluoridot csak az UN 2977 RADIOAKTÍV ANYAG, HASADÓ URÁN-HEXAFLUORID vagy az UN 2978 RADIOAKTÍV ANYAG, URÁN-HEXAFLUORID, nem hasadó vagy hasadó-engedményes tétel alá lehet sorolni.

**2.2.7.2.4.5.1** Az urán-hexafluoridot tartalmazó küldeménydarabok:

- a) nem tartalmazhatnak a küldeménydarab-mintára engedélyezettnél nagyobb tömegű urán-hexafluoridot;
- b) nem tartalmazhatnak annál nagyobb tömegű urán-hexafluoridot, mint ami 5%-nál kisebb üres teret eredményezne a küldeménydarabban azon a legnagyobb hőmérsékleten, amely arra az üzemi létesítményre van meghatározva, ahol a küldeménydarabot használni fogják; ill.
- c) csak szilárd urán-hexafluoridot tartalmazhatnak, és a szállításra való átadásakor a küldeménydarab belső nyomása nem lehet nagyobb az atmoszferikus nyomásnál.

**2.2.7.2.4.6**  $B(U)$ ,  $B(M)$  és  $C$  típusú küldeménydarabok besorolása**2.2.7.2.4.6.1** A 2.2.7.2.4 pont (2.2.7.2.4.1 – 2.2.7.2.4.5 alpontok) szerint máshová nem sorolt küldeménydarabokat a származási ország illetékes hatósága által kiadott küldeménydarab-minta engedélynek megfelelően kell besorolni.**2.2.7.2.4.6.2** Egy küldeménydarab csak akkor sorolható be  $B(U)$  típusú küldeménydarabként, ha nem tartalmaz:

- a) nagyobb aktivitást, mint a küldeménydarab-mintára engedélyezett;
- b) más radionuklidokat, mint a küldeménydarab-mintára engedélyezett; vagy
- c) olyan anyagokat, amelyek alakjukban, fizikai vagy kémiai állapotukban a küldeménydarab-minta engedélyezett tartalmától eltérnek,

amint a küldeménydarab-minta engedélyben meg van határozva.

**2.2.7.2.4.6.3** Egy küldeménydarab csak akkor sorolható be  $B(M)$  típusú küldeménydarabként, ha nem tartalmaz:

- a) nagyobb aktivitást, mint a küldeménydarab-mintára engedélyezett;
- b) más radionuklidokat, mint a küldeménydarab-mintára engedélyezett; vagy
- c) olyan anyagokat, amelyek alakjukban, fizikai vagy kémiai állapotukban a küldeménydarab-minta engedélyezett tartalmától eltérnek,

amint a küldeménydarab-minta engedélyben meg van határozva.

**2.2.7.2.4.6.4** Egy küldeménydarab csak akkor sorolható be  $C$  típusú küldeménydarabként, ha nem tartalmaz

- a) nagyobb aktivitást, mint a küldeménydarab-mintára engedélyezett;
- b) más radionuklidokat, mint a küldeménydarab-mintára engedélyezett; vagy
- c) olyan anyagokat, amelyek alakjukban, fizikai vagy kémiai állapotukban a küldeménydarab-minta engedélyezett tartalmától eltérnek,

amint a küldeménydarab-minta engedélyben meg van határozva.

**2.2.7.2.5** *Külön megegyezés*

Egy radioaktív anyag akkor sorolható be külön megegyezés alapján szállított anyagként, ha az 1.7.4 szakasz szerint kívánják szállítani.

**2.2.8            8 osztály            Maró anyagok****2.2.8.1            *Kritériumok***

**2.2.8.1.1**        A 8 osztály fogalmkörébe azok az anyagok tartoznak, amelyek vegyi reakciójukkal a velük érintkezésbe kerülő hámszövetet – a bőr hámrétegét vagy a nyálkahártyát – megtámadják, vagy elfolyás esetén képesek megrongálni vagy tönkretenni más árukat vagy a szállítóeszközöket. Ugyancsak ezen osztály fogalmkörébe tartoznak azok az anyagok, amelyek csak víz jelenlétében képeznek maró anyagot, vagy amelyek a levegő természetes nedvességének jelenlétében maró gőzöket vagy ködöket fejlesztenek.

**2.2.8.1.2**        A 8 osztály anyagai és tárgyai a következők szerint vannak csoportosítva:

C1 – C10            Maró anyagok járulékos veszély nélkül

          C1 – C4        Savas anyagok:

                  C1        Szervetlen, folyékony anyagok

                  C2        Szervetlen, szilárd anyagok

                  C3        Szerves, folyékony anyagok

                  C4        Szerves, szilárd anyagok

          C5 – C8        Bázikus jellegű anyagok:

                  C5        Szervetlen, folyékony anyagok

                  C6        Szervetlen, szilárd anyagok

                  C7        Szerves, folyékony anyagok

                  C8        Szerves, szilárd anyagok

          C9 – C10        Egyéb maró anyagok:

                  C9        Folyékony anyagok

                  C10        Szilárd anyagok

                  C11        Tárgyak

CF        Maró, gyúlékony anyagok:

          CF1        Folyékony anyagok

          CF2        Szilárd anyagok

CS        Maró, önmelegedő anyagok:

          CS1        Folyékony anyagok

          CS2        Szilárd anyagok

CW        Maró, vízzel érintkezve gyúlékony gázokat fejlesztő anyagok:

          CW1        Folyékony anyagok

          CW2        Szilárd anyagok

CO        Maró, gyújtó hatású anyagok:

          CO1        Folyékony anyagok

          CO2        Szilárd anyagok



CT Maró, mérgező anyagok:

CT1 Folyékony anyagok

CT2 Szilárd anyagok

CFT Maró, gyúlékony, mérgező, folyékony anyagok

COT Maró, gyújtó hatású, mérgező anyagok.

*Besorolás és a csomagolási csoportokhoz való hozzárendelés*

**2.2.8.1.3** A 8 osztály anyagait a szállítás során általuk képviselt veszély mértéke szerint a következő három csomagolási csoport valamelyikéhez kell hozzárendelni:

I csomagolási csoport: erősen maró anyagok

II csomagolási csoport: maró anyagok

III csomagolási csoport: gyengén maró anyagok.

**2.2.8.1.4** A 8 osztályba sorolt anyagokat és tárgyakat a 3.2 fejezet „A” táblázata sorolja fel. Az anyagok hozzárendelése az I, a II és a III csomagolási csoporthoz tapasztalati alapon történt, figyelembe véve olyan kiegészítő tényezőket is, mint a belélegzési veszély (lásd 2.2.8.1.5) és a vízzel való reakció (beleértve a veszélyes bomlástermékek képződését).

**2.2.8.1.5** Azokat az anyagokat és készítményeket, amelyek kielégítik a 8 osztály feltételeit és az I csomagolási csoportnak megfelelő por és köd belélegzési mérgezőképességgel ( $LC_{50}$ ) rendelkeznek, de a lenyelés vagy bőrön át való felszívódás esetén a mérgezőképességük a III csomagolási csoportnak megfelelő vagy annál kevésbé mérgezőek, a 8 osztályba kell sorolni.

**2.2.8.1.6** A 3.2 fejezet „A” táblázatában név szerint nem említett anyagok, beleértve a keverékeket is, a 2.2.8.3 bekezdés megfelelő tétele alá és a megfelelő csomagolási csoporthoz a következő a) – c) pont kritériumai szerint, azon érintkezési időtartam alapján sorolhatók be, amely alatt az emberi bőr roncsolódása annak teljes vastagságában bekövetkezik.

A folyékony anyagoknál, ill. azoknál a szilárd anyagoknál, amelyek a szállítás alatt folyékonná válhatnak, ha feltételezhető, hogy nem okoznak az emberi bőrön, annak teljes vastagságában roncsolódást, figyelembe kell venni a fémfelületekre gyakorolt korróziós hatás lehetőségét. A csomagolási csoportba sorolás során figyelembe kell venni az emberen bekövetkezett balesetknél szerzett tapasztalatokat. Az emberen szerzett tapasztalatok hiányában a csomagolási csoportba sorolást kísérletek adatai alapján kell végezni, összhangban az OECD 404 Útmutatóval<sup>8)</sup>.

- a) azok az anyagok, amelyek a sértetlen bőrszövet teljes vastagságban bekövetkező roncsolódását okozzák legfeljebb 3 percig tartó érintkezés után 60 perces megfigyelési időtartamon belül, az I csomagolási csoport anyagai;
- b) azok az anyagok, amelyek a sértetlen bőrszövet teljes vastagságban bekövetkező roncsolódását okozzák 3 percnél hosszabb ideig, de legfeljebb 60 percig tartó érintkezés után 14 napos megfigyelési időtartamon belül, a II csomagolási csoport anyagai;
- c) a következő anyagok a III csomagolási csoport anyagai:
  - azok az anyagok, amelyek a sértetlen bőrszövet teljes vastagságban bekövetkező roncsolódását okozzák 60 percnél hosszabb ideig, de legfeljebb 4 óráig tartó érintkezés után 14 napos megfigyelési időtartamon belül; vagy
  - azok az anyagok, amelyek nem okozzák a sértetlen bőrszövet teljes vastagságban

8) OECD Útmutató vegyszerek vizsgálatára, No. 404 „Akut bőrirritáció/maró hatás”, 1992.



bekövetkező roncsolódását, de a korróziósebesség – ha mindkét fémen vizsgálják – akár az acél, akár az alumínium felületen 55 °C vizsgálati hőmérsékleten meghaladja az évi 6,25 mm-t. Az acélon végzett vizsgálathoz S235JR+CR (1.0037, ill. St 37-2), S275J2G3+CR (1.0144, ill. St 44-3), ISO 3574, Unified Numbering System (UNS) G10200 vagy SAE 1020 minőségű acélt, az alumíniumon végzetthez nem eloxált 7075-T6 vagy AZ5GU-T6 minőségű alumíniumot kell használni. Elfogadott vizsgálat található a „Vizsgálatok és kritériumok kézikönyv”, III. rész 37. fejezetében.

**Megjegyzés:** *Ha az első vizsgálat (akár acélon, akár alumíniumon végzik) azt mutatja, hogy a vizsgált anyag korróziós hatású, a második vizsgálatot a másik fémen nem szükséges végrehajtani.*

- 2.2.8.1.7** Ha a 8 osztály anyagai valamilyen anyag hozzáadása révén eltérő veszélyességi kategóriába kerülnek át, mint ahová a 3.2 fejezet „A” táblázatában név szerint említett anyagok tartoznak, ezeket a keverékeket azok alá a tételek alá kell besorolni, amelyekbe tényleges veszélyességük mértéke alapján tartoznak.

**Megjegyzés:** *Az oldatok és keverékek (készítmények és hulladékok) besorolására lásd még a 2.1.3 szakaszt.*

- 2.2.8.1.8** A 2.2.8.1.6 pontban található kritériumok alapján az is meghatározható, hogy egy név szerint feltüntetett vagy egy név szerint feltüntetett anyagot tartalmazó oldat vagy keverék természete olyan, az anyag nem esik ezen osztály előírásainak hatálya alá.

- 2.2.8.1.9** Azok az anyagok, oldatok és keverékek, amelyek
- a módosított 67/548/EGK<sup>9)</sup> vagy az 1999/45/EK<sup>10)</sup> Irányelv kritériumai alapján, ezen irányelvek szerint nem számítanak marónak, és
  - nem mutatnak maró hatást az acélon és az alumíniumon

a 8 osztályba nem tartozó anyagoknak tekinthetők.

**Megjegyzés:** *Az ENSZ Minta Szabályzatban felsorolt UN 1910 kalcium-oxid és UN 2812 nátrium-aluminát nem tartozik a RID előírásainak hatálya alá.*

## **2.2.8.2 A fuvarozásból kizárt anyagok**

- 2.2.8.2.1** A 8 osztály vegyileg nem állandó anyagai csak akkor adhatók át szállításra, ha megtették a szükséges intézkedéseket, hogy megakadályozzák a szállítás alatti veszélyes bomlásukat vagy polimerizációjukat. Ennek elérésére különösen azt kell biztosítani, hogy a tartályok, ill. tartányok ne tartalmazzanak olyan anyago(ka)t, amelyek ilyen reakciókat okozhatnak.

- 2.2.8.2.2** A következő anyagok a fuvarozásból ki vannak zárva:
- UN 1798 királyvíz (salétromsav és sósav keveréke);
  - a vegyileg nem állandó, kimerült kénsavkeverékek;
  - a nem denitrált, vegyileg nem állandó nitrálsav keverékek és az elhasznált kénsav és salétromsav keverékek;

9) Az Európai Közösségek Tanácsának 1967. június 27-i 67/548/EGK Irányelve a tagállamok veszélyes anyagok osztályozására, csomagolására és címkézésére vonatkozó jogszabályainak és közigazgatási előírásainak közelítéséről (Az EK Hivatalos Lapja, L 196. szám, 1967.08.16.).

10) Az Európai Parlament és a Tanács 1999. május 31-i 1999/45/EK Irányelve a tagállamok veszélyes készítmények osztályozására, csomagolására és címkézésére vonatkozó jogszabályainak és közigazgatási előírásainak közelítéséről (lásd az EK Hivatalos Lapja, L 200. szám, 1999.07.30., p. 1-68.).

- perklórsav vizes oldata 72 tömeg%-nál több tiszta savtartalommal és a perklórsav keverékei vízén kívül más folyadékkal.

A következő anyag a vasúti fuvarozásból ki van zárva:

- kén-trioxid, legalább 99,95% tisztaságú, nem stabilizált (inhibitor nélkül).

## 2.2.8.3 A gyűjtőmegnevezések felsorolása

Járolékos veszély	Osztályozási kód	UN szám	Az anyag vagy tárgy megnevezése
Maró anyagok járulékos veszély nélkül			
Savas anyagok	szervetlen	folyékony C1	2584 FOLYÉKONY ALKIL-SZULFONSAVAK 5%-nál több szabad kénsav-tartalommal vagy 2584 FOLYÉKONY ARIL-SZULFONSAVAK 5%-nál több szabad kénsav-tartalommal 2837 BISZULFÁTOK VIZES OLDATAI 2693 BISZULFITOK, VIZES OLDAT, M.N.N. 3264 MARÓ, FOLYÉKONY, SAVAS SZERVETLEN ANYAG, M.N.N.
		szilárd C2	2583 SZILÁRD ALKIL-SZULFONSAVAK 5%-nál több szabad kénsav-tartalommal vagy 2583 SZILÁRD ARIL-SZULFONSAVAK 5%-nál több szabad kénsav-tartalommal 1740 SZILÁRD HIDROGÉN-DIFLUORIDOK, M.N.N. 3260 MARÓ, SZILÁRD, SAVAS, SZERVETLEN ANYAG, M.N.N.
		folyékony C3	2586 FOLYÉKONY ALKIL-SZULFONSAVAK legfeljebb 5% szabad kénsav-tartalommal vagy 2586 FOLYÉKONY ARIL-SZULFONSAVAK legfeljebb 5% szabad kénsav-tartalommal 2987 MARÓ KLÓR-SZILÁNOK, M.N.N. 3145 FOLYÉKONY ALKIL-FENOLOK, M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve) 3265 MARÓ, FOLYÉKONY, SAVAS SZERVES ANYAG, M.N.N.
		szilárd C4	2585 SZILÁRD ALKIL-SZULFONSAVAK legfeljebb 5% szabad kénsav-tartalommal vagy 2585 SZILÁRD ARIL-SZULFONSAVAK legfeljebb 5% szabad kénsav-tartalommal 2430 SZILÁRD ALKIL-FENOLOK, M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve) 3261 MARÓ, SZILÁRD, SAVAS SZERVES ANYAG, M.N.N.
	szerves	folyékony C5	2797 LÚGOS AKKUMULÁTOR FOLYADÉK 1719 MARÓ, LÚGOS FOLYÉKONY ANYAG, M.N.N. 3266 MARÓ, FOLYÉKONY, LÚGOS SZERVETLEN ANYAG, M.N.N.
		szilárd C6	3262 MARÓ, SZILÁRD, LÚGOS SZERVETLEN ANYAG, M.N.N.
		folyékony C7	2735 FOLYÉKONY, MARÓ AMINOK, M.N.N. vagy 2735 FOLYÉKONY, MARÓ POLIAMINOK, M.N.N. 3267 MARÓ, FOLYÉKONY, LÚGOS SZERVES ANYAG, M.N.N.
		szilárd C8	3259 SZILÁRD, MARÓ AMINOK, M.N.N. vagy 3259 SZILÁRD, MARÓ POLIAMINOK, M.N.N. 3263 MARÓ, SZILÁRD, LÚGOS SZERVES ANYAG, M.N.N.
	Bázikus jellegű anyagok	folyékony C9	3066 FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy 3066 FESTÉK SEGÉDANYAG (beleértve a festékhígítót vagy oldószert) 1903 FOLYÉKONY, MARÓ FERTŐTLENÍTŐSZER, M.N.N. 2801 FOLYÉKONY, MARÓ SZÍNEZÉK, M.N.N. vagy 2801 FOLYÉKONY, MARÓ SZÍNEZÉK INTERMEDIER, M.N.N. 1760 MARÓ FOLYÉKONY ANYAG, M.N.N.
		szilárd <sup>a)</sup> C10	3147 SZILÁRD, MARÓ SZÍNEZÉK, M.N.N. vagy 3147 SZILÁRD, MARÓ SZÍNEZÉK INTERMEDIER, M.N.N. 3244 MARÓ FOLYADÉK TARTALMÚ SZILÁRD ANYAG, M.N.N. 1759 MARÓ SZILÁRD ANYAG, M.N.N.
		folyékony C11	2794 NEDVES, SAVAS AKKUMULÁTORTELEPEK elektromosság tárolására 2795 NEDVES, LÚGOS AKKUMULÁTORTELEPEK elektromosság tárolására 2800 KIFOLYÁSBIZTOS, NEDVES AKKUMULÁTORTELEPEK elektromosság tárolására 3028 SZILÁRD KÁLIUM-HIDROXID TARTALMÚ, SZÁRAZ AKKUMULÁTORTELEPEK elektromosság tárolására
		Tárgyak	

### 2.2.8.3 A gyűjtőmegnevezések felsorolása (folyt.)

Járolékos veszély	Osztályozási kód	UN szám	Az anyag vagy tárgy megnevezése
Maró anyagok járulékos veszélyekkel			
<b>Gyúlékony</b>	<b>folyékony anyagok<sup>b)</sup></b>	<b>CF1</b>	3470 MARÓ, GYÚLÉKONY FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist)
			3470 MARÓ, GYÚLÉKONY FESTÉK SEGÉDANYAG (beleértve a festékhígítót és oldószert)
			2734 FOLYÉKONY, MARÓ, GYÚLÉKONY AMINOK, M.N.N. vagy
			2734 FOLYÉKONY, MARÓ, GYÚLÉKONY POLIAMINOK, M.N.N.
			2986 MARÓ, GYÚLÉKONY KLÓR-SZILÁNOK, M.N.N.
			2920 MARÓ FOLYÉKONY ANYAG, GYÚLÉKONY, M.N.N.
<b>CF</b>	<b>szilárd anyagok</b>	<b>CF2</b>	2921 GYÚLÉKONY, MARÓ SZILÁRD ANYAG, M.N.N.
<b>Önmelegedő</b>			
<b>CS</b>	<b>folyékony anyagok</b>	<b>CS1</b>	3301 ÖNMELEGEDŐ, MARÓ FOLYÉKONY ANYAG, M.N.N.
	<b>szilárd anyagok</b>	<b>CS2</b>	3095 ÖNMELEGEDŐ, MARÓ SZILÁRD ANYAG, M.N.N.
<b>Vízzel reaktív</b>	<b>folyékony anyagok<sup>b)</sup></b>	<b>CW1</b>	3094 VÍZZEL REAKTÍV, MARÓ FOLYÉKONY ANYAG, M.N.N.
	<b>szilárd anyagok</b>	<b>CW2</b>	3096 VÍZZEL REAKTÍV, MARÓ SZILÁRD ANYAG, M.N.N.
<b>Gyújtó hatású</b>	<b>folyékony anyagok</b>	<b>CO1</b>	3093 GYÚJTÓ HATÁSÚ, MARÓ FOLYÉKONY ANYAG, M.N.N.
<b>CO</b>	<b>szilárd anyagok</b>	<b>CO2</b>	3084 GYÚJTÓ HATÁSÚ, MARÓ SZILÁRD ANYAG, M.N.N.
<b>Mérgező<sup>d)</sup></b>	<b>folyékony anyagok<sup>c)</sup></b>	<b>CT1</b>	3471 HIDROGÉN-DIFLUORIDOK OLDA, M.N.N.
			2922 MÉRGEZŐ, MARÓ FOLYÉKONY ANYAG, M.N.N.
<b>CT</b>	<b>szilárd anyagok<sup>e)</sup></b>	<b>CT2</b>	2923 MÉRGEZŐ, MARÓ SZILÁRD ANYAG, M.N.N.
<b>Gyúlékony, folyékony, mérgező anyagok<sup>d)</sup></b>		<b>CFT</b>	(Ilyen osztályozási kóddal nincs gyűjtőmegnevezés. Ha szükséges, a 2.1.3.10 bekezdés veszélyességi rangsor táblázata alapján meghatározandó, másik osztályozási kód valamely gyűjtőmegnevezése alá kell sorolni.)
<b>Gyújtó hatású, mérgező anyagok<sup>d,e)</sup></b>		<b>COT</b>	(Ilyen osztályozási kóddal nincs gyűjtőmegnevezés. Ha szükséges, a 2.1.3.10 bekezdés veszélyességi rangsor táblázata alapján meghatározandó, másik osztályozási kód valamely gyűjtőmegnevezése alá kell sorolni.)

#### Megjegyzés:

- A RID előírásainak hatálya alá nem tartozó szilárd anyagok és maró folyadékok keverékei az UN 3244 azonosító szám alatt szállíthatók anélkül, hogy a 8 osztály besorolási feltételeit alkalmazni kellene, amennyiben az anyag berakása során, ill. a csomagolóeszköz, a konténer vagy a kocsi lezárásakor szabad folyadék szemmel nem látható. Minden egyes csomagolóeszköznek olyan gyártási típusnak kell megfelelni, ami sikeresen kiállta a II csomagolási csoportra előírt tömörségi próbát.
- Azok a klór-szilánok, amelyek vízzel vagy nedves levegővel érintkezve gyúlékony gázokat fejlesztenek, a 4.3 osztály anyagai.
- A túlnyomórészt mérgező tulajdonságokkal bíró klór-formiátok a 6.1 osztály anyagai.
- Azok a maró anyagok, amelyek a 2.2.61.1.4 – 2.2.61.1.9 pont szerint belégzésre nagyon mérgezők, a 6.1 osztály anyagai.
- az UN 2505 ammónium-fluorid, az UN 1812 szilárd kálium-fluorid, az UN 1690 szilárd nátrium-fluorid, az UN 2674 nátrium-fluorid-szilikát, az UN 2856 fluoroszilikátok, m.n.n., az UN 3415 nátrium-fluorid oldat és az UN 3422 kálium-fluorid oldat a 6.1 osztály anyagai.

**2.2.9            9 osztály            Különféle veszélyes anyagok és tárgyak****2.2.9.1            *Kritériumok***

**2.2.9.1.1**            A 9 osztály címének fogalmkörébe azok az anyagok és tárgyak tartoznak, amelyek a szállítás során olyan veszélyt képviselnek, ami nem esik a többi osztály fogalmkörébe.

**2.2.9.1.2**            A 9 osztály anyagai és tárgyai a következők szerint vannak csoportosítva:

M1    Anyagok, amelyek finom poruk belélegzése esetén az egészséget veszélyeztethetik

M2    Anyagok és készülékek, amelyekből tűz esetén dioxinok képződhetnek

M3    Gyúlékony gőzöket fejlesztő anyagok

M4    Lítium akkumulátorok

M5    Biztonsági felszerelések

M6 – M8    Környezetre veszélyes anyagok:

        M6    Vízi környezetre veszélyes, folyékony anyagok

        M7    Vízi környezetre veszélyes, szilárd anyagok

        M8    Géntechnológiával módosított mikroorganizmusok és élő szervezetek

M9 – M10    Magas hőmérsékletű anyagok:

        M9    Folyékony anyagok

        M10   Szilárd anyagok

M11   Egyéb anyagok, amelyek a szállítás alatt veszélyt jelentenek, de egyetlen más osztály meghatározásának sem felelnek meg.

*Fogalommeghatározások és besorolás*

**2.2.9.1.3**            A 9 osztályba sorolt anyagokat a 3.2 fejezet „A” táblázata sorolja fel. A 3.2 fejezet „A” táblázatában név szerint nem említett anyagok és tárgyak besorolását ezen táblázat, ill. a 2.2.9.3 bekezdés megfelelő tétele alá 2.2.9.1.4 – 2.2.9.1.14 pont szerint kell végezni.

*Anyagok, amelyek finom poruk belélegzése esetén az egészséget veszélyeztethetik*

**2.2.9.1.4**            Azon anyagok közé, amelyek finom poruk belélegzése esetén az egészséget veszélyeztethetik, az azbeszt és az azbesztet tartalmazó keverékek tartoznak.

*Anyagok és készülékek, amelyekből tűz esetén dioxinok képződhetnek*

**2.2.9.1.5**            Azon anyagok és készülékek közé, amelyekből tűz esetén dioxinok képződhetnek, a poliklórozott és polihalogénezett bifenilek és terfenilek (PCB-k és PCT-k), valamint az ezeket az anyagokat tartalmazó keverékek, továbbá az ilyen anyagokat vagy keverékeket tartalmazó készülékek, mint pl. transzformátorok, kondenzátorok tartoznak.

**Megjegyzés:** Az olyan keverékek, amelyek PCB- vagy PCT-tartalma nem haladja meg az 50 mg/kg értéket, nem tartoznak a RID előírásainak hatálya alá.

*Gyúlékony gőzöket fejlesztő anyagok*

- 2.2.9.1.6** A gyúlékony gőzöket fejlesztő anyagok közé tartoznak azok a polimerek, amelyek legfeljebb 55 °C lobbaspontú gyúlékony folyadékot tartalmaznak.

*Lítium akkumulátorok*

- 2.2.9.1.7** A „lítium akkumulátorok” fogalom azokra a cellákra és akkumulátorokra terjed ki, amelyek bármilyen formában lítiumot tartalmaznak. Ezek akkor sorolhatók a 9 osztályba, ha kielégítik a 3.3 fejezet 230 különleges előírását. Ha kielégítik 3.3 fejezet 188 különleges előírását, nem tartoznak a RID előírásainak hatálya alá. A besorolást a „Vizsgálatok és kritériumok kézikönyv” 38.3 bekezdésének előírásai szerint kell végezni.

*Biztonsági felszerelések*

- 2.2.9.1.8** A biztonsági felszerelések közé tartoznak azok a mentőeszközök és gépjármű tartozékok, amelyek megfelelnek a 3.3 fejezet 235, ill. 296 különleges előírásában szereplő leírásnak.

*Környezetre veszélyes anyagok*

- 2.2.9.1.9** (törölve)

*Vízi környezetet szennyező anyagok*

- 2.2.9.1.10** Környezetre (vízi környezetre) veszélyes anyagok

- 2.2.9.1.10.1** Általános fogalommeghatározás

- 2.2.9.1.10.1.1** Környezetre veszélyes anyagok – többek között – a vízi környezetet szennyező folyékony vagy szilárd anyagok, valamint az ilyen anyagok oldatai és keverékei (készítmények és hulladékok).

A 2.2.9.1.10 pont alkalmazásában az „anyag” olyan természetes állapotban előforduló vagy gyártási folyamatból származó kémiai elem és vegyületei, amely a termék stabilitásának megőrzéséhez szükséges adalékanyagot és az alkalmazott eljárásból származó szennyezőt is tartalmazhat, de nem tartalmaz olyan oldószert, amely az anyag stabilitásának befolyásolása vagy összetételének megváltoztatása nélkül elkülöníthető.

- 2.2.9.1.10.1.2** A vízi környezet a vízben élő vízi szervezetek, ill. a vízi életközösség szempontjából, értelmezendő, amelynek a vízi szervezetek a részét képezik.<sup>11)</sup> Ezért a veszély azonosításának alapja az anyag, ill. keverék vízi toxicitása, ezt azonban módosíthatják a lebomlásra és a bioakkumulációra vonatkozó további adatok.

- 2.2.9.1.10.1.3** A következő besorolási eljárás célja, hogy mindenfajta anyagra, ill. keverékre alkalmazni lehessen, tudatában kell lenni azonban, hogy bizonyos esetekben, pl. fémeknél vagy nehezen oldható szervesetlen vegyületeknél különleges útmutatás<sup>12)</sup> szükséges.

- 2.2.9.1.10.1.4** Az itt használt kifejezések és betűszavak jelentése a következő:

- *BCF*: biokoncentrációs tényező
- *BOD*: biokémiai oxigénigény

11) Ez nem vonatkozik az olyan vízszennyező anyagokra, amelyeknél a vízi környezeten túlmenő hatásokat, pl. az emberi egészségre gyakorolt hatást is szükséges lehet figyelembe venni.

12) Megtalálható a GHS 10 Mellékletében.

- *COD*: kémiai oxigénigény
- *GLP*: helyes laboratóriumi gyakorlat
- *EC<sub>50</sub>*: az anyag tényleges koncentrációja, amely a legnagyobb válaszreakció 50%-át eredményezi;
- *ErC<sub>50</sub>*: a növekedés csökkenése szempontjából meghatározott *EC<sub>50</sub>* érték
- *K<sub>ow</sub>*: oktanol/víz megoszlási együttható;
- *LC<sub>50</sub>* (50%-os halálos koncentráció): az anyag azon koncentrációja a vízben, amely a kísérleti állatcsoport 50%-ának (felének) elhullását okozza;
- *L(E)C<sub>50</sub>*: *LC<sub>50</sub>* vagy *EC<sub>50</sub>*;
- *NOEC* (No Observed Effect Concentration): észlelhető hatást nem okozó koncentráció;
- OECD Test Guidelines: a Gazdasági Együttműködési és Fejlesztési Szervezet (OECD) által kiadott vizsgálati irányelvek.

#### 2.2.9.1.10.2 Fogalommeghatározás és az adatokra vonatkozó követelmények

##### 2.2.9.1.10.2.1 A környezetre (vízi környezetre) veszélyes anyagok besorolásának alapvető elemei.

- akut vízi toxicitás;
- a bioakkumulációs hajlam vagy a tényleges bioakkumuláció;
- szerves vegyianyagok (biotikus vagy abiotikus) lebomlása;
- krónikus vízi toxicitás.

##### 2.2.9.1.10.2.2 A harmonizált nemzetközi vizsgálati módszerek alapján nyert adatok előnyösebbek, a gyakorlatban azonban a belföldi vizsgálati módszerek alapján nyert adatok is alkalmazhatók, ha egyenértékűnek tekinthetők. Általánosan elfogadott, hogy az édesvízi és a tengeri fajokra vonatkozó toxicitás azonosnak tekinthető és lehetőleg az OECD vizsgálati irányelvek vagy azzal egyenértékű módszerek alapján kell levezetni, a helyes laboratóriumi gyakorlat (*GLP*) alapelvei szerint. Ha így nyert adatok nincsenek, a besorolást a rendelkezésre álló legjobb adatok alapján kell elvégezni.

##### 2.2.9.1.10.2.3 Az **akut vízi toxicitást** általában a halra vonatkozó 96 órás *LC<sub>50</sub>* (OECD 203 vizsgálati irányelv vagy azzal egyenértékű módszer), a rákfajokra vonatkozó 48 órás *LC<sub>50</sub>* (OECD 202 vizsgálati irányelv vagy azzal egyenértékű módszer) és/vagy az alga fajokra vonatkozó 72 vagy 96 órás *EC<sub>50</sub>* (OECD 201 vizsgálati irányelv vagy azzal egyenértékű módszer) értékek felhasználásával kell meghatározni. Ezekkel a fajokkal bármely vízi szervezetek helyettesíthetők, ill. más fajokkal, pl. békalecsével (*Lemna*-val) nyert adatok is használhatók, ha a vizsgálati módszer megfelelő.

##### 2.2.9.1.10.2.4 A **bioakkumuláció** (biológiai felhalmozódás) az élő szervezetbe bármilyen expozíciós úton (azaz levegőből, vízből, üledékből, talajból, táplálékkal) bekerült anyagnak az átalakítás és kiválasztás után a szervezetben maradt nettó mennyiségét jelenti.

A **bioakkumulációs hajlamot** általában az oktanol/víz megoszlási együtthatóval kell meghatározni, amit az OECD 107 vagy 117 vizsgálati irányelv szerint meghatározott  $\log K_{ow}$ -ban szoktak megadni. Ezzel ugyan jól jellemezhető a bioakkumulációs hajlam, de a kísérletileg meghatározott: biokoncentrációs tényező (*BCF*) jobb eredményt ad, ezért ha lehetséges, ezt kell használni. A *BCF*-t az OECD 305 vizsgálati irányelv szerint kell meghatározni.



**2.2.9.1.10.2.5** A **környezetben való lebomlás** lehet biotikus vagy abiotikus (pl. hidrolízis), ez a tény a kritériumokban figyelembe van véve. A könnyű biológiai lebonthatóság legegyszerűbben az OECD biológiai lebonthatósági vizsgálatával [OECD 301 vizsgálati irányelv (A–F)] határozható meg. Ha egy anyag ezekben a vizsgálatokban közepes eredményt mutat, abból arra lehet következtetni, hogy a legtöbb környezetben gyorsan lebomlik. Tekintettel arra, hogy ezek a vizsgálatok édesvízre vonatkoznak, a tengeri környezetre alkalmasabb, OECD 306 vizsgálati irányelv alapján nyert eredményeket is figyelembe vették. Ha ilyen adat nem áll rendelkezésre, a gyors lebomlásra akkor lehet következtetni, ha az ötnapos  $BOD$  és a  $COD$  hányadosa ( $BOD_5/COD$ )  $\geq 0,5$ .

A gyors lebonthatóság meghatározásánál az abiotikus lebomlás (pl. hidrolízis), az elsődleges biotikus és az elsődleges abiotikus lebomlás, nemvízes közegben való lebomlás és a környezetben való bizonyítottan gyors lebomlás, mind figyelembe vehető<sup>13)</sup>.

Egy anyag akkor tekintendő a környezetben gyorsan lebomlóknak, ha a következő kritériumoknak megfelel:

- a) a 28 napos könnyű biológiai lebonthatósági vizsgálat során a következő lebomlási szinteket éri el:
  - i) az oldott szerves széntartalom alapuló vizsgálatnál: 70%-ot;
  - ii) az oxigén fogyáson vagy a szén-dioxid képződésen alapuló vizsgálatnál: az elméleti maximumok 60%-át.

Ezeket az értékeket 10 napon belül kell elérni attól a naptól kezdve, amikor a biológiai lebomlás első alkalommal 10% felett volt; vagy

- b) ha csak a  $BOD$  és a  $COD$  értékek állnak rendelkezésre:  $BOD_5/COD \geq 0,5$ ; vagy
- c) egyéb, meggyőző tudományos bizonyíték van arra, hogy az anyag, ill. keverék a vízi környezetben, 28 napon belül 70% fölötti mértékben lebomlik (biotikus és/vagy abiotikus úton).

**2.2.9.1.10.2.6** A **krónikus toxicitás**ra kevesebb adat áll rendelkezésre, mint az akut toxicitásra, és a vizsgálati eljárások is kevésbé egységesek. Az OECD 210 (hal korai életszakasz) vagy 211 (vízibolha szaporodás) vizsgálati irányelv, valamint az OECD 201 (alganövekedés gátlása) vizsgálati irányelv alapján nyert adatok elfogadhatók. Egyéb, nemzetközileg elismert, hiteles vizsgálatok is alkalmazhatók. Az „észlelhető hatást nem okozó koncentráció”-t ( $NOEC$ ) vagy más, egyenértékű  $L(E)C_x$  értéket kell használni.

**2.2.9.1.10.3** Az anyagok besorolási kategóriái és kritériumai

Egy anyagot akkor kell a „környezetre (vízi környezetre) veszélyes anyag”-nak besorolni, ha a következő táblázatokban az akut-1 kategóriára, a krónikus-1 kategóriára vagy a krónikus-2 kategóriára feltüntetett kritériumok teljesülnek:

#### Akut toxicitás

<b>Kategória: Akut-1</b>	
Akut toxicitás:	
96 órás $LC_{50}$ (halra)	$\leq 1$ mg/l és/vagy
48 órás $EC_{50}$ (rákokra)	$\leq 1$ mg/l és/vagy
72 vagy 96 órás $ErC_{50}$ (algákra vagy egyéb vízinövényekre)	$\leq 1$ mg/l

13) Az adatok értelmezésére különleges útmutatás található a GHS 4.1 fejezetében és 9 Mellékletében.



**Krónikus toxicitás****Kategória: Krónikus-1**

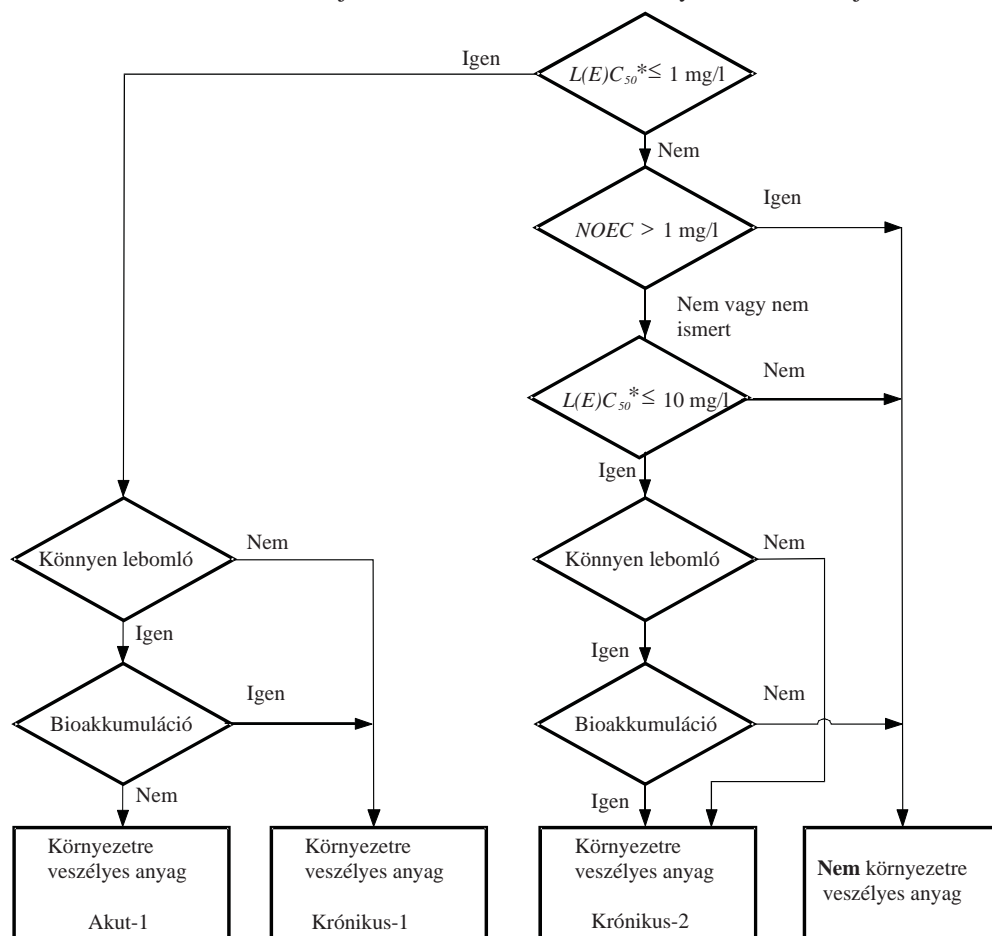
Akut toxicitás:

96 órás  $LC_{50}$  (halra)  $\leq 1$  mg/l és/vagy48 órás  $EC_{50}$  (rákokra)  $\leq 1$  mg/l és/vagy72 vagy 96 órás  $ErC_{50}$  (algákra vagy egyéb vízínövényekre)  $\leq 1$  mg/lés az anyag nem bomlik le gyorsan és/vagy a  $\log K_{ow} \geq 4$  (kivéve, ha a kísérletileg meghatározott  $BCF < 500$ )**Kategória: Krónikus-2**

Akut toxicitás:

96 órás  $LC_{50}$  (halra)  $>1 - \leq 10$  mg/l és/vagy48 órás  $EC_{50}$  (rákokra)  $>1 - \leq 10$  mg/l és/vagy72 vagy 96 órás  $ErC_{50}$  (algákra vagy egyéb vízínövényekre)  $>1 - \leq 10$  mg/lés az anyag nem bomlik le gyorsan és/vagy a  $\log K_{ow} \geq 4$  (kivéve, ha a kísérletileg meghatározott  $BCF < 500$ ), kivéve ha a krónikus toxicitás  $NOEC$  szintek  $> 1$  mg/l

A követendő eljárást a következő besorolási folyamatábra mutatja

\* A 96 órás  $LC_{50}$ , a 48 órás  $EC_{50}$ , ill. a 72 órás vagy 96 órás  $ErC_{50}$  közül a legkisebb érték.

#### 2.2.9.1.10.4 A keverékek besorolási kategóriái és kritériumai

**2.2.9.1.10.4.1** A keverékek besorolási rendszeréhez tartoznak az anyagok besorolásához használt kategóriák, azaz az akut-1, a krónikus-1 és a krónikus-2 kategória. Annak érdekében, hogy a keverék vízi környezetre való veszélyességének besorolásához az összes rendelkezésre álló adatot felhasználjuk, a következő feltételezést használjuk:

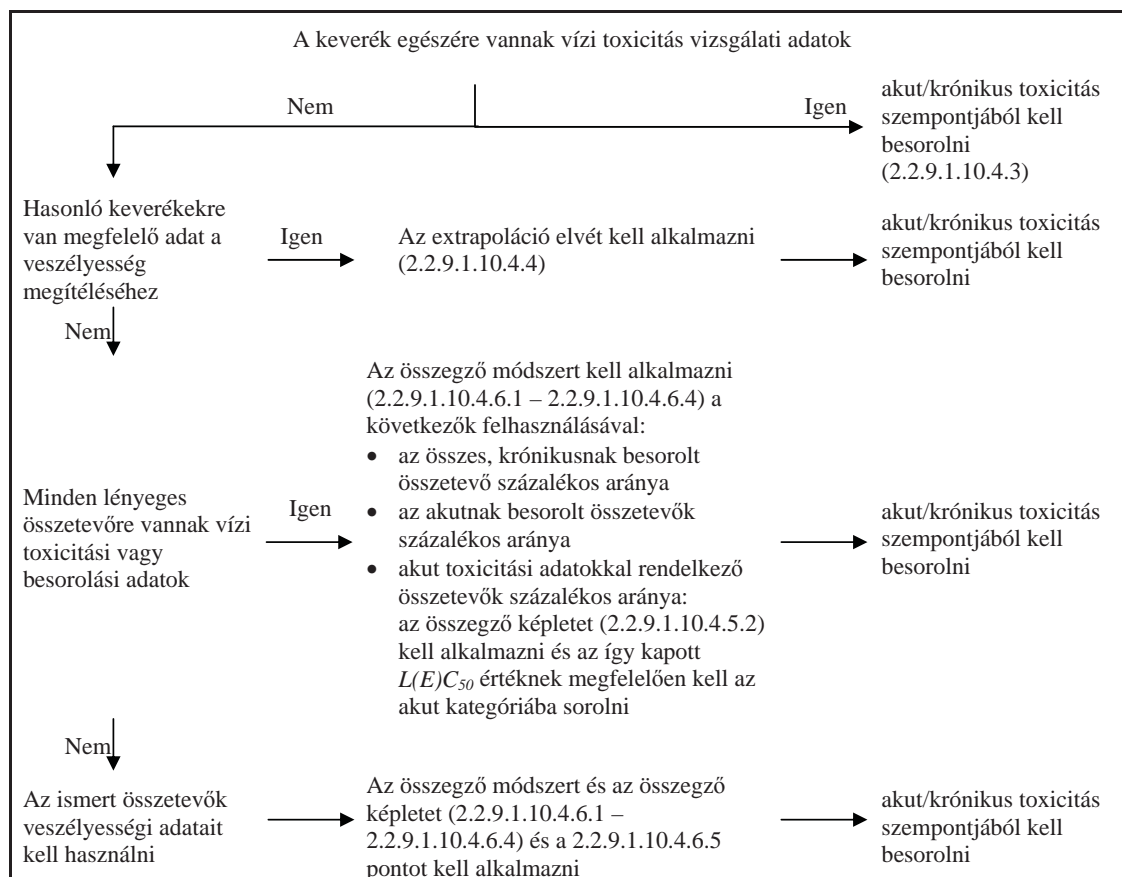
A „lényeges összetevő” a keverékben leglább 1 tömeg%-ban jelenlévő összetevő, kivéve, ha feltételezhető, hogy valamelyik 1 tömeg%-nál kisebb koncentrációban jelenlévő összetevő is lényeges a keverék vízi környezetre való veszélyességének besorolásához (pl. nagyon mérgező összetevők esetében).

**2.2.9.1.10.4.2** A vízi környezetre való veszélyesség besorolásának menete lépcsőzetes, és attól függ, hogy milyen adatok állnak rendelkezésre az egész keverékre, ill. az összetevőire. A lépcsőzetes besorolás elemei a következők:

- a keverékkel végzett vizsgálaton alapuló besorolás;
- az extrapoláció elvén alapuló besorolás;
- „a besorolt összetevők összegzése” módszer és/vagy az „összegző képlet” használata.

A követendő eljárást a következő 2.2.9.1.10.4.2 ábra mutatja.

#### 2.2.9.1.10.4.2 ábra: A keverékek akut és krónikus vízi környezeti veszélyességének lépcsőzetes besorolása



**2.2.9.1.10.4.3** Keverékek besorolása abban az esetben, ha a keverék egészére vannak adatok

**2.2.9.1.10.4.3.1** Ha a keverék egészének vízi toxicitását megvizsgálták, akkor az anyagokra elfogadott kritériumok szerint kell besorolni, de csak akut toxicitás tekintetében. A besorolás a halra, a rákokra és az algákra vagy egyéb vízinövényekre nyert adatokon alapul. A keverék egészére vonatkozó  $LC_{50}$ , ill.  $EC_{50}$  értékek alapján a krónikus kategóriákba nem lehet besorolni a keveréket, mivel ahhoz a toxicitási adatok és a környezeti hatásra vonatkozó adatok egyaránt szükségesek, és a keverékekre nem léteznek lebomlásra és bioakkumulációra vonatkozó adatok. A krónikus kategóriák besorolási kritériumait azért nem lehet alkalmazni, mert a lebomlási és bioakkumulációs vizsgálati adatok csak egyedi anyagokra értelmezhetők, keverékekre nem.

**2.2.9.1.10.4.3.2** Ha a keverék egészének akut toxicitására vannak adatok ( $LC_{50}$ , ill.  $EC_{50}$ ), akkor ezeket az adatokat és az összetevők krónikus toxicitás szerinti besorolására vonatkozó ismereteket kell felhasználni a vizsgált keverék besorolásának véglegesítéséhez, a következők szerint. Ha a krónikus (hosszú távú) toxicitásra vonatkozóan *NOEC* adatok is vannak, akkor azokat is fel kell használni.

- a) A vizsgált keverék  $L(E)C_{50}$  ( $LC_{50}$  vagy  $EC_{50}$ ) értéke  $\leq 1$  mg/l és a *NOEC* értéke  $\leq 1,0$  mg/l vagy nem ismert:
  - a keveréket az akut-1 kategóriába kell sorolni ;
  - „a besorolt összetevők összegzése” módszert kell alkalmazni (lásd a 2.2.9.1.10.4.6.3 és a 2.2.9.1.10.4.6.4 pontot) a krónikus toxicitás megítéléséhez (krónikus-1, krónikus-2 vagy nem kell krónikus kategóriába sorolni);
- b) A vizsgált keverék  $L(E)C_{50}$  értéke  $\leq 1$  mg/l és a *NOEC* értéke  $> 1$  mg/l:
  - a keveréket az akut-1 kategóriába kell sorolni ;
  - „a besorolt összetevők összegzése” módszert kell alkalmazni (lásd a 2.2.9.1.10.4.6.3 és a 2.2.9.1.10.4.6.4 pontot) a krónikus-1 kategóriába való besoroláshoz. Ha a keverék nem tartozik a krónikus-1 kategóriába, akkor nem kell krónikus kategóriába sorolni);
- c) A vizsgált keverék  $L(E)C_{50}$  értéke  $> 1$  mg/l vagy nagyobb, mint a vízben való oldhatóság értéke és a *NOEC* értéke  $\leq 1,0$  mg/l vagy nem ismert
  - nem kell akut toxicitás szerint besorolni;
  - „a besorolt összetevők összegzése” módszert kell alkalmazni (lásd a 2.2.9.1.10.4.6.3 és a 2.2.9.1.10.4.6.4 pontot) krónikus kategóriába való besoroláshoz vagy nem kell krónikus kategóriába sorolni;
- d) A vizsgált keverék  $L(E)C_{50}$  értéke  $> 1$  mg/l vagy nagyobb, mint a vízben való oldhatóság értéke és a *NOEC* értéke  $> 1,0$  mg/l:
  - sem akut, sem krónikus kategóriába nem kell sorolni.

**2.2.9.1.10.4.4** Az extrapoláció elve

**2.2.9.1.10.4.4.1** Ha magát a keveréket nem vizsgálták a vízi környezetre való veszélyességének megállapítására, viszont az egyes összetevőkre és hasonló, megvizsgált keverékekre elegendő adat áll rendelkezésre ahhoz, hogy a keverék veszélyességét megfelelően jellemezze, akkor ezeket az adatokat kell használni a következő, elfogadott extrapolációs szabály szerint. Ez biztosítja, hogy a besorolási eljárás folyamán a rendelkezésre álló adatokat a lehető legnagyobb mértékben felhasználjuk a keverék veszélyességének jellemzésére, anélkül, hogy további állatkísérletekre volna szükség.

**2.2.9.1.10.4.4.2 Hígítás**

**2.2.9.1.10.4.4.2.1** Abban az esetben, ha egy keveréket egy már besorolt másik keverék vagy anyag olyan hígítószerrel történő hígításával állítottak elő, amelynek a vízi környezetre való veszélyessége azonos vagy kisebb mértékű, mint a legkevésbé toxikus eredeti összetevőé, és amely valószínűleg nem befolyásolja a többi összetevő vízi környezetre való veszélyességét, akkor a keveréket az eredeti keverékkel, ill. anyaggal azonosan kell besorolni.

**2.2.9.1.10.4.4.2.2** Abban az esetben, ha egy keveréket egy másik besorolt keverék vagy anyag vízzel vagy más, egyáltalán nem mérgező anyaggal történő hígításával állítottak elő, a keverék toxicitását az eredeti keverék, ill. anyag alapulvételével kell kiszámítani.

**2.2.9.1.10.4.4.3 Gyártási tételek**

Egy komplex keverék valamely gyártási tételének a vízi környezetre való veszélyességi besorolása és ugyanakkor a kereskedelmi terméknek, ugyanazon gyártó által, vagy ugyanazon gyártó felügyelete mellett gyártott másik gyártási tételének besorolása alapvetően azonosnak tekintendő, kivéve, ha okkal feltételezhető, hogy olyan jelentős változás következett be, amely a gyártási tételnek a vízi környezetre való veszélyességi besorolását is megváltoztatta. Ez esetben új besorolási eljárás szükséges.

**2.2.9.1.10.4.4.4** A legszigorúbb (krónikus-1 és akut-1) kategóriákba sorolt keverékek koncentrációjának növelése

Ha egy krónikus-1 és/vagy akut-1 kategóriába sorolt keverékben a krónikus-1 és/vagy akut-1 kategóriába sorolt összetevők koncentrációját tovább növeljük, a nagyobb koncentrációjú keveréket – további vizsgálat nélkül – ugyanabba a kategóriába kell sorolni, mint az eredeti keveréket.

**2.2.9.1.10.4.4.5** Egy toxikussági kategórián belüli interpoláció

Három, azonos összetevőket tartalmazó keverék esetén, ha A keverék és B keverék ugyanabba a kategóriába tartozik és a C keverékben a toxikológiailag aktív összetevők koncentrációja az A és B keverékben lévő koncentrációk közé esik, ezt a C keveréket ugyanabba a kategóriába kell sorolni, mint az A és a B keveréket.

**2.2.9.1.10.4.4.6** Alapvetően azonos keverékek

Ha adottak a következők:

- a) két keverék:
  - i) A + B;
  - ii) C + B,
- b) a B összetevő koncentrációja a két keverékben azonos;
- c) az A összetevő koncentrációja az i) pont szerinti keverékben azonos a C összetevő koncentrációjával az ii) pont szerinti keverékben;
- d) az A és a C besorolása ismert és azonos, vagyis ugyanabba a veszélyességi kategóriába tartoznak, és nem valószínű, hogy a B összetevő vízi toxicitását befolyásolnák,

akkor az ii) pont szerinti keveréket nem kell vizsgálni, ha az i) pont szerinti keveréket megvizsgálták és mindkét keveréket ugyanabba a kategóriába sorolják.

**2.2.9.1.10.4.5** Keverékek besorolása abban az esetben, ha a keverék mindegyik összetevőjére vagy csak néhányra vannak adatok

**2.2.9.1.10.4.5.1** A keverék besorolását a besorolt összetevők koncentrációjának összegzésére kell alapozni. Az „akut”, ill. „krónikus” kategóriába sorolt összetevők százalékos aránya az összegző módszer kiinduló adata. Az összegző módszer részletei a 2.2.9.1.10.4.6.1 – 2.2.9.1.10.4.6.4 pontokban találhatók.

**2.2.9.1.10.4.5.2** Egy keverék lehet már besorolt (akut-1 és/vagy krónikus-1, krónikus-2) összetevők és olyan összetevők kombinációja, amelyekre vannak megfelelő vizsgálati adatok. Ha a keverék több összetevőjére van megfelelő toxicitási adat, akkor ezeknek az összetevőknek az együttes toxicitását a következő összegző képlettel kell kiszámolni, és a kiszámított toxicitás alapján kell a keverék ezen részének akut toxicitási veszélyét meghatározni, amit azután az összegző módszerben használunk.

$$\frac{\sum C_i}{L(E)C_{50m}} = \sum_n \frac{C_i}{L(E)C_{50i}}$$

ahol:

$C_i$  = az  $i$ -edik összetevő koncentrációja (tömeg%);

$L(E)C_{50i}$  = az  $i$ -edik összetevő  $LC_{50}$  vagy  $EC_{50}$  értéke (mg/l);

$n$  = az összetevők száma,  $i = 1 - n$  ;

$L(E)C_{50m}$  = a keverék azon részének  $L(E)C_{50}$  értéke, amelyre van toxicitási adat.

**2.2.9.1.10.4.5.3** Amikor a keverék egy részére az összegző képletet alkalmazzuk, előnyös, ha a keverék ezen része toxicitását az egyes anyagok azonos fajra (halra, vízipótlára vagy algára) vonatkozó toxicitási értékeivel kiszámoljuk, és azután a kapott legnagyobb toxicitási értéket (azaz a legkisebb értéket) használjuk (vagyis a három faj közül a legérzékenyebbre vonatkozót). Ha azonban nincs minden összetevőre azonos fajra vonatkozó toxicitási adat, az egyes összetevőkre vonatkozóan a toxicitási adatot ugyanúgy kell kiválasztani, mint ahogy az anyagok besorolásánál kell a toxicitási adatot kiválasztani, vagyis a nagyobb toxicitási értéket (a legérzékenyebb vizsgálati élő szervezetre vonatkozót) kell használni. Az így kiszámított akut toxicitás érték alapján kell a keverék ezen részét az akut-1 kategóriához sorolni, ugyanazon kritériumok szerint, mint amelyek az anyagokra vonatkoznak.

**2.2.9.1.10.4.5.4** Ha egy keveréket többféleképpen sorolnak be, a legszigorúbb eredményt adó módszert kell alkalmazni.

**2.2.9.1.10.4.6** Összegző módszer

**2.2.9.1.10.4.6.1** Besorolási eljárás

Általában a keverékeknél a szigorúbb besorolás megelőzi a kevésbé szigorút, például a krónikus-1 kategóriába való besorolás megelőzi a krónikus-2-be való sorolást. Ennek következtében, ha a besorolás eredménye krónikus-1 kategória, a besorolási eljárás befejeződik. Mivel a krónikus-1 kategóriánál nincs szigorúbb, ezért nem szükséges a besorolási eljárást folytatni.

**2.2.9.1.10.4.6.2** Az akut-1 kategóriába való sorolás

**2.2.9.1.10.4.6.2.1** Az akut-1 kategóriába sorolt minden összetevőt figyelembe kell venni (össze kell adni). Ha

az összegük 25% vagy annál nagyobb, az egész keveréket az akut-1 kategóriába kell sorolni. Ha a számítás eredménye az, hogy a keverék az akut-1 kategóriába tartozik, a besorolási eljárás befejeződött.

**2.2.9.1.10.4.6.2.2** A keverék akut veszély szerinti besorolása a besorolt összetevők összegzésén alapul, amely a 2.2.9.1.10.4.6.2.2 táblázatban van összefoglalva.

**2.2.9.1.10.4.6.2.2 táblázat: A keverék akut veszély szerinti besorolása a besorolt összetevők összegzése alapján**

Az adott kategóriába besorolt összetevők összege	A keverék besorolása
$\text{akut-1} \times M^{(a)} \geq 25\%$	akut-1

a) Az  $M$  tényező magyarázatára lásd a 2.2.9.1.10.4.6.4 pontot.

**2.2.9.1.10.4.6.3** A krónikus-1 és krónikus-2 kategóriába való sorolás

**2.2.9.1.10.4.6.3.1** A krónikus-1 kategóriába sorolt összetevőket össze kell adni. Ha az összeg 25% vagy annál nagyobb, az egész keveréket a krónikus-1 kategóriába kell sorolni. Ha a számítás eredménye az, hogy a keverék a krónikus-1 kategóriába tartozik, a besorolási eljárás befejeződött.

**2.2.9.1.10.4.6.3.2** Ha a keverék nem tartozik a krónikus-1 kategóriába, akkor a krónikus-2 kategóriába való sorolás szempontjából kell vizsgálni. Akkor kell a keveréket a krónikus-2 kategóriába sorolni, ha a krónikus-1 kategóriába sorolt összetevők összegének 10-szerese és a krónikus-2 kategóriába sorolt összetevők összege együttesen 25% vagy annál nagyobb. Ha a számítás eredménye az, hogy a keverék a krónikus-2 kategóriába tartozik, a besorolási eljárás befejeződött.

**2.2.9.1.10.4.6.3.3** A keverék krónikus veszély szerinti besorolása a besorolt összetevők összegzésén alapul, amely a 2.2.9.1.10.4.6.3.3 táblázatban van összefoglalva.

**2.2.9.1.10.4.6.3.3 táblázat: A keverék krónikus veszély szerinti besorolása a besorolt összetevők összegzése alapján**

Az adott kategóriába besorolt összetevők összege	A keverék besorolása:
$\text{krónikus-1} \times M^{(a)} \geq 25\%$	krónikus-1
$(M^{(a)} \times 10 \times \text{krónikus-1}) + \text{krónikus-2} \geq 25\%$	krónikus-2

a) Az  $M$  tényező magyarázatára lásd a 2.2.9.1.10.4.6.4 pontot.

**2.2.9.1.10.4.6.4** Nagyon mérgező összetevőket tartalmazó keverékek

Az olyan, akut-1 kategóriába sorolt összetevők, amelyek toxicitása jóval kisebb 1 mg/l-nél, befolyásolhatják az egész keverék toxicitását, ezért az összegző módszerben súlyozottan vannak figyelembe véve. Ha a keverékben van akut-1 vagy krónikus-1 kategóriába sorolt összetevő, a 2.2.9.1.10.4.6.2 és 2.2.9.1.10.4.6.3 pontban leírt lépcsőzetes eljárást kell alkalmazni, amelyben az összetevők százalékos arányának egyszerű összeadása helyett egy súlyozott összeget használunk, amely az akut-1 kategóriájú összetevők koncentrációjának és egy tényezőnek a szorzata. Ez azt jelenti, hogy a 2.2.9.1.10.4.6.2.2, ill. a 2.2.9.1.10.4.6.3.3 táblázatok bal oldali oszlopában az akut-1, ill. krónikus-1 kategóriájú összetevők koncentrációja a megfelelő tényezővel megszorozva szerepel. A szorzótényező az összetevők toxicitása alapján van meghatározva, és a következő 2.2.9.1.10.4.6.4 táblázatban szerepel. Ezért az akut-1 és/vagy krónikus-1 kategóriába sorolt összetevőket tartalmazó keverékek összegző módszerrel történő besorolásához ismerni kell az  $M$  tényező értékét. Ehelyett az összegző képlet is alkalmazható (lásd a 2.2.9.1.10.4.5.2 pontot), ha a keverékben lévő minden, nagyon mérgező összetevőre van toxicitási adat és elegendő bizonyíték van arra, hogy a többi összetevő (beleértve azokat is, amelyekre akut toxicitási adatok nem állnak

rendelkezésre), csak enyhén vagy egyáltalán nem mérgező, és nem befolyásolják jelentősen a keverék környezetre való veszélyességét.

**2.2.9.1.10.4.6.4 táblázat: A keverékek nagyon mérgező összetevőikhez tartozó szorzótényezők**

<i><math>L(E)C_{50}</math> érték</i>	<i>Szorztényező (M)</i>
$0,1 < L(E)C_{50} \leq 1$	1
$0,01 < L(E)C_{50} \leq 0,1$	10
$0,001 < L(E)C_{50} \leq 0,01$	100
$0,0001 < L(E)C_{50} \leq 0,001$	1000
$0,00001 < L(E)C_{50} \leq 0,0001$	10000
(további tizedes intervallumonként folytatva)	

**2.2.9.1.10.4.6.5 Keverék besorolása abban az esetben, ha nincs az összetevőkre használható információ**

Abban az esetben, ha a keverék valamely lényeges összetevőjének vízi környezetre való, akut és/vagy krónikus veszélyességére nincs használható adat, a keveréket nem lehet határozott veszélyességi kategóriába sorolni. Ebben az esetben a keveréket az ismert összetevők alapján kell besorolni, és ki kell egészíteni a következő megállapítással: „A keverék x %-a olyan összetevő(k)ből áll, amely(ek)nek vízi környezetre való veszélyessége nem ismert.”

**2.2.9.1.10.5 A RID alá másként nem sorolt, vízi környezetre veszélyes anyagok és keverékek**

**2.2.9.1.10.5.1 A RID alá másként nem sorolt, vízi környezetre veszélyes anyagokat és keverékeket a következő tételek alá kell sorolni:**

UN 3077 KÖRNYEZETRE VESZÉLYES SZILÁRD ANYAG, M.N.N.

UN 3082 KÖRNYEZETRE VESZÉLYES FOLYÉKONY ANYAG, M.N.N.

Ezek a tételek a III csomagolási csoportba tartoznak.

**2.2.9.1.10.5.2 A 2.2.9.1.10 pont előírásaival ellentétben**

- azokat az anyagokat, amelyek sem a 9 osztály valamely tétele alá – az UN 3077 és az UN 3082 kivételével –, sem az 1 – 8 osztály tételei alá nem sorolhatók, de amelyek a Tanács veszélyes anyagok osztályozására, csomagolására és címkézésére vonatkozó törvényi, rendeleti és közigazgatási rendelkezések közelítéséről szóló, módosított 1967. június 27-i 67/548/EGK Irányelve<sup>14)</sup> szerint „Környezetre veszélyes”-ek, azaz „N” betű (R50; R50/53; R51/53) van hozzájuk rendelve; és
- azon anyagok oldatait és keverékeit (készítményeit és hulladékait), amelyek a módosított 67/548/EGK Irányelv szerint „Környezetre veszélyes”-ek, azaz „N” betű (R50; R50/53; R51/53) van hozzájuk rendelve, és amelyek az Európai Parlament és a Tanács a tagállamoknak veszélyes készítmények osztályozására, csomagolására és címkézésére vonatkozó törvényi, rendeleti és közigazgatási rendelkezések közelítéséről szóló 1999. május 31-i, módosított 1999/45/EK Irányelve<sup>15)</sup> szerint is „Környezetre veszélyes”-ek, azaz „N” betű (R50; R50/53; R51/53) van hozzájuk rendelve és nem sorolhatók sem a 9 osztály valamely tétele alá – az UN 3077 és az UN 3082 kivételével –, sem az 1 – 8 osztály tételei alá,

a 9 osztály UN 3077, ill. UN 3082 tétel alá kell besorolni.

14) Az EK Hivatalos Lapja, L 196. szám, 1967.08.16., 1 - 5. o.).

15) Az EK Hivatalos Lapja, L 200. szám, 1999.07.30., 1 - 68. o.).



*Géntechnológiával módosított mikroorganizmusok és élő szervezetek*

- 2.2.9.1.11** A géntechnológiával módosított mikroorganizmusok (GMMO-k) és élő szervezetek (GMO-k) olyan mikroorganizmusok és élő szervezetek, amelyek genetikai anyagát szándékosan, génszabványi beavatkozással úgy változtatták meg, ami a természetben nem fordul elő. Ezek a 9 osztályba, az UN 3245 tétel alá tartoznak, ha nem elégték ki a fertőző anyagok meghatározását, de képesek az állatokat, növényeket vagy mikrobiológiai anyagokat oly módon megváltoztatni, ami a természetes reprodukció eredményeként rendszerint nem következik be.

**Megjegyzés:** 1. Azok a GMMO-k és GMO-k, amelyek fertőzőek, a 6.2 osztály UN 2814, UN 2900, ill. UN 3373 szám anyagai.

2. Azok a GMMO-k és GMO-k, amelyek felhasználását a származási, a tranzit és a célország illetékes hatóságai engedélyezték<sup>16)</sup>, nem tartoznak a RID előírásainak hatálya alá.

3. Élő állatok a 9 osztályba besorolt géntechnológiával módosított mikroorganizmusok szállítására nem használhatók, hacsak az anyag más módon nem szállítható.

- 2.2.9.1.12** (fenntartva)

*Magas hőmérsékletű anyagok*

- 2.2.9.1.13** A magas hőmérsékletű anyagok olyan anyagok, amelyeket folyékony állapotban 100 °C-on vagy annál magasabb hőmérsékleten, de amennyiben van lobbanáspontjuk, akkor a lobbanáspont alatti hőmérsékleten szállítanak vagy adnak át szállításra. Ide tartoznak azok a szilárd anyagok, amelyeket 240 °C-on vagy annál magasabb hőmérsékleten szállítanak vagy adnak át szállításra.

**Megjegyzés:** A magas hőmérsékletű anyagok csak akkor sorolhatók a 9 osztályba, ha egyetlen más osztály feltételeit sem elégték ki.

*Egyéb anyagok, amelyek a szállítás alatt veszélyt jelentenek, de egyetlen más osztály meghatározásának sem felelnek meg*

- 2.2.9.1.14** A következő egyéb anyagok, amelyek egyetlen más osztály meghatározásának sem felelnek meg, a 9 osztályba vannak besorolva:

szilárd ammóniumvegyületek 60 °C alatti lobbanásponttal  
csekély veszélyt képviselő ditionitok  
erősen illékony folyékony anyagok  
ártalmas gőzöket kibocsátó anyagok  
allergéneket tartalmazó anyagok  
vizsgáló-készletek és elsősegély felszerelések.

**Megjegyzés:** A következő anyagok és tárgyak, amelyeket az ENSZ Minta Szabályzat felsorol, nem esnek a RID előírásainak hatálya alá: UN 1845 szilárd széndioxid (szárazjég), UN 2071 ammónium-nitrát alapú műtrágya, UN 2216 stabilizált halliszt (halhulladék), UN 2807 mágnesezett anyag, UN 3166 belsőégésű motor vagy gyúlékony gáz üzemű jármű vagy gyúlékony folyadék

16) Lásd részletesen a géntechnológiával módosított szervezeteknek a környezetben történő szándékos kibocsátásáról és a 90/220/EGK Tanácsi Irányelv hatályaon kívül helyezéséről szóló 2001/18/EK Európai Parlamenti és Tanácsi Irányelv (az EK Hivatalos Lapja, L 106. szám, 2001.04.17., 8 – 14 o.) C részét, amely tartalmazza az Európai Közösség engedélyezési eljárásait. Magyarországon lásd az 1998. évi XXVII. tv-t a géntechnológiai tevékenységről, ill. a végrehajtására kiadott rendeleteket.



*üzemű jármű, UN 3171 akkumulátorral hajtott jármű vagy akkumulátorral hajtott készülék, UN 3334 légi forgalomban szabályozott folyadék, m.n.n., UN 3335 légi forgalomban szabályozott szilárd anyag, m.n.n. és UN 3363 veszélyes áru készülékben vagy veszélyes áru berendezésben.*

*Csomagolási csoporthoz való hozzárendelés*

**2.2.9.1.15** A 9 osztály anyagai és tárgyai a veszélyességük mértéke alapján a következő csomagolási csoportok valamelyikéhez vannak hozzárendelve, ha a 3.2 fejezet „A” táblázat (4) oszlopában ez fel van tüntetve:

II csomagolási csoport:            közepesen veszélyes anyagok  
III csomagolási csoport:        kevésbé veszélyes anyagok

**2.2.9.2** *A fuvarozásból kizárt anyagok és tárgyak*

A következő anyagok és tárgyak a fuvarozásból ki vannak zárva:

- azok a lítium akkumulátorok, amelyek nem felelnek meg a 3.3 fejezet 188, 230 vagy 636 különleges előírásának;
- azoknak a készülékeknek (pl. transzformátoroknak, kondenzátoroknak, hidraulikus berendezéseknek) az üres, tisztítatlan tartóedényei, amelyekben az UN 2315, 3151, 3152 vagy 3432 szám alá besorolt anyagok voltak.

**2.2.9.3 A gyűjtőmegnevezések felsorolása**

	Osztályozási kód	UN szám	Az anyag vagy tárgy megnevezése
Különbféle veszélyes anyagok és tárgyak			
Anyagok, amelyek finom poruk belélegzése esetén az egészséget veszélyeztetik	M1	2212 2212 2590	KÉK AZBESZT (krokidolit) vagy BARNÁ AZBESZT (amozit) FEHÉR AZBESZT (krizotil, aktinolit, antofillit, tremolit)
Anyagok és készülékek, amelyekből tűz esetén dioxinok képződhetnek	M2	2315 3151 3151 3152 3152 3432	FOLYÉKONY POLIKLÓROZOTT BIFENILEK FOLYÉKONY POLIHALOGÉNEZETT BIFENILEK vagy FOLYÉKONY POLIHALOGÉNEZETT TERFENILEK SZILÁRD POLIHALOGÉNEZETT BIFENILEK vagy SZILÁRD POLIHALOGÉNEZETT TERFENILEK SZILÁRD POLIKLÓROZOTT BIFENILEK
Gyúlékony gőzöket fejlesztő anyagok	M3	2211 3314	HABOSÍTHATÓ POLIMER GYÖNGYÖK, amelyek gyúlékony gőzöket fejlesztenek MŰANYAG SAJTOLÓANYAG gyúlékony gőzöket fejlesztő, massa, lemez vagy extrudált profil formában
Lítium akkumulátorok	M4	3090 3091 3091 3480 3481 3481	FÉMLÍTIUM AKKUMULÁTOROK (beleértve a lítiumötvözet akkumulátorokat is) FÉMLÍTIUM AKKUMULÁTOROK KÉSZÜLÉKBEN (beleértve a lítiumötvözet akkumulátorokat is) vagy FÉMLÍTIUM AKKUMULÁTOROK KÉSZÜLÉKKEL EGYBECSOMAGOLVA (beleértve a lítiumötvözet akkumulátorokat is) LÍTIUMION AKKUMULÁTOROK (beleértve a lítiumion polimer akkumulátorokat is) LÍTIUMION AKKUMULÁTOROK KÉSZÜLÉKBEN (beleértve a lítiumion polimer akkumulátorokat is) vagy LÍTIUMION AKKUMULÁTOROK KÉSZÜLÉKKEL EGYBECSOMAGOLVA (beleértve a lítiumion polimer akkumulátorokat is)
Biztonsági felszerelések	M5	2990 3072 3268 3268 3268	ÖNFELFÚVÓ MENTŐESZKÖZ NEM ÖNFELFÚVÓ MENTŐESZKÖZ, mely tartozékként veszélyes anyagokat tartalmaz LÉGZSÁK GÁZGENERÁTOR vagy LÉGZSÁK MODUL vagy BIZTONSÁGI ÖV ELŐFESZÍTŐ
Környezetre veszélyes anyagok	az élő vizeket szennyező folyékony anyagok	M6	3082 KÖRNYEZETRE VESZÉLYES, FOLYÉKONY ANYAG, M.N.N.
	az élő vizeket szennyező szilárd anyagok	M7	3077 KÖRNYEZETRE VESZÉLYES, SZILÁRD ANYAG, M.N.N.
	géntechológiával módosított mikroorganizmusok és élő szervezetek	M8	3245 GÉNTÉCHNOLÓGIÁVAL MÓDOSÍTOTT MIKROORGANIZMUSOK vagy 3245 GÉNTÉCHNOLÓGIÁVAL MÓDOSÍTOTT ÉLŐ SZERVEZETEK
	folyékony anyagok	M9	3257 MAGAS HŐMÉRSÉKLETŰ FOLYÉKONY ANYAG, M.N.N. 100 °C-on vagy magasabb hőmérsékleten, lobbanásponttal rendelkező anyagoknál lobbanáspontjuk alatti hőmérsékleten (beleértve az olvasztott fémeket, olvasztott sókat, stb.)
Magas hőmérsékletű anyagok	szilárd anyagok	M10	3258 MAGAS HŐMÉRSÉKLETŰ SZILÁRD ANYAG, M.N.N. 240 °C-on vagy magasabb hőmérsékleten

**2.2.9.3      A gyűjtőmegnevezések felsorolása (folyt.)**

	Osztályozási kód	UN szám	Az anyag vagy tárgy megnevezése
Egyéb anyagok és tárgyak, amelyek a szállítás alatt veszélyt jelentenek, de egyetlen más osztály meghatározásának sem felelnek meg	M11		Itt nincs gyűjtőmegnevezés. Ezzel az osztályozási kóddal csak a 3.2 fejezet „A” táblázatában felsorolt anyagok tartoznak a 9 osztály előírásainak hatálya alá, ezek a következők:  1841 ACETALDEHID-AMMÓNIA 1931 CINK-DITIONIT 1941 DIBRÓM-DIFLUOR-METÁN 1990 BENZALDEHID 2969 RICINUSMAG vagy 2969 RICINUSMAG LISZT vagy 2969 RICINUSMAG PEHELY vagy 2969 RICINUSMAG POGÁCSA 3316 VIZSGÁLÓKÉSZLET vagy 3316 ELSŐSEGÉLY FELSZERELÉS 3359 GÁZOSÍTÓSZER HATÁSA ALATT ÁLLÓ EGYSÉG

## 2.3 fejezet

### Vizsgálati eljárások

#### 2.3.0      Általános előírások

Hacsak a 2.2 fejezetben vagy ebben a fejezetben nincs másként előírva, a veszélyes áruk besorolásához azokat a vizsgálati módszereket kell használni, amelyek a „Vizsgálatok és kritériumok kézikönyv”-ben találhatók.

#### 2.3.1      Kiizzadási vizsgálat az A típusú robbantóanyagokhoz

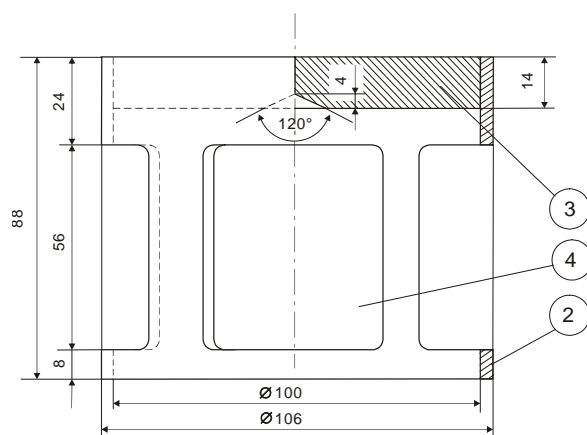
**2.3.1.1**      Az A típusú robbantóanyagokat (UN 0081), amennyiben folyékony salétromsav-észter tartalmuk a 40%-ot meghaladja, kiegészítésképpen a „Vizsgálatok és kritériumok kézikönyv”-ben meghatározott vizsgálatokon kívül a következő kiizzadási vizsgálatnak kell alávetni.

**2.3.1.2**      A robbantóanyagok kiizzadási vizsgálatának elvégzésére használt készülék (1 – 3. ábra) egy 40 mm magas, 15,7 mm belső átmérőjű üreges, talpas bronzhenger, amelynek talpa ugyanazon anyagból készült. A henger palástján 20 db 0,5 mm átmérőjű furat van (négy sorban öt-öt furat). Az 52 mm teljes hosszúságú, 48 mm hosszú, hengeres részű bronzdugattyú a függőleges helyzetű bronzhengerbe helyezhető; ez a 15,6 mm átmérőjű dugattyú 2220 g tömegű nehezékkal van terhelve úgy, hogy a henger fenekére 120 kPa (1,2 bar) nyomás hat.

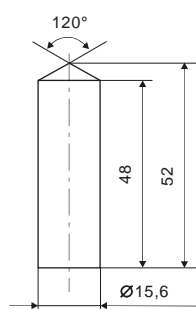
**2.3.1.3**      5...8 g robbantóanyagból 30 mm hosszú és 15 mm átmérőjű hengert kell készíteni, amelyet igen finom gézbe kell becsavarni és a hengerbe kell helyezni; ezután rá kell helyezni a dugattyút a teherrel oly módon, hogy a robbantóanyagra 120 kPa (1,2 bar) nyomás hasson. Mélni kell a hengeren levő furatokban az első olajos cseppecskék (nitroglicerín) megjelenéséig eltelt időt.

**2.3.1.4**      A robbantóanyag megfelelő, ha az első cseppek megjelenéséig több mint öt perc telik el, ha a vizsgálatot 15...25 °C hőmérsékleten végezték.

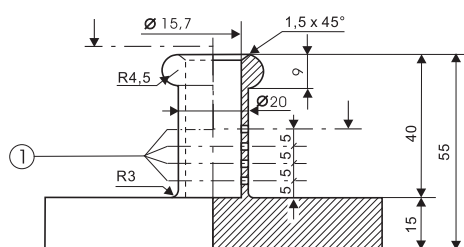
## Robbantóanyagok kiizzadási vizsgálata



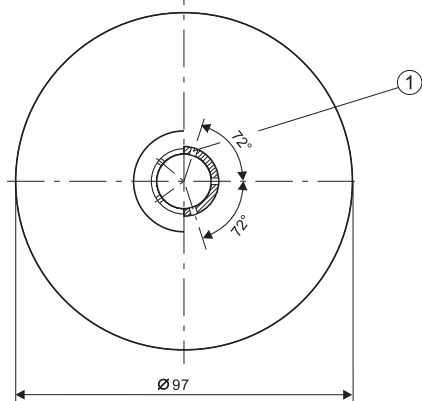
1. ábra: Harang alakú nehezék,  
tömege 2220 g, alkalmas a bronz dugattyúra  
történő ráhelyezésre



2. ábra: Hengeres bronzdugattyú,  
méretek mm-ben



3. ábra: Talpas bronzhenger, egyik végén zárt:  
felülnézet és oldalnézet metszettel,  
méretek mm-ben



Jelölések az 1 – 3. ábrához:

- 1) négy sorban öt-öt furat, átmérő 0,5 mm
- 2) réz
- 3) ólomlemez, belül centrikus kúppal
- 4) négy, kb. 46 mm x 56 mm méretű nyílás a kerület mentén egyforma távolságokra.

**2.3.2 A 4.1 osztály nitrocellulóz keverékeire vonatkozó feltételek**

**2.3.2.1** A nitrocellulóz 132 °C-on történő félórás melegítése során nem szabad hogy szemmel látható sárgásbarna nitrózus gázokat fejlesszen. A gyulladási hőmérsékletnek meg kell haladnia a 180 °C-ot. Lásd a következő 2.3.2.3 – 2.3.2.8, 2.3.2.9 a) és 2.3.2.10 bekezdést.

**2.3.2.2** 3 g plasztifikált nitrocellulóz 132 °C-on való egyórás melegítése során nem szabad hogy szemmel látható sárgásbarna nitrózus gőzöket fejlesszen. A gyulladási hőmérsékletnek meg kell haladni a 170 °C-ot. Lásd a következő 2.3.2.3 – 2.3.2.8, 2.3.2.9 b) és 2.3.2.10 bekezdést.

**2.3.2.3** Ha az egyes anyagok vasúti fuvarozásának megengedett voltára nézve véleménykülönbség merül fel, a következőkben részletezett vizsgálatokat kell elvégezni.

**2.3.2.4** Amennyiben a kémiai állandóság vizsgálatára ebben a fejezetben nem szereplő, más vizsgálati módszert vagy eljárást alkalmaznak, ezeknek a módszereknek ugyanazt az eredményt kell adniuk, mintha a vizsgálatokat a következő módszerekkel végezték volna.

**2.3.2.5** A hőállóság következőkben leírt meghatározása során a vizsgálandó anyagot tartalmazó szárítószekrény hőmérséklete az előírttól 2 °C-nál nagyobb mértékben nem térhet el; a vizsgálati időtartamot a 30 vagy 60 perces vizsgálatoknál legfeljebb kétperces eltéréssel be kell tartani. A szárítószekrényt úgy kell kialakítani, hogy a vizsgálatához előírt hőmérsékletet a minta behelyezése után legkésőbb öt perc múlva elérje.

**2.3.2.6** A 2.3.2.9 és 2.3.2.10 bekezdés szerinti vizsgálatok előtt a mintákat legalább 15 órán át kell szárítani szobahőmérsékleten, kiizzított és granulált kalcium-kloriddal töltött vákuum-exszikkátorban. Ennek során a mintát vékony rétegben kell elteríteni, ezért a nem porszerű vagy nem szálas mintát apró darabokra kell vágdalni, le kell reszelni vagy össze kell törni. Az exszikkátorban a nyomásnak 6,5 kPa-nál (0,065 bar-nál) kisebbnek kell lennie.

**2.3.2.7** Az előző 2.3.2.6 bekezdésben leírt feltételek melletti szárítás előtt a 2.3.2.2 bekezdés szerinti anyagokat jól szellőztetett szárítószekrényben előszárításnak kell alávetni 70 °C állandó hőmérsékleten mindaddig, amíg a 15 percen belül mért tömegcsökkenés nem haladja meg az eredeti tömeg 0,3%-át.

**2.3.2.8** A 2.3.2.1 bekezdés szerinti gyengén nitrált nitrocellulózt előzetesen az előző 2.3.2.7 bekezdés szerinti feltételek mellett előszárításnak kell alávetni, ezután azt legalább 15 órán át exszikkátorban koncentrált kénsav fölött kell tartani.

**2.3.2.9 Kémiai állandóság vizsgálata hőhatásra**

a) Az előző 2.3.2.1 bekezdésben felsorolt anyagok vizsgálata:

i) Két kémcső mindegyikébe, amelyeknek

hosszúsága 350 mm,

belső átmérője 16 mm,

falvastagsága 1,5 mm,

kalcium-klorid fölött szárított 1 g anyagot kell tenni (szükség esetén az anyagot szárítás céljából 0,05 g-nyi darabkákra kell aprítani).

A két kémcsövet teljesen, de nem szorosan be kell fedni, ezután úgy kell az elektromos kemencébe helyezni, hogy azok legalább hosszúságuk 4/5 részében láthatók legyenek, és 30 percen át 132 °C állandó hőmérsékletnek legyenek kitéve. Meg kell figyelni, hogy ezen idő alatt képződnek-e sárgásbarna nitrózus gázok, amelyek különösen jól láthatók fehér háttér előtt.

ii) Az anyagot kémiailag állandónak kell tekinteni, ha ilyen gázok nem jelennek meg.

- b) A plasztifikált nitrocellulóz vizsgálata (lásd a 2.3.2.2 bekezdést):
- 3 g plasztifikált nitrocellulózt az a) pontban leírtakhoz hasonló kémcsövekbe teszünk, amelyeket azután 132 °C állandó hőmérsékletű szárítószekrénybe helyezünk.
  - A plasztifikált nitrocellulózt tartalmazó kémcsöveket egy órán át kell a szárítószekrényben tartani. Ezen idő alatt nem szabad, hogy sárgásbarna nitrózus gőzök váljanak láthatóvá. A megfigyelés és értékelés az a) pontban leírtakhoz hasonló.

**2.3.2.10 A gyulladási hőmérséklet vizsgálata (lásd a 2.3.2.1 és a 2.3.2.2 bekezdést)**

- a) A gyulladási hőmérséklet meghatározásához 0,2 g anyagot tartalmazó kémcsövet Wood-fém fürdőbe merítve kell hevíteni. A kémcsövet azután kell a fürdőbe meríteni, miután a fürdő elérte a 100 °C hőmérsékletet, a hőmérsékletet ezután percenként 5 °C-kal kell növelni.
- b) A kémcsöveknek a következő méretűeknek kell lenniük:
- |              |         |
|--------------|---------|
| hosszúság    | 125 mm, |
| belső átmérő | 15 mm,  |
| falvastagság | 0,5 mm. |
- A kémcsöveket 20 mm mélyen kell a fürdőbe meríteni.
- c) A háromszor megismételt kísérlet során minden egyes alkalommal meg kell állapítani, hogy az anyag meggyulladása milyen hőmérsékleten következik be, illetve, hogy lassú vagy gyors égéssel, fellobbanással vagy robbanással.
- d) A három kísérlet során kapott legkisebb hőmérséklet az anyag gyulladási hőmérséklete.

**2.3.3 A 3, a 6.1 és a 8 osztályba tartozó gyúlékony folyékony anyagok vizsgálata**

**2.3.3.1 Vizsgálat a lobbanáspont meghatározásához**

**2.3.3.1.1 A lobbanáspontot a következő típusú készülékek valamelyikével kell meghatározni:**

- Abel;
- Abel-Pensky;
- Tag;
- Pensky-Martens;
- az ISO 3679:1983 vagy az ISO 3680:1983 szabvány szerinti készülék.

**2.3.3.1.2 A festékek, ragasztók és hasonló, oldószer tartalmú viszkózus termékek lobbanáspontjának meghatározására csak viszkózus folyadékok lobbanáspontjának meghatározására alkalmas készülékek és vizsgálati módszerek használhatók, tekintettel a következő szabványokra:**

- az ISO 3679:1983 nemzetközi szabvány;
- az ISO 3680:1983 nemzetközi szabvány;
- az ISO 1523:1983 nemzetközi szabvány;
- a DIN 53213:1978 I. rész német szabvány.

- 2.3.3.1.3** A vizsgálatot vagy egyensúlyi módszerrel vagy nem-egyensúlyi módszerrel lehet végrehajtani.
- 2.3.3.1.4** Az egyensúlyi módszer szerinti eljárásokra lásd:
- a) az ISO 1516:1981 nemzetközi szabványt;
  - b) az ISO 3680:1983 nemzetközi szabványt;
  - c) az ISO 1523:1983 nemzetközi szabványt;
  - d) az ISO 3679:1983 nemzetközi szabványt.
- 2.3.3.1.5** A nem-egyensúlyi módszer szerinti eljárások a következők:
- a) az Abel féle készülék esetén:
    - i) a BS 2000:1995 170. rész brit szabvány;
    - ii) az NF MO7-011:1988 francia szabvány;
    - iii) az NF T66-009:1969 francia szabvány;
  - b) az Abel-Pensky féle készülék esetén:
    - i) a DIN 51755:1974, 1. rész német szabvány (5 °C-tól 65 °C hőmérsékletig);
    - ii) a DIN 51755:1978, 2. rész német szabvány (5 °C alatti hőmérsékleteknél);
    - iii) az NF MO7-036:1984 francia szabvány;
  - c) a Tag készülék esetén: az ASTM D 56:1993 amerikai szabvány;
  - d) a Pensky-Martens készülék esetén:
    - i) az ISO 2719:1988 nemzetközi szabvány;
    - ii) az EN 22719:1994 európai szabvány annak mindenkori nemzeti kiadása formájában (pl. BS 2000, 404 rész / EN 22719);
    - iii) az ASTM D 93:1994 amerikai szabvány;
    - iv) az IP 34:1988 Institute of Petroleum szabvány.
- 2.3.3.1.6** A 2.3.3.1.4 és a 2.3.3.1.5 pontban felsorolt vizsgálati módszereket csak az egyes módszereknél felsorolt lobbanáspont tartományban lehet használni. A használandó módszer kiválasztásánál figyelembe kell venni az anyag és a mintatartó közötti kémiai reakció lehetőségét. A készüléket a biztonsági előírások betartása mellett huzatmentes helyen kell felállítani. Biztonság okáért ajánlatos a szerves peroxidok és az önreaktív anyagok esetén (amelyek „energetikai” anyagoknak minősülnek), valamint a mérgező anyagok esetén olyan módszert választani, amelyhez csekély mintamennyiség – kb. 2 ml – szükséges.
- 2.3.3.1.7** Ha a 2.3.3.1.5 pont szerinti nem-egyensúlyi módszerrel meghatározott lobbanáspont 23 °C ± 2 °C vagy 60 °C ± 2 °C, az eredményt ugyanazon készüléket használva a 2.3.3.1.4 pont szerinti egyensúlyi módszerrel meg kell erősíteni.
- 2.3.3.1.8** A gyúlékony folyadék besorolásakor felmerülő vita esetén a feladó által javasolt besorolást kell elfogadni, ha az illető folyadék lobbanáspontjának ellenőrző vizsgálata során az eredmény nem tér el 2 °C-nál nagyobb mértékben a 2.2.3.1 bekezdésben megadott értéktartároktól (23 °C, illetve 60 °C). Ha 2 °C-nál nagyobb az eltérés, még egy ellenőrző vizsgálatot kell végezni, és az ellenőrző vizsgálatok során kapott legkisebb értéket kell figyelembe venni.



### 2.3.3.2 *Vizsgálat a peroxid-tartalom meghatározására*

Valamely folyadék peroxid-tartalmát a következő vizsgálati eljárással kell megállapítani:

A titrálendő folyadékból  $p$  mennyiséget (kb. 5 g-nyit 0,01 g pontossággal mérve) bele kell önteni egy Erlenmeyer-lombikba, ehhez hozzá kell adni 20 cm<sup>3</sup> ecetsav-anhidridet, és kb. 1 g-nyi porrá tört szilárd kálium-jodidot, ezt összerázva tíz perc eltelte után három perc alatt kb. 60 °C-ra kell hevíteni. Miután öt percen át hűlni hagyták, 25 cm<sup>3</sup> vizet kell hozzáadni. Félórai állás után a szabaddá vált jódot indikátor hozzáadása nélkül 0,1 normál nátrium-tioszulfát oldattal kell titrálni. A teljes elszíntelenedés jelzi a reakció végét. A tioszulfát oldatból szükséges térfogatot  $n$ -nel jelölve (cm<sup>3</sup>-ben), a folyadék peroxid-tartalma (H<sub>2</sub>O<sub>2</sub>-re vetítve) a  $\frac{17n}{100p}$  képletből adódik.

### 2.3.4 *Vizsgálat a folyékonyág meghatározásához*

A folyékony vagy viszkózus anyagok és keverékek, valamint a pasztaszerű anyagok folyékonyágának meghatározására a következő módszert kell alkalmazni:

#### 2.3.4.1 *Vizsgálókészülék*

Kereskedelmi forgalomban kapható, ISO 2137:1985 szabvány szerinti penetrométer 47,5 ± 0,05 g-os vezetőrúddal; kúpos furatokkal ellátott 102,5 ± 0,05 g tömegű duralumíniumból készült szitatárcsával (lásd a 4. ábrát); és a minta befogadására alkalmas, 72...80 mm belső átmérőjű penetrációs tartállyal.

#### 2.3.4.2 *Vizsgálati eljárás*

A mintát legkésőbb fél órával a mérés előtt a penetrációs tartályba öntjük. A tartályt a légmentes lezárás után a mérésig mozdulatlan állapotban kell tartani. A mintát a légmentesen lezárt penetrációs tartályban 35 °C ± 0,5 °C hőmérsékletre felmelegítjük és a penetrométer asztalára helyezzük közvetlenül a mérés előtt (legfeljebb 2 perccel előbb). Ezt követően a szitatárcsa S csúcsát a folyadék felületére helyezzük, és mérjük a behatolás mélységét az idő függvényében.

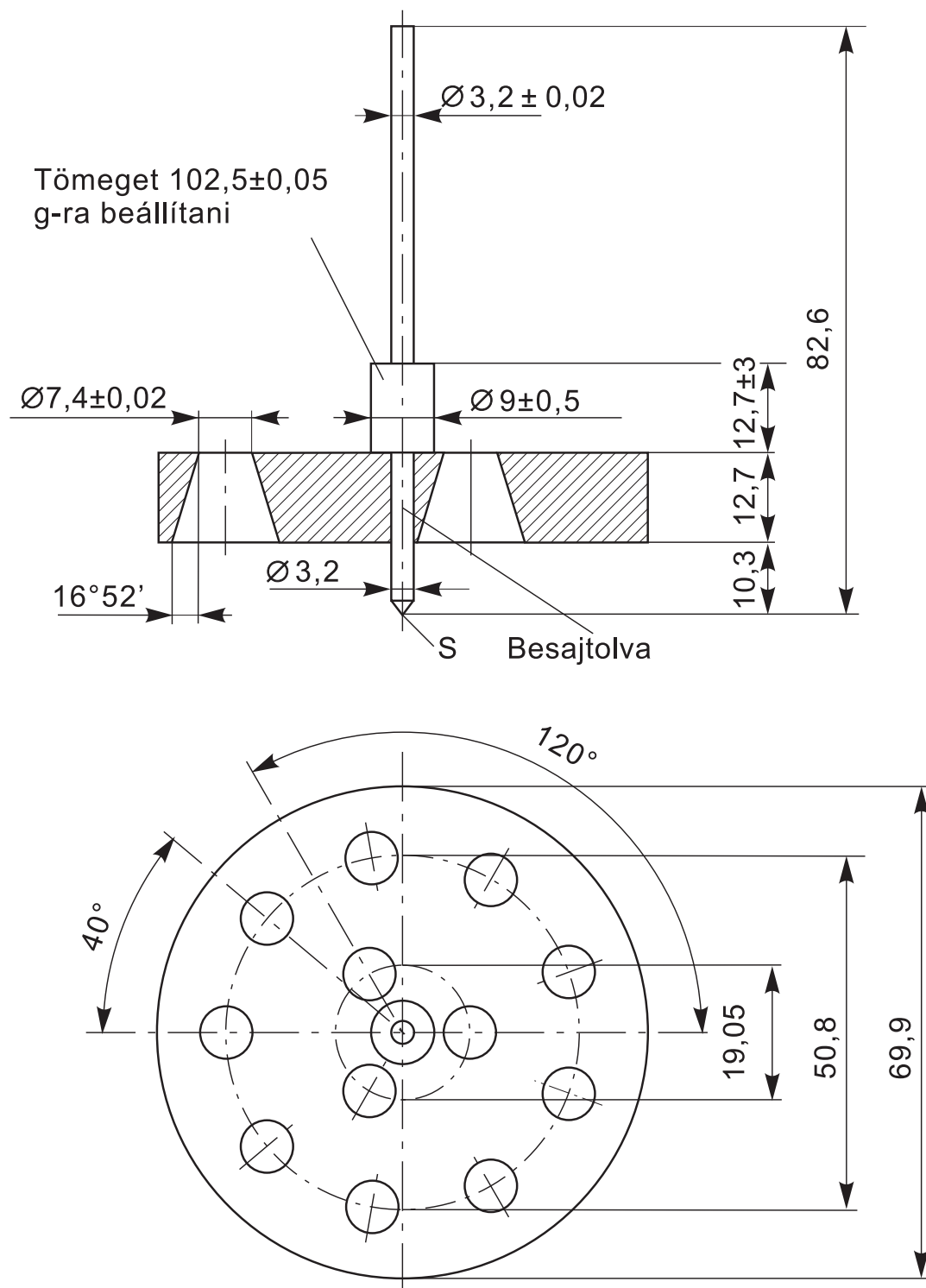
#### 2.3.4.3 *Az eredmények értékelése*

Az anyag pasztaszerű, ha az S csúcsot a minta felületére helyezve a mérőórán leolvasott behatolás

- a) 5 ± 0,1 s terhelési idő elteltével 15,0 ± 0,3 mm-nél kisebb, vagy
- b) 5 ± 0,1 s terhelési idő elteltével 15,0 ± 0,3 mm-nél nagyobb, de újabb 55 ± 0,5 s idő elteltével a további penetráció 5 ± 0,5 mm-nél kisebb.

**Megjegyzés:** Olyan minta esetében, amelynek folyáspontja van, gyakran nem lehet a penetrációs tartályban állandó szintű felületet létrehozni és ennek következtében nem lehet világosan megállapítani a mérés kezdeti feltételeit az S csúccsal való érintkezésbe hozatalkor. Ezenfelül bizonyos minták esetében a szitatárcsa ráhelyezése a felület rugalmas alakváltozását válthatja ki, ezáltal az első másodpercekben mélyebb behatolás látszatát kelti. Ezekben az esetekben alkalmas lehet az eredmények értékelését az előző b) pont szerint végezni.

4. ábra: Penetrométer

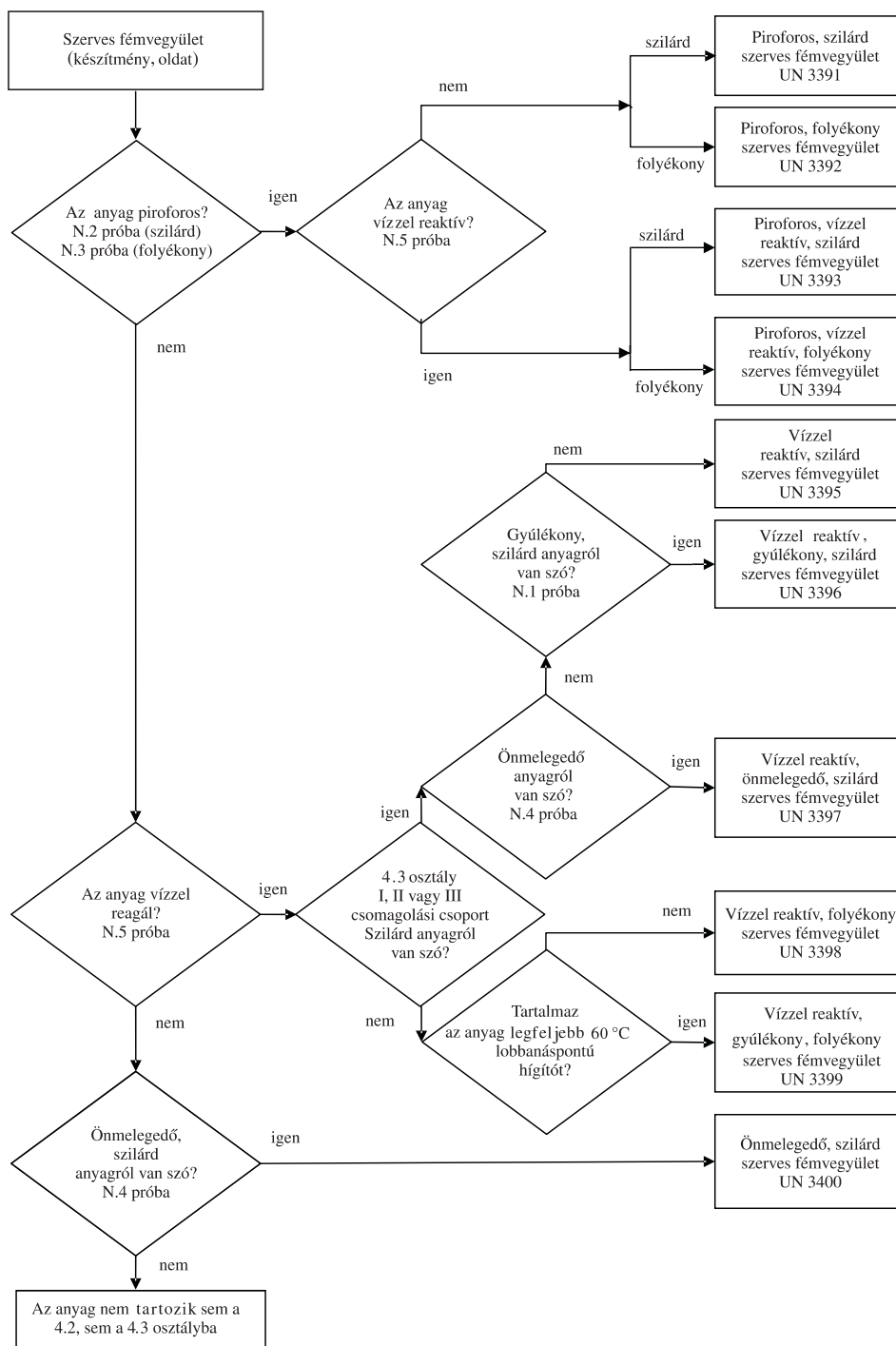


A tűrés nélkül megadott méretek tűrése:  $\pm 0,1$  mm

**2.3.5 A szerves fémvegyületek besorolása a 4.2 és a 4.3 osztályba**

A szerves fémvegyületek a „Vizsgálatok és kritériumok kézikönyv”, III. rész, 33 fejezet N.1 - N.5 vizsgálattal meghatározott tulajdonságaiktól függően a 2.3.5 folyamatábra alapján a 4.2, ill. a 4.3 osztályba sorolhatók.

- Megjegyzés:**
- 1. A járulékos veszélyekkel rendelkező szerves fémvegyületeket tulajdonságaiktól függően a veszélyességi rangsor táblázat (lásd a 2.1.3.10 bekezdést) figyelembe vételével adott esetben esetleg más osztályba kell besorolni.*
  - 2. A szerves fémvegyületeket olyan koncentrációban tartalmazó gyúlékony oldatok, amelyek vízzel érintkezve sem gyúlékony gázokat nem fejlesztenek veszélyes mennyiségben, sem öngyulladásra nem hajlamosak, a 3 osztály anyagai.*

2.3.5 ábra: Folyamatábra a szerves fémvegyületek besorolására a 4.2 és a 4.3 osztályba<sup>a, b)</sup>

a) Ha alkalmazható és a vizsgálat – figyelembe véve az anyag reakcióját – célszerűen végrehajtható, akkor a 6.1, ill. a 8 osztály szerinti tulajdonságokat a 2.1.3.10 bekezdés veszélyességi rangsor táblázata szerint kell számításba venni.

b) Az N.1 - N.5 vizsgálati módszer leírását a „Vizsgálatok és kritériumok kézikönyv”, III. rész, 33. fejezet tartalmazza.

**3. rész**

**A veszélyes áruk felsorolása, különleges előírások és  
a korlátozott és az engedményes mennyiségben  
csomagolt veszélyes árukra vonatkozó mentességek**

### 3.1 fejezet

#### Általános előírások

##### 3.1.1 Bevezetés

Az e rész táblázataiban található vagy hivatkozott előírásokon kívül minden rész, fejezet és / vagy szakasz általános követelményeit is be kell tartani. A táblázatok ezeket az általános követelményeket nem tartalmazzák. Ha egy általános követelmény valamely különleges előírásnak ellentmond, a különleges előírás a mértékadó.

##### 3.1.2 Helyes szállítási megnevezés

*Megjegyzés: Minták szállításánál a helyes szállítási megnevezésre lásd a 2.1.4.1 bekezdést.*

**3.1.2.1** A helyes szállítási megnevezés a 3.2 fejezet „A” táblázatában szereplő, az árut legpontosabban leíró tétel azon része, amely nagybetűvel van szedve (és minden szám, görög betű, „sec”, „terc”, „m”, „n”, „o”, „p” betűk, amelyek a megnevezés szerves részét képezik). A helyes szállítási megnevezés után zárójelben egy másik helyes szállítási megnevezés is lehet [pl. ETANOL (ETIL-ALKOHOL)]. A tétel kisbetűvel szedett része nem tekintendő a helyes szállítási megnevezés részének.

**3.1.2.2** Amennyiben az „és” vagy a „vagy” kötőszavak kisbetűvel vannak írva, vagy ha az egyes megnevezések vesszővel vannak elválasztva, a tétel teljes helyes szállítási megnevezését nem szükséges feltüntetni a fuvarokmányban vagy a küldeménydarab feliratozásánál. Ez különösen akkor áll fenn, ha egyetlen UN szám alatt több különböző tétel kombinációja van felsorolva. Az alábbi példák mutatják az ilyen tételeknél a helyes szállítási megnevezés kiválasztását:

a) UN 1057 ÖNGYÚJTÓK vagy ÖNGYÚJTÓ UTÁNTÖLTŐK

A helyes szállítási megnevezés a következő lehetséges kombinációk közül a legalkalmasabb:

ÖNGYÚJTÓK  
ÖNGYÚJTÓ UTÁNTÖLTŐK;

b) UN 2793 VASTARTALMÚ FORGÁCS FÚRÁSBÓL, KÖSZÖRÜLÉSBŐL, ESZTERGÁLÁSBÓL vagy DARABOLÁSBÓL önmelegedésre hajlamos formában.

A helyes szállítási megnevezés a következő kombinációk közül a legalkalmasabb:

VASTARTALMÚ FORGÁCS FÚRÁSBÓL  
VASTARTALMÚ FORGÁCS KÖSZÖRÜLÉSBŐL  
VASTARTALMÚ FORGÁCS ESZTERGÁLÁSBÓL  
VASTARTALMÚ FORGÁCS DARABOLÁSBÓL.

**3.1.2.3** A helyes szállítási megnevezés lehet egyes számban vagy többes számban, ahogy megfelelő. Ezenkívül amennyiben a helyes szállítási megnevezésben jelzős szerkezet van, a fuvarokmányban és a küldeménydarabok feliratán a szórend – értelemszerűen – megváltoztatható. Például: a „dimetil-amin vizes oldata” helyett „vizes dimetil-amin oldat” is írható. Az 1 osztály áruinál a helyes szállítási megnevezést magában foglaló, további leírással kiegészített kereskedelmi vagy katonai nevek is használhatók.

**3.1.2.4** Számos anyagra külön tétel van folyékony és szilárd állapotban (a folyékony és a szilárd meghatározását lásd az 1.2.1 szakaszban), ill. szilárd állapotban és oldat formájában. Ezek

eltérő UN számok alá tartoznak, amelyek nem feltétlenül egymás után következnek<sup>1)</sup>.

**3.1.2.5** Ha az 1.2.1 szakasz meghatározása szerint szilárd anyagot olvasztott állapotban adnak fel szállításra, akkor a helyes szállítási megnevezést ki kell egészíteni az „OLVASZTOTT” jelzővel, kivéve, ha ez a 3.2 fejezet „A” táblázatában levő megnevezésben nagybetűvel szedve szerepel (pl. OLVASZTOTT, SZILÁRD ALKIL-FENOL, M.N.N.).

**3.1.2.6** Ha a 2.2.x.2 bekezdések szerint egy anyag stabilizálás nélkül a szállításból ki lenne zárva, mivel normális szállítási feltételek mellett veszélyes reakcióra hajlamos, a helyes szállítási megnevezést ki kell egészíteni a „STABILIZÁLT” kifejezéssel (pl.: „SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N., STABILIZÁLT”), kivéve az önreaktív anyagokat, a szerves peroxidokat és azokat az anyagokat, amelyeknél a 3.2 fejezet „A” táblázat 2 oszlopában lévő megnevezésben a „STABILIZÁLT” szó nagybetűvel szedve szerepel.

Ha az ilyen anyagokat hőmérséklet-szabályozással stabilizálják, hogy mindenféle veszélyes túlnyomás kialakulását megakadályozzák, akkor:

- a) folyadékok esetében: a hőmérséklet-szabályozást igénylő anyagok<sup>2)</sup> a vasúti fuvarozásból ki vannak zárva;
- b) gázok esetében: a szállítási feltételeket az illetékes hatóságnak kell jóváhagynia.

**3.1.2.7** A hidrátok a vízmentes anyagra vonatkozó helyes szállítási megnevezés alatt szállíthatók.

**3.1.2.8** *Generikus vagy „másként meg nem nevezett” (m.n.n.) tételek*

**3.1.2.8.1** Azokat az „m.n.n.” vagy „generikus” helyes szállítási megnevezéseket, amelyekhez a 3.2 fejezet „A” táblázat 6 oszlopában a 274 különleges előírás van hozzárendelve, ki kell egészíteni az áru műszaki megnevezésével, kivéve, ha az áru ellenőrzött termék, aminek közzétételét belföldi jogszabály vagy nemzetközi egyezmény tiltja. Az 1 osztály robbanó-anyagai esetében a veszélyes áru megnevezése kiegészíthető további leírással, kereskedelmi vagy katonai névvel. A műszaki megnevezést közvetlenül a helyes szállítási megnevezés után, zárójelben kell feltüntetni. Ezekon kívül a megnevezéshez megfelelő kiegészítő leírás is fűzhető, mint pl. a „tartalmaz”, „tartalmazó”, „keverék”, „oldat” stb. szavak, ill. a technikai alkotórész százalékos aránya is megadható. Például „UN 1993 Gyúlékony folyékony anyag, m.n.n. (xilolt és benzolt tartalmaz), 3, II”.

**3.1.2.8.1.1** A műszaki megnevezés lehet elfogadott kémiai – adott esetben biológiai – megnevezés, vagy a tudományos és műszaki kézikönyvekben, folyóiratokban és egyéb szakirodalomban jelenleg használt, egyéb megnevezés. Kereskedelmi nevek erre a célra nem használhatók. Peszticidek esetén az ISO által elfogadott megnevezés vagy „A WHO ajánlása a peszticidek veszély szerinti osztályozására és az osztályozás irányelvei” („The WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification”) c. kiadványban felsorolt nevek, illetve a hatóanyagok neve használható.

**3.1.2.8.1.2** Ha egy veszélyes anyago(ka)t tartalmazó keverék olyan „m.n.n.” vagy „generikus” tételhez tartozik, amelynél a 3.2 fejezet „A” táblázat 6 oszlopában a 274 különleges előírás található, nem szükséges két olyan alkotórészről többet megnevezni, amely a keverék veszélyessége tekintetében mérvadó. Ha az áru ellenőrzött termék, aminek közzétételét belföldi jogszabály vagy nemzetközi egyezmény tiltja, nem kell az alkotórészeket megnevezni. Ha a keveréket

1) A részleteket a betűrendes felsorolás tartalmazza (3.2 fejezet „B” táblázat), pl.  
NITRO-XILOLOK, FOLYÉKONY 6.1 1665  
NITRO-XILOLOK, SZILÁRD 6.1 3447

2) Ez a meghatározás kiterjed minden olyan anyagra (beleértve a kémiai inhibitorokkal stabilizált anyagokat is), amelyek öngyorsuló bomlási hőmérséklete (ÖBH-ja) a szállításhoz használt csomagolásban legfeljebb 50 °C.

tartalmazó küldeménydarabon járulékos veszélyre utaló bárca van, a zárójelben levő két műszaki megnevezés egyikével azt az alkotórészt kell megnevezni, amelyik miatt a járulékos veszélyre utaló bárca szükséges.

*Megjegyzés: Lásd az 5.4.1.2.2 pontot.*

- 3.1.2.8.1.3** Az áru műszaki megnevezéssel kiegészített helyes szállítási megnevezésének megválasztását az ilyen tételeknél a következő példák mutatják:

UN 3394 PIROFOROS, VÍZZEL REAKTÍV, FOLYÉKONY, SZERVES FÉMVEGYÜLET  
(trimetil-gallium)

UN 2902 FOLYÉKONY, MÉRGEZŐ PESZTICID, M.N.N. (drazoxolon).

- 3.1.2.9** *Egyetlen veszélyes anyagot tartalmazó keverékek és oldatok*

Ha egy oldatot vagy keveréket a 2.1.3.3 bekezdés osztályozási követelményei szerint ugyanúgy kell tekinteni, mint a név szerint felsorolt veszélyes anyagot, akkor a helyes szállítási megnevezést ki kell egészíteni az „OLDAT” vagy „KEVERÉK” jelzővel, pl. „ACETON OLDAT”. Ezen kívül az oldat vagy a keverék koncentrációja ugyancsak feltüntethető, pl. „75%-os ACETON OLDAT”.



## 3.2 fejezet

### A veszélyes áruk felsorolása

#### 3.2.1

#### Az „A” táblázat (A veszélyes áruk UN szám szerinti felsorolása) magyarázata

Az „A” táblázat egy-egy sora általában valamely konkrét UN szám alá tartozó összes anyagra vagy tárgyra vonatkozik. Ha azonban ugyanazon UN szám alá tartozó anyagok vagy tárgyak eltérő kémiai, fizikai tulajdonságokkal és/vagy szállítási feltételekkel rendelkeznek, az adott UN számra több, egymás utáni sor is vonatkozhat.

Az „A” táblázat oszlopai egy-egy meghatározott tárgykörre vonatkoznak, amint az a következő magyarázatban szerepel. Az oszlopok és sorok metszéspontja (rovat) tartalmazza az adott oszlopban szereplő tárgykört illetően az adott sor anyagára (anyagaira) vagy tárgyára (tárgyaira) vonatkozó információt:

- az első négy oszlop azonosítja az adott sorba tartozó anyago(ka)t vagy tárgya(ka)t (ebben a vonatkozásban kiegészítő információt adhatnak a 6 oszlopban található különleges előírások);
- a következő oszlopok a különleges előírásokat adják meg vagy szöveges, vagy kódolt formában. A kódok az itt következő magyarázatban feltüntetett részben, fejezetben, szakaszban és/vagy bekezdésben található részletes információra utalnak. Ha egy rovat üres, az azt jelenti, hogy vagy nincs különleges előírás és így csak az általános követelményeket kell alkalmazni, vagy a magyarázatban szereplő szállítási korlátozások érvényesek.

A rovatokban nincs utalás az általános követelményekre. Azt, hogy az általános követelmények melyik részben, fejezetben, szakaszban és/vagy bekezdésben találhatók, minden egyes oszlopra a következő magyarázat mutatja.

Magyarázó megjegyzések az egyes oszlopokhoz:

#### 1 oszlop

#### „UN szám”

Itt vannak feltüntetve:

- az egyedi UN számok, amelyek konkrétan egy-egy veszélyes anyaghoz vagy tárgyhöz vannak hozzárendelve, illetve
- a „generikus” vagy „m.n.n.” tételek UN száma, amelyhez a név szerint nem említett veszélyes anyagokat vagy tárgyakat a 2. rész osztályozási kritériumai (a „döntési fák”) szerint hozzá kell rendelni.

#### 2 oszlop

#### „Megnevezés és leírás”

Itt van feltüntetve – nagy betűvel szedve – az egyedi UN számmal rendelkező anyagok vagy tárgyak megnevezése, illetve a „generikus” vagy „m.n.n.” tételek megnevezése, amelyhez az anyagok vagy tárgyak a 2. rész osztályozási kritériumai (a „döntési fák”) szerint hozzá vannak rendelve. Ezt a megnevezést kell helyes szállítási megnevezésként, illetve annak részeként használni (a helyes szállítási megnevezésre vonatkozó további részletekre lásd a 3.1.2 szakaszt).

Ha egy anyag vagy tárgy besorolása és/vagy szállítási feltételei bizonyos körülmények között eltérőek lehetnek, a tétel értelmezéséhez a helyes szállítási megnevezés mellett – kisbetűvel szedve – további leírás is szerepel.

<b>3a oszlop</b>	<b>„Osztály”</b> Itt van feltüntetve az osztály, amelynek fogalomkörébe a veszélyes anyag vagy tárgy tartozik. Az osztály számának hozzárendelése a 2. rész eljárásai és kritériumai szerint történik.
<b>3b oszlop</b>	<b>„Osztályozási kód”</b> Itt van feltüntetve a veszélyes anyag vagy tárgy osztályozási kódja.  Az 1 osztály anyagai és tárgyai esetében a kód a 2.2.1.1.4 pont szerinti eljárások és kritériumok alapján hozzárendelt alosztály számából és összeférhetőségi csoport betűjéből áll.  A 2 osztály anyagai és tárgyai esetében a kód egy számból és a veszélyes tulajdonság szerinti csoport betűjéből (betűiből) áll, amelyek magyarázata a 2.2.2.1.2 és a 2.2.2.1.3 pontban található.  A 3, 4.1, 4.2, 4.3, 5.1, 5.2, 6.1, 6.2, 8 és 9 osztály anyagai és tárgyai esetében a kódok magyarázata a 2.2.x.1.2 pontban <sup>3)</sup> található.  A 7 osztály anyagai és tárgyai esetében nincs osztályozási kód.
<b>4 oszlop</b>	<b>„Csomagolási csoport”</b> Itt van feltüntetve az anyaghoz rendelt csomagolási csoport száma (I, II vagy III). A csomagolási csoportok a 2. rész szerinti eljárások és kritériumok alapján vannak hozzárendelve. Bizonyos anyagok és tárgyak nincsenek csomagolási csoporthoz rendelve.
<b>5 oszlop</b>	<b>„Bárcák”</b> Itt van feltüntetve azoknak a bárcáknak, nagybárcáknak a száma (lásd az 5.2.2.2 és az 5.3.1.7 bekezdést), amelyeket a küldeménydarabokon, konténereken, tankkonténereken, mobil tartányokon, MEG-konténereken, tartálykocsikon, leszerelhető tartányos kocsikon, battériás kocsikon és teherkocsikon kell elhelyezni.  A meghatározott anyagoknál zárójelben megadott 13 és 15 számú tolatási bárcát (lásd az 5.3.4 szakaszt) csak a következő esetekben kell elhelyezni: <ul style="list-style-type: none"><li>– 1 osztály esetén: azoknak a kocsiknak mindkét oldalára, amelyekben ezen osztály anyagát kocsirakományként fuvarozzák;</li><li>– 2 osztály esetén: a tartálykocsik, leszerelhető tartányos kocsik és battériás kocsik, valamint tankkonténereket, MEG-konténereket vagy mobil tartányokat fuvarozó kocsik mindkét oldalára.</li></ul> Azonban: <ul style="list-style-type: none"><li>– a 7 osztály anyagai és tárgyai esetében a 7X a kategóriának megfelelően a 7A, 7B vagy 7C számú bárcát (lásd az 5.1.5.3.4 és az 5.2.2.1.11.1 pontot), vagy a 7D számú nagybárcát (lásd az 5.3.1.1.3 és az 5.3.1.7.2 pontot) jelenti.</li></ul> A bárcákra, nagybárcákra vonatkozó általános előírásokat (azaz a bárcák darabszámát, elhelyezésüket) küldeménydarabok és kiskonténerek esetén az 5.2.2.1 bekezdés, nagykonténerek, tankkonténerek, mobil tartányok, MEG-konténerek, tartálykocsik, leszerelhető tartányos kocsik, battériás kocsik és teherkocsik esetében az 5.3.1 szakasz tartalmazza.

3) Ahol x = a veszélyes anyag vagy tárgy osztályának száma, a kétszámjegyű osztályoknál „pont” nélkül.

**Megjegyzés:** A 6 oszlopban található különleges előírások módosíthatják az előző bárcázási előírásokat.

**6 oszlop****„Különleges előírások”**

Itt van feltüntetve a betartandó különleges előírás(ok) száma. Ezek az előírások széles tárgykört fognak át, főleg az 1 – 5 oszlop tartalmához kapcsolódnak (pl. szállítási tilalmak, felmentések a követelmények alól, magyarázatok a veszélyes áruk bizonyos formáinak besorolásához és kiegészítő bárcázási vagy jelölési előírások) és a 3.3 fejezetben szám szerint vannak felsorolva. Ha a 6 oszlop üres, a szóban forgó veszélyes áru esetében az 1 – 5 oszlop tartalmára nem vonatkozik különleges előírás.

**7a oszlop****„Korlátozott mennyiség”**

Itt egy betűkből és számokból álló kód van feltüntetve, amelynek jelentése a következő:

- az „LQ0” azt jelenti, hogy a veszélyes áru korlátozott mennyiségben csomagolva sem mentesül a RID előírásainak hatálya alól;
- minden más „LQ” kód azt jelenti, hogy a RID előírásait nem kell alkalmazni, ha a 3.4 fejezetben előírt feltételek teljesülnek.

**7b oszlop****„Engedményes mennyiség”**

Itt egy betűből és számból álló kód van feltüntetve, amelynek jelentése a következő:

- az „E0” azt jelenti, hogy a veszélyes áru engedményes mennyiségben csomagolva sem mentesül a RID előírásainak hatálya alól;
- minden más „E” kód azt jelenti, hogy a RID előírásait nem kell alkalmazni, ha a 3.5 fejezetben előírt feltételek teljesülnek.

**8 oszlop****„Csomagolási utasítások”**

Itt van feltüntetve az alkalmazandó csomagolási utasítás betűkből és számokból álló kódja:

- „P” betűvel kezdődő kód, amely a csomagolóeszközökre és a tartályokra (kivéve az IBC-ket és a nagycsomagolásokat) vonatkozó csomagolási utasításokra utal, ill. az „R” betűvel kezdődő kód, amely a finomlemez csomagolásokra vonatkozó csomagolási utasításokra utal. Ezek az utasítások a 4.1.4.1 bekezdésben szám szerinti sorrendben vannak feltüntetve, és azt határozzák meg, hogy milyen csomagolóeszközt vagy tartályt lehet használni. Ugyancsak utalnak arra, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános csomagolási előírásai közül és a 4.1.5, 4.1.6, 4.1.7, 4.1.8 és 4.1.9 szakasz különleges csomagolási előírásai közül melyeket kell betartani. Ha a 8 oszlopban nincs „P” vagy „R” betűvel kezdődő kód, a szóban forgó veszélyes áru nem szállítható csomagolóeszközben;
- „IBC” betűkkel kezdődő kód, amely az IBC-kre vonatkozó csomagolási utasításokra utal. Ezek az utasítások a 4.1.4.2 bekezdésben szám szerinti sorrendben vannak feltüntetve, és azt határozzák meg, hogy milyen IBC-t lehet használni. Ugyancsak utalnak arra, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános csomagolási előírásai közül és a 4.1.5, 4.1.6, 4.1.7, 4.1.8 és 4.1.9 szakasz

különleges csomagolási előírásai közül melyeket kell betartani. Ha a 8 oszlopban nincs „IBC” betűvel kezdődő kód, a szóban forgó veszélyes áru nem szállítható IBC-ben;

- „LP” betűvel kezdődő kód, amely a nagycsomagolásokra vonatkozó csomagolási utasításokra utal. Ezek az utasítások a 4.1.4.3 bekezdésben szám szerinti sorrendben vannak feltüntetve, és azt határozzák meg, hogy milyen nagycsomagolást lehet használni. Ugyancsak utalnak arra, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános csomagolási előírásai közül és a 4.1.5, 4.1.6, 4.1.7, 4.1.8 és 4.1.9 szakasz különleges csomagolási előírásai közül melyeket kell betartani. Ha a 8 oszlopban nincs „LP” betűvel kezdődő kód, a szóban forgó veszélyes áru nem szállítható nagycsomagolásban;

**Megjegyzés:** A 9a oszlopban található különleges csomagolási előírások módosíthatják az előző csomagolási utasításokat.

#### 9a oszlop

##### „Különleges csomagolási előírások”

Itt van feltüntetve az alkalmazandó különleges csomagolási előírás betűkből és számokból álló kódja:

- „PP” vagy „RR” betűvel kezdődő kód, amely a csomagolóeszközök és tartályok (kivéve az IBC-eket és nagycsomagolásokat) tekintetében kiegészítésként betartandó különleges csomagolási előírásokra utal. Ezek a különleges csomagolási előírások a 4.1.4.1 bekezdésben találhatók a megfelelő („P” vagy „R” betűvel kezdődő) csomagolási utasítások után, amelyekre a 8 oszlopban található hivatkozás. Ha a 9a oszlopban nincs „PP” vagy „RR” betűvel kezdődő kód, a megfelelő csomagolási utasítás végén felsorolt különleges csomagolási előírások egyikét sem kell alkalmazni;
- „B” betűvel vagy „BB” betűvel kezdődő kód, amely az IBC-k tekintetében kiegészítésként betartandó különleges csomagolási előírásokra utal. Ezek a különleges csomagolási előírások a 4.1.4.2 bekezdésben találhatók a megfelelő („IBC” betűvel kezdődő) csomagolási utasítások után, amelyekre a 8 oszlopban található hivatkozás. Ha a 9a oszlopban nincs „B” betűvel vagy „BB” betűvel kezdődő kód, a megfelelő csomagolási utasítás végén felsorolt különleges csomagolási előírások egyikét sem kell alkalmazni;
- „L” betűvel kezdődő kód, amely a nagycsomagolások tekintetében kiegészítésként betartandó különleges csomagolási előírásokra utal. Ezek a különleges csomagolási előírások a 4.1.4.3 bekezdésben találhatók a megfelelő („LP” betűvel kezdődő) csomagolási utasítások után, amelyekre a 8 oszlopban található hivatkozás. Ha a 9a oszlopban nincs „L” betűvel kezdődő kód, a megfelelő csomagolási utasítás végén felsorolt különleges csomagolási előírások egyikét sem kell alkalmazni.

#### 9b oszlop

##### „Egybecsomagolási előírások”

Itt van feltüntetve az alkalmazandó egybecsomagolási előírás „MP” betűvel kezdődő kódja. Ezek az előírások szám szerinti sorrendben a 4.1.10 szakaszban vannak feltüntetve. Ha a 9b oszlop nem tartalmaz „MP” betűvel kezdődő kódot, csak az általános követelményeket kell betartani (lásd a 4.1.1.5 és a 4.1.1.6 bekezdést).

**10 oszlop****„Mobil tartány és ömlesztettáru-konténer utasítások”**

Itt van feltüntetve a „mobil tartány utasítás” betűkből és számokból álló kódja, a 4.2.5.2.1 – 4.2.5.2.4 és a 4.2.5.2.6 pont szerint. Itt az a mobil tartány utasítás szerepel, amely a legkevésbé szigorú előírásokat takarja, amelyek betartásával az illető anyag mobil tartányban szállítható. A 4.2.5.2.5 pontban vannak azok a kódok, amelyek a többi mobil tartány utasítást jelölik, amelyek szerint az anyag ugyancsak szállítható. Ha nincs kód megadva, akkor a mobil tartányban történő szállítás nem engedélyezett, kivéve, ha azt az illetékes hatóság a 6.7.1.3 bekezdés szerint engedélyezte.

A mobil tartányok tervezésére, gyártására, szerelvényeire, típus-jóváhagyására, vizsgálatára és jelölésére vonatkozó általános követelményeket a 6.7 fejezet tartalmazza. A használatra (pl. a töltésre) vonatkozó általános követelmények a 4.2.1 – 4.2.4 szakaszban találhatók.

Az „(M)” jelölés azt jelenti, hogy az anyag UN MEG-konténerben is szállítható.

***Megjegyzés:** A 11 oszlopban található különleges előírások módosítják az előző követelményeket.*

Itt lehetnek feltüntetve a „BK” betűkkel kezdődő kódok is, amelyek a 6.11 fejezetben leírt ömlesztettáru-konténer típusokra utalnak, amelyeket a 7.3.1.1 a) pont és a 7.3.2 szakasz előírásai szerint lehet ömlesztett áru szállítására használni.

**11 oszlop****„Különleges előírások a mobil tartányokra és az ömlesztettáru-konténerekre”**

Itt van feltüntetve a mobil tartányokra vonatkozó, ugyancsak betartandó különleges előírások betűkből és számokból álló kódja. Ezek a „TP” betűkkel kezdődő kódok a mobil tartányok gyártására és használatára vonatkozó különleges előírásokra utalnak, és a 4.2.5.3 bekezdésben találhatók.

***Megjegyzés:** Az itt feltüntetett különleges előírások nemcsak a 10 oszlopban előírt mobil tartányokra vonatkoznak, hanem – amennyiben műszakilag értelmezhető – azokra a mobil tartányokra is, amelyek a 4.2.5.2.5 pont táblázata szerint szintén használhatók.*

**12 oszlop****„RID-tartány tartánycódja”**

Itt van feltüntetve a tartány típust leíró, betűkből és számokból álló kód a 2 osztály gázaira a 4.3.3.1.1 pont szerint, a 3 – 9 osztály anyagaira a 4.3.4.1.1 pont szerint. Itt az a tartány típus szerepel, amely a legkevésbé szigorú előírásokat takarja, amelyek betartásával az illető anyag RID-tartányban szállítható. A 2 osztály gázaira a 4.3.3.1.2 pontban, a 3 – 9 osztály anyagaira a 4.3.4.1.2 pontban vannak azok a kódok, amelyek a többi tartány típust jelölik, amelyekben az anyag ugyancsak szállítható. Ha nincs kód megadva, a RID-tartányban történő szállítás nem engedélyezett.

Amennyiben ebben az oszlopban szilárd anyagra (S) és folyékony anyagra (L) vonatkozó tartánycód is található, ez azt jelenti, hogy az anyag szilárd vagy folyékony (olvasztott) állapotban egyaránt feladható tartányban való szállításra. Ez az előírás általában a 20 °C...180 °C közötti olvadáspontú

anyagokra vonatkozik.

Ha egy szilárd anyagnál csak folyékony anyagra vonatkozó tartánykód (L) van ebben az oszlopban feltüntetve, akkor ez az anyag tartányban csak folyékony (olvasztott) állapotban adható fel szállításra.

A gyártásra, szerelvényekre, típusjóváhagyásra, vizsgálatra és jelölésre vonatkozó általános követelmények, amelyeket a tartánykód nem tartalmaz, a 6.8.1, 6.8.2, 6.8.3 és 6.8.5 szakaszban találhatók. A használatra (pl. legnagyobb töltési fokra, legkisebb próbanyomásra) vonatkozó általános követelmények a 4.3.1 – 4.3.4 szakaszban találhatók.

A tartánykód utáni „(M)” jelölés azt jelenti, hogy az anyag battériás kocsiban és MEG-konténerben is szállítható.

A tartánykód utáni „(+)” jelölés azt jelenti, hogy a tartány alternatív használata csak akkor megengedett, ha ez a típusjóváhagyási bizonyítványban szerepel.

A szálvázaz műanyag tankkonténerekre lásd a 4.4.1 szakaszt és a 6.9 fejezetet; a hulladékok szállítására szolgáló, vákuummal üzemelő tartányokra lásd a 4.5.1 szakaszt és a 6.10 fejezetet.

**Megjegyzés:** A 13 oszlopban található különleges előírások módosítják az előző követelményeket.

#### 13 oszlop

#### „Különleges előírások a RID-tartányokra”

Itt vannak feltüntetve a RID-tartányokra vonatkozó, ugyancsak betartandó különleges előírások betűkből és számokból álló kódjai:

- a „TU” betűkkel kezdődő kódok a tartányok használatára vonatkozó különleges előírásokra utalnak, és a 4.3.5 szakaszban találhatók;
- a „TC” betűkkel kezdődő kódok a tartányok gyártására vonatkozó különleges előírásokra utalnak, és a 6.8.4 a) bekezdésben találhatók;
- a „TE” betűkkel kezdődő kódok a tartányok szerelvényeire vonatkozó különleges előírásokra utalnak, és a 6.8.4 b) bekezdésben találhatók;
- a „TA” betűkkel kezdődő kódok a tartányok típusjóváhagyására vonatkozó különleges előírásokra utalnak, és a 6.8.4 c) bekezdésben találhatók;
- a „TT” betűkkel kezdődő kódok a tartányok vizsgálatára vonatkozó különleges előírásokra utalnak, és a 6.8.4 d) bekezdésben találhatók;
- a „TM” betűkkel kezdődő kódok a tartányok jelölésére vonatkozó különleges előírásokra utalnak, és a 6.8.4 e) bekezdésben találhatók.

**Megjegyzés:** Az itt feltüntetett különleges előírások nemcsak a 12 oszlopban előírt tartányokra vonatkoznak, hanem – amennyiben műszakilag értelmezhető – azokra a tartányokra is, amelyek a 4.3.3.1.2, ill. a 4.3.4.1.2 pontban lévő tartányrangsor alapján szintén használhatók.

#### 14 oszlop

(fenntartva)

#### 15 oszlop

#### „Szállítási kategória”

Itt van feltüntetve a szállítási kategóriát jelölő szám, amelyhez az anyag vagy tárgy hozzá van rendelve a vállalatok (vállalkozások) fő

tevékenységével kapcsolatos szállításokból adódó mentesség alkalmazásához (lásd az 1.1.3.1 c) pontot).

**16 oszlop****„Különleges előírások a küldeménydarabok fuvarozására”**

Itt vannak feltüntetve a „W” betűből és számokból álló kódok, amelyek a küldeménydarabok fuvarozására vonatkozó, esetleges különleges előírásokra utalnak, és a 7.2.4 szakaszban vannak felsorolva. A küldeménydarabok fuvarozására vonatkozó általános előírásokat a 7.1 és a 7.2 fejezet tartalmazza.

*Megjegyzés: Ezen kívül a berakásra, kirakásra és árukezelésre vonatkozó, a 18 oszlopban található különleges előírásokat is be kell tartani.*

**17 oszlop****„Különleges előírások az ömlesztett fuvarozásra”**

Itt vannak feltüntetve a „VW” betűkből és számokból álló kódok, amelyek az ömlesztett fuvarozásra vonatkozó különleges előírásokra utalnak, és a 7.3.3 szakaszban vannak felsorolva. Ha nincs kód megadva, az ömlesztett fuvarozás nem engedélyezett. Az ömlesztett fuvarozásra vonatkozó általános előírásokat a 7.1 és a 7.3 fejezet tartalmazza.

*Megjegyzés: Ezen kívül a berakásra, kirakásra és árukezelésre vonatkozó, a 18 oszlopban található különleges előírásokat is be kell tartani.*

**18 oszlop****„Különleges előírások a fuvarozásra – Berakás, kirakás és árukezelés”**

Itt vannak feltüntetve a „CW” betűkből és számokból álló kódok, amelyek a berakásra, kirakásra és árukezelésre vonatkozó különleges előírásokra utalnak, és a 7.5.11 szakaszban vannak felsorolva. Ha nincs kód megadva, csak az általános követelményeket kell betartani (lásd a 7.5.1 – 7.5.4 és a 7.5.8 szakaszt).

**19 oszlop****„Expresszáru”**

Itt vannak feltüntetve a „CE” betűkből és számokból álló kódok, amelyek az expresszáruként történő fuvarozásra vonatkozó különleges előírásokra utalnak, és a 7.6 fejezetben vannak felsorolva. Ha nincs kód megadva, az expresszáruként történő fuvarozás nem engedélyezett.

**20 oszlop****„Veszélyt jelölő szám”**

Itt van feltüntetve a veszélyt jelölő szám, amely a 2 – 9 osztály anyagai és tárgyai esetén két vagy három számjegyből (egy esetben előtte egy „X” betűből) álló szám, az 1 osztály anyagai és tárgyai esetén az osztályozási kód (lásd a 3b oszlopot). Ezt a számot kell az 5.3.2.1 bekezdés szerinti esetekben a narancssárga tábla felső részén feltüntetni. A veszélyt jelölő számok jelentése az 5.3.2.3 bekezdésben található.



UN szám	Megnevezés és leírás	Osztály	Osztályozási kód	Csomagolási csoport	Bárcák	Különleges előírások	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru-konténer	
									Csomagolási utasítások	Különleges csomagolási előírások	Egybe-csomagolási előírások	Utasítások	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
0004	AMMÓNIUM-PIKRÁT, száraz vagy 10 tömeg%-nál kevesebb vízzel nedvesített	1	1.1D		1 (+13)		LQ0	E0	P112a P112b P112c	PP26	MP20		
0005	TÖLTÉNYEK FEGYVEREKHEZ robbanólövedékkel	1	1.1F		1 (+13)		LQ0	E0	P130		MP23		
0006	TÖLTÉNYEK FEGYVEREKHEZ robbanólövedékkel	1	1.1E		1 (+13)		LQ0	E0	P130 LP101	PP67 L1	MP21		
0007	TÖLTÉNYEK FEGYVEREKHEZ robbanólövedékkel	1	1.2F		1 (+13)		LQ0	E0	P130		MP23		
0009	GYÚJTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül	1	1.2G		1		LQ0	E0	P130 LP101	PP67 L1	MP23		
0010	GYÚJTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül	1	1.3G		1		LQ0	E0	P130 LP101	PP67 L1	MP23		
0012	TÖLTÉNYEK FEGYVEREKHEZ INERT LÖVEDÉKKEL vagy KÉZIFEGYVER TÖLTÉNYEK	1	1.4S		1.4		LQ0	E0	P130		MP23 MP24		
0014	VAKTÖLTÉNYEK FEGYVEREKHEZ vagy VAKTÖLTÉNYEK KÉZIFEGYVEREKHEZ	1	1.4S		1.4		LQ0	E0	P130		MP23 MP24		
0015	FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül	1	1.2G		1		LQ0	E0	P130 LP101	PP67 L1	MP23		
0015	FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül, maró anyag tartalommal	1	1.2G		1 + 8		LQ0	E0	P130 LP101	PP67 L1	MP23		
0016	FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül	1	1.3G		1		LQ0	E0	P130 LP101	PP67 L1	MP23		
0016	FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül, maró anyag tartalommal	1	1.3G		1 + 8		LQ0	E0	P130 LP101	PP67 L1	MP23		
0018	KÖNNYEZTETŐ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel	1	1.2G		1 + 6.1 + 8		LQ0	E0	P130 LP101	PP67 L1	MP23		
0019	KÖNNYEZTETŐ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel	1	1.3G		1 + 6.1 + 8		LQ0	E0	P130 LP101	PP67 L1	MP23		
0020	MÉRGEZŐ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel	1	1.2K	A fuvarozásból ki van zárva									
0021	MÉRGEZŐ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel	1	1.3K	A fuvarozásból ki van zárva									
0027	FEKETE LŐPOR (PUSKAPOR), szemcsés vagy por alakú	1	1.1D		1 (+13)		LQ0	E0	P113	PP50	MP20 MP24		
0028	FEKETE LŐPOR (PUSKAPOR), SAJTOLT vagy FEKETE LŐPOR (PUSKAPOR), PELLET	1	1.1D		1 (+13)		LQ0	E0	P113	PP51	MP20 MP24		
0029	NEMVILLAMOS GYUTACSOK robbantáshoz	1	1.1B		1 (+13)		LQ0	E0	P131	PP68	MP23		
0030	VILLAMOS GYUTACSOK robbantáshoz	1	1.1B		1 (+13)		LQ0	E0	P131		MP23		
0033	BOMBÁK robbanótöltettel	1	1.1F		1 (+13)		LQ0	E0	P130		MP23		



RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		1	W2 W3		CW1		1.1D	0004	AMMÓNIUM-PIKRÁT, száraz vagy 10 tömeg%-nál kevesebb vízzel nedvesített
		1	W2		CW1		1.1F	0005	TÖLTÉNYEK FEGYVEREKHEZ robbanólövedékekkel
		1	W2		CW1		1.1E	0006	TÖLTÉNYEK FEGYVEREKHEZ robbanólövedékekkel
		1	W2		CW1		1.2F	0007	TÖLTÉNYEK FEGYVEREKHEZ robbanólövedékekkel
		1	W2		CW1		1.2G	0009	GYÚJTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül
		1	W2		CW1		1.3G	0010	GYÚJTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül
		4	W2		CW1	CE1	1.4S	0012	TÖLTÉNYEK FEGYVEREKHEZ INERT LÖVEDÉKKEL vagy KÉZIFEGYVER TÖLTÉNYEK
		4	W2		CW1	CE1	1.4S	0014	VAKTÖLTÉNYEK FEGYVEREKHEZ vagy VAKTÖLTÉNYEK KÉZIFEGYVEREKHEZ
		1	W2		CW1		1.2G	0015	FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül
		1	W2		CW1		1.2G	0015	FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül, maró anyag tartalommal
		1	W2		CW1		1.3G	0016	FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül
		1	W2		CW1		1.3G	0016	FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül, maró anyag tartalommal
		1	W2		CW1 CW28		1.2G	0018	KÖNNYEZTETŐ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel
		1	W2		CW1 CW28		1.3G	0019	KÖNNYEZTETŐ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel
A fuvarozásból ki van zárva								0020	MÉRGEZŐ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel
A fuvarozásból ki van zárva								0021	MÉRGEZŐ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel
		1	W2 W3		CW1		1.1D	0027	FEKETE LŐPOR (PUKAPOR), szemcsés vagy por alakú
		1	W2		CW1		1.1D	0028	FEKETE LŐPOR (PUKAPOR), SAJTOLT vagy FEKETE LŐPOR (PUKAPOR), PELLETT
		1	W2		CW1		1.1B	0029	NEMVILLAMOS GYUTACSOK robbantáshoz
		1	W2		CW1		1.1B	0030	VILLAMOS GYUTACSOK robbantáshoz
		1	W2		CW1		1.1F	0033	BOMBÁK robbanótöltettel

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
0034	BOMBÁK robbanótöltettel	1	1.1D		1 (+13)		LQ0	E0	P130 LP101	PP67 L1	MP21		
0035	BOMBÁK robbanótöltettel	1	1.2D		1		LQ0	E0	P130 LP101	PP67 L1	MP21		
0037	BOMBÁK VILLANÓFÉNY TÖLTETTEL	1	1.1F		1 (+13)		LQ0	E0	P130		MP23		
0038	BOMBÁK VILLANÓFÉNY TÖLTETTEL	1	1.1D		1 (+13)		LQ0	E0	P130 LP101	PP67 L1	MP21		
0039	BOMBÁK VILLANÓFÉNY TÖLTETTEL	1	1.2G		1		LQ0	E0	P130 LP101	PP67 L1	MP23		
0042	GYÚJTÁSERŐSÍTŐK detonátor nélkül	1	1.1D		1 (+13)		LQ0	E0	P132a P132b		MP21		
0043	SZÉTVETŐK robbanótöltettel	1	1.1D		1 (+13)		LQ0	E0	P133	PP69	MP21		
0044	GYUTACSKAPSZULÁK	1	1.4S		1.4		LQ0	E0	P133		MP23 MP24		
0048	ROBBANÓTÖLTETEK	1	1.1D		1 (+13)		LQ0	E0	P130 LP101	PP67 L1	MP21		
0049	VILLANÓFÉNY- PATRONOK	1	1.1G		1 (+13)		LQ0	E0	P135		MP23		
0050	VILLANÓFÉNY- PATRONOK	1	1.3G		1		LQ0	E0	P135		MP23		
0054	JELZÓPATRONOK	1	1.3G		1		LQ0	E0	P135		MP23 MP24		
0055	ÜRES TÖLTÉNYHÜVELYEK GYUTACCSAL	1	1.4S		1.4		LQ0	E0	P136		MP23		
0056	VÍZIBOMBÁK	1	1.1D		1 (+13)		LQ0	E0	P130 LP101	PP67 L1	MP21		
0059	FORMÁZOTT TÖLTETEK detonátor nélkül	1	1.1D		1 (+13)		LQ0	E0	P137	PP70	MP21		
0060	KIEGÉSZÍTŐ ROBBANÓTÖLTETEK	1	1.1D		1 (+13)		LQ0	E0	P132a P132b		MP21		
0065	ROBBANÓZSINÓR, hajlékony	1	1.1D		1 (+13)		LQ0	E0	P139	PP71 PP72	MP21		
0066	GYÚJTÓZSINÓR	1	1.4G		1.4		LQ0	E0	P140		MP23		
0070	KÁBELVÁGÓ SZERKEZET ROBBANÓANYAGGAL	1	1.4S		1.4		LQ0	E0	P134 LP102		MP23		
0072	CIKLOTRIMETILÉN-TRINITRAMIN (CIKLONIT, HEXOGÉN, RDX), legalább 15 tömeg% vízzel NEDVESÍTETT	1	1.1D		1 (+15)	266	LQ0	E0	P112a	PP45	MP20		
0073	GYUTACSKOK LŐSZEREKHEZ	1	1.1B		1 (+13)		LQ0	E0	P133		MP23		
0074	DIAZO-DINITRO-FENOL, legalább 40 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT	1	1.1A	A fuvarozásból ki van zárva									
0075	DIETILÉNGLIKOL-DINITRÁT, legalább 25 tömeg% nem illó, vízben oldhatatlan flegmatizáló-szerrel DESZENZIBILIZÁLT	1	1.1D		1 (+15)	266	LQ0	E0	P115	PP53 PP54 PP57 PP58	MP20		
0076	DINITRO-FENOL, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített	1	1.1D		1 + 6.1 (+13)		LQ0	E0	P112a P112b P112c	PP26	MP20		

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		1	W2		CW1		1.1D	0034	BOMBÁK robbanótöltettel
		1	W2		CW1		1.2D	0035	BOMBÁK robbanótöltettel
		1	W2		CW1		1.1F	0037	BOMBÁK VILLANÓFÉNY TÖLTETTEL
		1	W2		CW1		1.1D	0038	BOMBÁK VILLANÓFÉNY TÖLTETTEL
		1	W2		CW1		1.2G	0039	BOMBÁK VILLANÓFÉNY TÖLTETTEL
		1	W2		CW1		1.1D	0042	GYÚJTÁSERŐSÍTŐK detonátor nélkül
		1	W2		CW1		1.1D	0043	SZÉTVETŐK robbanótöltettel
		4	W2		CW1	CE1	1.4S	0044	GYUTACSKAPSZULÁK
		1	W2		CW1		1.1D	0048	ROBBANÓTÖLTETEK
		1	W2		CW1		1.1G	0049	VILLANÓFÉNY- PATRONOK
		1	W2		CW1		1.3G	0050	VILLANÓFÉNY- PATRONOK
		1	W2		CW1		1.3G	0054	JELZÓPATRONOK
		4	W2		CW1	CE1	1.4S	0055	ÜRES TÖLTÉNYHÜVELYEK GYUTACCSAL
		1	W2		CW1		1.1D	0056	VÍZIBOMBÁK
		1	W2		CW1		1.1D	0059	FORMÁZOTT TÖLTETEK detonátor nélkül
		1	W2		CW1		1.1D	0060	KIEGÉSZÍTŐ ROBBANÓTÖLTETEK
		1	W2		CW1		1.1D	0065	ROBBANÓZSINÓR, hajlékony
		2	W2		CW1	CE1	1.4G	0066	GYÚJTÓZSINÓR
		4	W2		CW1	CE1	1.4S	0070	KÁBELVÁGÓ SZERKEZET ROBBANÓANYAGGAL
		1	W2		CW1		1.1D	0072	CIKLOTRIMETILÉN-TRINITRAMIN (CIKLONIT, HEXOGÉN, RDX), legalább 15 tömeg% vízzel NEDVESÍTETT
		1	W2		CW1		1.1B	0073	GYUTACSKOK LŐSZEREKHEZ
A fuvarozásból ki van zárva								0074	DIAZO-DINITRO-FENOL, legalább 40 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT
		1	W2		CW1		1.1D	0075	DIETILÉNGLIKOL-DINITRÁT, legalább 25 tömeg% nem illó, vízben oldhatatlan flegmatizáló-szerrel DESZENZIBILIZÁLT
		1	W2 W3		CW1 CW28		1.1D	0076	DINITRO-FENOL, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
0077	DINITRO-FENOLÁTOK (alkálifémeké), száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített	1	1.3C		1 + 6.1 (+13)		LQ0	E0	P114a P114b	PP26	MP20		
0078	DINITRO-REZORCIN, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített	1	1.1D		1 (+13)		LQ0	E0	P112a P112b P112c	PP26	MP20		
0079	HEXANITRO-DIFENIL-AMIN (DIPIKRIL-AMIN, HEXIL)	1	1.1D		1 (+13)		LQ0	E0	P112b P112c		MP20		
0081	A TÍPUSÚ ROBBANTÓANYAG	1	1.1D		1 (+13)	616 617	LQ0	E0	P116	PP63 PP66	MP20		
0082	B TÍPUSÚ ROBBANTÓANYAG	1	1.1D		1 (+13)	617	LQ0	E0	P116	PP61 PP62 PP65 B9	MP20		
0083	C TÍPUSÚ ROBBANTÓANYAG	1	1.1D		1 (+15)	267 617	LQ0	E0	P116		MP20		
0084	D TÍPUSÚ ROBBANTÓANYAG	1	1.1D		1 (+13)	617	LQ0	E0	P116		MP20		
0092	FÖLDI VILÁGÍTÓTESTEK	1	1.3G		1		LQ0	E0	P135		MP23		
0093	LÉGI VILÁGÍTÓTESTEK	1	1.3G		1		LQ0	E0	P135		MP23		
0094	VILLANÓFÉNYPOR	1	1.1G		1 (+13)		LQ0	E0	P113	PP49	MP20		
0099	KÖZETREPESZTŐ TORPEDÓK detonátor nélkül, olajkutak fúrásához	1	1.1D		1 (+13)		LQ0	E0	P134 LP102		MP21		
0101	NEM ROBBANÓ PILLANATGYÚJTÓK	1	1.3G		1		LQ0	E0	P140	PP74 PP75	MP23		
0102	ROBBANÓZSINÓR, fémköpenyes	1	1.2D		1		LQ0	E0	P139	PP71	MP21		
0103	GYÚJTÓZSINÓR-GYÚJTÓK cső alakú fémköpennyel	1	1.4G		1.4		LQ0	E0	P140		MP23		
0104	KISHATÁSÚ ROBBANÓZSINÓR fémköpennyel	1	1.4D		1.4		LQ0	E0	P139	PP71	MP21		
0105	BIZTONSÁGI GYÚJTÓZSINÓR	1	1.4S		1.4		LQ0	E0	P140	PP73	MP23		
0106	ROBBANÓGYÚJTÓK	1	1.1B		1 (+13)		LQ0	E0	P141		MP23		
0107	ROBBANÓGYÚJTÓK	1	1.2B		1 (+13)		LQ0	E0	P141		MP23		
0110	GYAKORLÓGRÁNÁTOK (kézi- vagy fegyvergránátok)	1	1.4S		1.4		LQ0	E0	P141		MP23		
0113	GUANIL-NITRÓZAMINO- GUANILIDÉN-HIDRAZIN, legalább 30 tömeg% vízzel NEDVESÍTETT	1	1.1A	A fuvarozásból ki van zárva									
0114	GUANIL-NITRÓZAMINO-GUANIL- TETRAZÉN (TETRAZÉN), legalább 30 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT	1	1.1A	A fuvarozásból ki van zárva									
0118	HEXOLIT (HEXOTOL), száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített	1	1.1D		1 (+13)		LQ0	E0	P112a P112b P112c		MP20		
0121	GYÚJTÓK	1	1.1G		1 (+13)		LQ0	E0	P142		MP23		

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		1	W2 W3		CW1 CW28		1.3C	0077	DINITRO-FENOLÁTOK (alkálifémeké), száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített
		1	W2 W3		CW1		1.1D	0078	DINITRO-REZORCIN, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített
		1	W2 W3		CW1		1.1D	0079	HEXANITRO-DIFENIL-AMIN (DIPKIL-AMIN, HEXIL)
		1	W2 W3		CW1		1.1D	0081	A TÍPUSÚ ROBBANTÓANYAG
		1	W2 W3		CW1		1.1D	0082	B TÍPUSÚ ROBBANTÓANYAG
		1	W2 W3		CW1		1.1D	0083	C TÍPUSÚ ROBBANTÓANYAG
		1	W2		CW1		1.1D	0084	D TÍPUSÚ ROBBANTÓANYAG
		1	W2		CW1		1.3G	0092	FÖLDI VILÁGÍTÓTESTEK
		1	W2		CW1		1.3G	0093	LÉGI VILÁGÍTÓTESTEK
		1	W2 W3		CW1		1.1G	0094	VILLANÓFÉNYPOR
		1	W2		CW1		1.1D	0099	KÖZETREPESZTŐ TORPEDÓK detonátor nélkül, olajkutak fűrészához
		1	W2		CW1		1.3G	0101	NEM ROBBANÓ PILLANATGYÚJTÓK
		1	W2		CW1		1.2D	0102	ROBBANÓZSINÓR, fémköpenyes
		2	W2		CW1		1.4G	0103	GYÚJTÓZSINÓR-GYÚJTÓK cső alakú fémköpennyel
		2	W2		CW1		1.4D	0104	KISHATÁSÚ ROBBANÓZSINÓR fémköpennyel
		4	W2		CW1	CE1	1.4S	0105	BIZTONSÁGI GYÚJTÓZSINÓR
		1	W2		CW1		1.1B	0106	ROBBANÓGYÚJTÓK
		1	W2		CW1		1.2B	0107	ROBBANÓGYÚJTÓK
		4	W2		CW1	CE1	1.4S	0110	GYAKORLÓGRÁNÁTOK (kézi- vagy fegyvergránátok)
A fuvarozásból ki van zárva								0113	GUANIL-NITRÓZAMINO-GUANILIDÉN-HIDRAZIN, legalább 30 tömeg% vízzel NEDVESÍTETT
A fuvarozásból ki van zárva								0114	GUANIL-NITRÓZAMINO-GUANIL-TETRAZÉN (TETRAZÉN), legalább 30 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT
		1	W2 W3		CW1		1.1D	0118	HEXOLIT (HEXOTOL), száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített
		1	W2		CW1		1.1G	0121	GYÚJTÓK

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
0124	PERFORÁTOR PUSKÁK TÖLTETTEL detonátor nélkül, olajkutak fúráshoz	1	1.1D		1 (+13)		LQ0	E0	P101		MP21		
0129	ÓLOM-AZID, legalább 20 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT	1	1.1A	A fuvarozásból ki van zárva									
0130	ÓLOM-SZTIFNÁT (ÓLOM-TRINITRO- REZORCINÁT), legalább 20 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT	1	1.1A	A fuvarozásból ki van zárva									
0131	GYÚJTÓZSINÓR-GYÚJTÓK	1	1.4S		1.4		LQ0	E0	P142		MP23		
0132	AROMÁS NITROVEGYÜLETEK DEFLAGRÁLÓ FÉMSÓI, M.N.N.	1	1.3C		1 (+13)	274	LQ0	E0	P114a P114b	PP26	MP2		
0133	MANNIT-HEXANITRÁT (NITROMANNIT), legalább 40 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT	1	1.1D		1 (+15)	266	LQ0	E0	P112a		MP20		
0135	HIGANY-FULMINÁT, legalább 20 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT	1	1.1A	A fuvarozásból ki van zárva									
0136	AKNÁK robbanótöltettel	1	1.1F		1 (+13)		LQ0	E0	P130		MP23		
0137	AKNÁK robbanótöltettel	1	1.1D		1 (+13)		LQ0	E0	P130 LP101	PP67 L1	MP21		
0138	AKNÁK robbanótöltettel	1	1.2D		1		LQ0	E0	P130 LP101	PP67 L1	MP21		
0143	NITROGLICERIN, legalább 40 tömeg% nem illó, vízben oldhatatlan flegmatizálószerrel DESZENZIBILIZÁLT	1	1.1D		1 + 6.1 (+15)	266 271	LQ0	E0	P115	PP53 PP54 PP57 PP58	MP20		
0144	NITROGLICERIN ALKOHOLOS OLDATBAN 1%-nál több, de legfeljebb 10% nitroglicerintartalommal	1	1.1D		1 (+13)	500	LQ0	E0	P115	PP45 PP55 PP56 PP59 PP60	MP20		
0146	NITROKEMÉNYÍTŐ, száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített	1	1.1D		1 (+15)		LQ0	E0	P112a P112b P112c		MP20		
0147	NITROKARBAMID	1	1.1D		1 (+13)		LQ0	E0	P112b		MP20		
0150	PENTAERITRIT-TETRANITRÁT (PENTRIT, PETN), legalább 25 tömeg% vízzel NEDVESÍTETT vagy PENTAERITRIT-TETRANITRÁT (PENTRIT, PETN), legalább 15 tömeg% flegmatizálószerrel DESZENZIBILIZÁLT	1	1.1D		1 (+15)	266	LQ0	E0	P112a P112b		MP20		
0151	PENTOLIT, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített	1	1.1D		1 (+13)		LQ0	E0	P112a P112b P112c		MP20		
0153	TRINITRO-ANILIN (PIKRAMID)	1	1.1D		1 (+13)		LQ0	E0	P112b P112c		MP20		

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		1	W2		CW1		1.1D	0124	PERFORÁTOR PUSKÁK TÖLTETTEL detonátor nélkül, olajkutak fúráshoz
A fuvarozásból ki van zárva								0129	ÓLOM-AZID, legalább 20 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT
A fuvarozásból ki van zárva								0130	ÓLOM-SZTIFNÁT (ÓLOM-TRINITRO-REZORCINÁT), legalább 20 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT
		4	W2		CW1	CE1	1.4S	0131	GYÚJTÓZSINÓR-GYÚJTÓK
		1	W2 W3		CW1		1.3C	0132	AROMÁS NITROVEGYÜLETEK DEFLAGRÁLÓ FÉMSÓI, M.N.N.
		1	W2		CW1		1.1D	0133	MANNIT-HEXANITRÁT (NITROMANNIT), legalább 40 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT
A fuvarozásból ki van zárva								0135	HIGANY-FULMINÁT, legalább 20 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT
		1	W2		CW1		1.1F	0136	AKNÁK robbanótöltettel
		1	W2		CW1		1.1D	0137	AKNÁK robbanótöltettel
		1	W2		CW1		1.2D	0138	AKNÁK robbanótöltettel
		1	W2		CW1 CW28		1.1D	0143	NITROGLICERIN, legalább 40 tömeg% nem illó, vízben oldhatatlan flegmatizálószerrel DESZENZIBILIZÁLT
		1	W2		CW1		1.1D	0144	NITROGLICERIN ALKOHOLOS OLDATBAN 1%-nál több, de legfeljebb 10% nitroglicerintartalommal
		1	W2 W3		CW1		1.1D	0146	NITROKEMÉNYÍTŐ, száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített
		1	W2 W3		CW1		1.1D	0147	NITROKARBAMID
		1	W2 W3		CW1		1.1D	0150	PENTAERITRIT-TETRANITRÁT (PENTRIT, PETN), legalább 25 tömeg% vízzel NEDVESÍTETT vagy PENTAERITRIT-TETRANITRÁT (PENTRIT, PETN), legalább 15 tömeg% flegmatizálószerrel DESZENZIBILIZÁLT
		1	W2 W3		CW1		1.1D	0151	PENTOLIT, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített
		1	W2 W3		CW1		1.1D	0153	TRINITRO-ANILIN (PIKRAMID)

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- mago- lási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
0154	TRINITRO-FENOL (PIKRINSAV), száraz vagy 30 tömeg%-nál kevesebb vízzel nedvesített	1	1.1D		1 (+13)		LQ0	E0	P112a P112b P112c	PP26	MP20		
0155	TRINITRO-KLÓR-BENZOL (PIKRIL- KLORID)	1	1.1D		1 (+13)		LQ0	E0	P112b P112c		MP20		
0159	LŐPORBRIKETT (LŐPORPASZTA), legalább 25 tömeg% vízzel NEDVESÍTETT	1	1.3C		1 (+13)	266	LQ0	E0	P111	PP43	MP20		
0160	FÜST NÉLKÜLI LŐPOR	1	1.1C		1 (+15)		LQ0	E0	P114b	PP50 PP52	MP20 MP24		
0161	FÜST NÉLKÜLI LŐPOR	1	1.3C		1 (+13)		LQ0	E0	P114b	PP50 PP52	MP20 MP24		
0167	LÖVEDÉKEK robbanótöltettel	1	1.1F		1 (+13)		LQ0	E0	P130		MP23		
0168	LÖVEDÉKEK robbanótöltettel	1	1.1D		1 (+13)		LQ0	E0	P130 LP101	PP67 L1	MP21		
0169	LÖVEDÉKEK robbanótöltettel	1	1.2D		1		LQ0	E0	P130 LP101	PP67 L1	MP21		
0171	VILÁGÍTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül	1	1.2G		1		LQ0	E0	P130 LP101	PP67 L1	MP23		
0173	ROBBANÓANYAG TARTALMÚ KIOLDÓSZERKEZETEK	1	1.4S		1.4		LQ0	E0	P134 LP102		MP23		
0174	ROBBANÓSZEGECSEK	1	1.4S		1.4		LQ0	E0	P134 LP102		MP23		
0180	RAKÉTÁK robbanótöltettel	1	1.1F		1 (+13)		LQ0	E0	P130		MP23		
0181	RAKÉTÁK robbanótöltettel	1	1.1E		1 (+13)		LQ0	E0	P130 LP101	PP67 L1	MP21		
0182	RAKÉTÁK robbanótöltettel	1	1.2E		1		LQ0	E0	P130 LP101	PP67 L1	MP21		
0183	RAKÉTÁK inert fejjel	1	1.3C		1		LQ0	E0	P130 LP101	PP67 L1	MP22		
0186	RAKÉTAHAJTÓMŰVEK	1	1.3C		1		LQ0	E0	P130 LP101	PP67 L1	MP22 MP24		
0190	ROBBANÓANYAG MINTÁK, az indító robbanóanyagok kivételével	1				16 274	LQ0	E0	P101		MP2		
0191	KÉZI JELZŐTESTEK	1	1.4G		1.4		LQ0	E0	P135		MP23 MP24		
0192	VASÚTI DURRANTYÚK	1	1.1G		1 (+13)		LQ0	E0	P135		MP23		
0193	VASÚTI DURRANTYÚK	1	1.4S		1.4		LQ0	E0	P135		MP23		
0194	VÉSZJELZŐK, tengeri	1	1.1G		1 (+13)		LQ0	E0	P135		MP23 MP24		
0195	VÉSZJELZŐK, tengeri	1	1.3G		1		LQ0	E0	P135		MP23 MP24		
0196	FÜSTJELZŐK	1	1.1G		1 (+13)		LQ0	E0	P135		MP23		
0197	FÜSTJELZŐK	1	1.4G		1.4		LQ0	E0	P135		MP23 MP24		
0204	ROBBANÓSZONDÁK	1	1.2F		1 (+13)		LQ0	E0	P134 LP102		MP23		



RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		1	W2 W3		CW1		1.1D	0154	TRINITRO-FENOL (PIKRINSAV), száraz vagy 30 tömeg%-nál kevesebb vízzel nedvesített
		1	W2 W3		CW1		1.1D	0155	TRINITRO-KLÓR-BENZOL (PIKRIL-KLORID)
		1	W2		CW1		1.3C	0159	LŐPORBRIKETT (LŐPORPASZTA), legalább 25 tömeg% vízzel NEDVESÍTETT
		1	W2 W3		CW1		1.1C	0160	FÜST NÉLKÜLI LŐPOR
		1	W2 W3		CW1		1.3C	0161	FÜST NÉLKÜLI LŐPOR
		1	W2		CW1		1.1F	0167	LÖVEDÉKEK robbanótöltettel
		1	W2		CW1		1.1D	0168	LÖVEDÉKEK robbanótöltettel
		1	W2		CW1		1.2D	0169	LÖVEDÉKEK robbanótöltettel
		1	W2		CW1		1.2G	0171	VILÁGÍTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül
		4	W2		CW1	CE1	1.4S	0173	ROBBANÓANYAG TARTALMÚ KIOLDÓSZERKEZETEK
		4	W2		CW1	CE1	1.4S	0174	ROBBANÓSZEGECSEK
		1	W2		CW1		1.1F	0180	RAKÉTÁK robbanótöltettel
		1	W2		CW1		1.1E	0181	RAKÉTÁK robbanótöltettel
		1	W2		CW1		1.2E	0182	RAKÉTÁK robbanótöltettel
		1	W2		CW1		1.3C	0183	RAKÉTÁK inert fejjel
		1	W2		CW1		1.3C	0186	RAKÉTAHAJTÓMŰVEK
		0	W2		CW1			0190	ROBBANÓANYAG MINTÁK, az indító robbanóanyagok kivételével
		2	W2		CW1		1.4G	0191	KÉZI JELZŐTESTEK
		1	W2		CW1		1.1G	0192	VASÚTI DURRANTYÚK
		4	W2		CW1	CE1	1.4S	0193	VASÚTI DURRANTYÚK
		1	W2		CW1		1.1G	0194	VÉSZJELZŐK, tengeri
		1	W2		CW1		1.3G	0195	VÉSZJELZŐK, tengeri
		1	W2		CW1		1.1G	0196	FÜSTJELZŐK
		2	W2		CW1		1.4G	0197	FÜSTJELZŐK
		1	W2		CW1		1.2F	0204	ROBBANÓSZONDÁK

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
0207	TETRANITRO-ANILIN	1	1.1D		1 (+13)		LQ0	E0	P112b P112c		MP20		
0208	TRINITRO-FENIL-METIL-NITRAMIN (TETRIL)	1	1.1D		1 (+15)		LQ0	E0	P112b P112c		MP20		
0209	TRINITRO-TOLUOL (TROFIL, TNT), száraz vagy 30 tömeg%-nál kevesebb vízzel nedvesített	1	1.1D		1 (+13)		LQ0	E0	P112b P112c	PP46	MP20		
0212	NYOMJELZŐK LŐSZEREKHEZ	1	1.3G		1		LQ0	E0	P133	PP69	MP23		
0213	TRINITRO-ANIZOL	1	1.1D		1 (+13)		LQ0	E0	P112b P112c		MP20		
0214	TRINITRO-BENZOL, száraz vagy 30 tömeg%-nál kevesebb vízzel nedvesített	1	1.1D		1 (+13)		LQ0	E0	P112a P112b P112c		MP20		
0215	TRINITRO-BENZOESAV, száraz vagy 30 tömeg%-nál kevesebb vízzel nedvesített	1	1.1D		1 (+13)		LQ0	E0	P112a P112b P112c		MP20		
0216	TRINITRO-m-KREZOL	1	1.1D		1 (+13)		LQ0	E0	P112b P112c	PP26	MP20		
0217	TRINITRO-NAFTALIN	1	1.1D		1 (+13)		LQ0	E0	P112b P112c		MP20		
0218	TRINITRO-FENETOL	1	1.1D		1 (+13)		LQ0	E0	P112b P112c		MP20		
0219	TRINITRO-REZORCIN (SZTIFNINSAV), száraz vagy 20 tömeg%-nál kevesebb vízzel vagy alkohol és víz keverékével nedvesített	1	1.1D		1 (+15)		LQ0	E0	P112a P112b P112c	PP26	MP20		
0220	KARBAMID-NITRÁT, száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített	1	1.1D		1 (+13)		LQ0	E0	P112a P112b P112c		MP20		
0221	TÁMADÓFEJEK TORPEDÓKHOZ robbanótöltettel	1	1.1D		1 (+13)		LQ0	E0	P130 LP101	PP67 L1	MP21		
0222	AMMÓNIUM-NITRÁT 0,2%-nál több gyúlékony anyag tartalommal, beleértve a szénegyenértékben kifejezett szerves anyagokat is, minden más adalékanyagot kizárva	1	1.1D		1 (+13)		LQ0	E0	P112b P112c	PP47	MP20		
0224	BÁRIUM-AZID, száraz vagy 50 tömeg%-nál kevesebb vízzel nedvesített	1	1.1A	A fuvarozásból ki van zárva									
0225	GYÚJTÁSERŐSÍTŐK DETONÁTORRAL	1	1.1B		1 (+13)		LQ0	E0	P133	PP69	MP23		
0226	CIKLOTETRAMETILÉN- TETRANITRAMIN (OKTOGÉN, HMX), legalább 15 tömeg% vízzel NEDVESÍTETT	1	1.1D		1 (+15)	266	LQ0	E0	P112a	PP45	MP20		
0234	NÁTRIUM-DINITRO-o-KREZOLÁT, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített	1	1.3C		1 (+13)		LQ0	E0	P114a P114b	PP26	MP20		
0235	NÁTRIUM-PIKRAMÁT, száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített	1	1.3C		1 (+13)		LQ0	E0	P114a P114b	PP26	MP20		

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		1	W2 W3		CW1		1.1D	0207	TETRANITRO-ANILIN
		1	W2 W3		CW1		1.1D	0208	TRINITRO-FENIL-METIL-NITRAMIN (TETRIL)
		1	W2 W3		CW1		1.1D	0209	TRINITRO-TOLUOL (TROFIL, TNT), száraz vagy 30 tömeg%-nál kevesebb vízzel nedvesített
		1	W2		CW1		1.3G	0212	NYOMJELZŐK LŐSZEREKHEZ
		1	W2 W3		CW1		1.1D	0213	TRINITRO-ANIZOL
		1	W2 W3		CW1		1.1D	0214	TRINITRO-BENZOL, száraz vagy 30 tömeg%-nál kevesebb vízzel nedvesített
		1	W2 W3		CW1		1.1D	0215	TRINITRO-BENZOESAV, száraz vagy 30 tömeg%-nál kevesebb vízzel nedvesített
		1	W2 W3		CW1		1.1D	0216	TRINITRO-m-KREZOL
		1	W2 W3		CW1		1.1D	0217	TRINITRO-NAFTALIN
		1	W2 W3		CW1		1.1D	0218	TRINITRO-FENETOL
		1	W2 W3		CW1		1.1D	0219	TRINITRO-REZORCIN (SZTIFINNSAV), száraz vagy 20 tömeg%-nál kevesebb vízzel vagy alkohol és víz keverékével nedvesített
		1	W2 W3		CW1		1.1D	0220	KARBAMID-NITRÁT, száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített
		1	W2		CW1		1.1D	0221	TÁMADÓFEJEK TORPEDÓKHOZ robbanótöltettel
		1	W2 W3		CW1		1.1D	0222	AMMÓNIUM-NITRÁT 0,2%-nál több gyúlékony anyag tartalommal, beleértve a széngyenértékben kifejezett szerves anyagokat is, minden más adalékanyagot kizárva
A fuvarozásból ki van zárva								0224	BÁRIUM-AZID, száraz vagy 50 tömeg%-nál kevesebb vízzel nedvesített
		1	W2		CW1		1.1B	0225	GYÚJTASERŐSÍTŐK DETONÁTORRAL
		1	W2		CW1		1.1D	0226	CIKLOTETRAMETILÉN-TETRANITRAMIN (OKTOGÉN, HMX), legalább 15 tömeg% vízzel NEDVESÍTETT
		1	W2 W3		CW1		1.3C	0234	NÁTRIUM-DINITRO-o-KREZOLÁT, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített
		1	W2 W3		CW1		1.3C	0235	NÁTRIUM-PIKRAMÁT, száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
0236	CIRKÓNIUM-PIKRAMÁT, száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített	1	1.3C		1 (+13)		LQ0	E0	P114a P114b	PP26	MP20		
0237	PROFILOZOTT, HAJLÉKONY, VONAL ALAKÚ ROBBANTÓTÖLTETEK	1	1.4D		1.4		LQ0	E0	P138		MP21		
0238	KÖTÉLVETŐ RAKÉTÁK	1	1.2G		1		LQ0	E0	P130		MP23 MP24		
0240	KÖTÉLVETŐ RAKÉTÁK	1	1.3G		1		LQ0	E0	P130		MP23 MP24		
0241	E TÍPUSÚ ROBBANTÓANYAG	1	1.1D		1 (+13)	617	LQ0	E0	P116  IBC100	PP61 PP62 PP65 B10	MP20		
0242	KIDOBÓTÖLTETEK LÖVEGEKHEZ	1	1.3C		1		LQ0	E0	P130		MP22		
0243	FEHÉRFOSZFOR TARTALMÚ, GYÚJTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel	1	1.2H		1 (+13)		LQ0	E0	P130 LP101	PP67 L1	MP23		
0244	FEHÉRFOSZFOR TARTALMÚ, GYÚJTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel	1	1.3H		1 (+13)		LQ0	E0	P130 LP101	PP67 L1	MP23		
0245	FEHÉRFOSZFOR TARTALMÚ, FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel	1	1.2H		1 (+13)		LQ0	E0	P130 LP101	PP67 L1	MP23		
0246	FEHÉRFOSZFOR TARTALMÚ, FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel	1	1.3H		1 (+13)		LQ0	E0	P130 LP101	PP67 L1	MP23		
0247	GYÚJTÓ HATÁSÚ LŐSZER gyúlékony folyadék vagy gél tartalommal, robbanó-, kidobó- vagy hajtótöltettel	1	1.3J		1 (+13)		LQ0	E0	P101		MP23		
0248	VÍZZEL AKTÍVÁLHATÓ SZERKEZETEK robbanó-, kidobó- vagy hajtótöltettel	1	1.2L		1 (+13)	274	LQ0	E0	P144	PP77	MP1		
0249	VÍZZEL AKTÍVÁLHATÓ SZERKEZETEK robbanó-, kidobó- vagy hajtótöltettel	1	1.3L		1 (+13)	274	LQ0	E0	P144	PP77	MP1		
0250	RAKÉTAHAJTÓMŰVEK HIPERGOL FOLYADÉKOKKAL, kidobótöltettel vagy anélkül	1	1.3L		1 (+13)		LQ0	E0	P101		MP1		
0254	VILÁGÍTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül	1	1.3G		1		LQ0	E0	P130 LP101	PP67 L1	MP23		
0255	VILLAMOS GYUTACSOK robbantáshoz	1	1.4B		1.4		LQ0	E0	P131		MP23		
0257	ROBBANÓGYÚJTÓK	1	1.4B		1.4		LQ0	E0	P141		MP23		
0266	OKTOLIT (OKTOL), száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített	1	1.1D		1 (+13)		LQ0	E0	P112a P112b P112c		MP20		
0267	NEMVILLAMOS GYUTACSOK robbantáshoz	1	1.4B		1.4		LQ0	E0	P131	PP68	MP23		

RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		1	W2 W3		CW1		1.3C	0236	CIRKÓNIUM-PIKRAMÁT, száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített
		2	W2		CW1		1.4D	0237	PROFILOZOTT, HAJLÉKONY, VONAL ALAKÚ ROBBANTÓTÖLTETEK
		1	W2		CW1		1.2G	0238	KÖTÉLVETŐ RAKÉTÁK
		1	W2		CW1		1.3G	0240	KÖTÉLVETŐ RAKÉTÁK
		1	W2		CW1		1.1D	0241	E TÍPUSÚ ROBBANTÓANYAG
		1	W2		CW1		1.3C	0242	KIDOBÓTÖLTETEK LÖVEGEKHEZ
		1	W2		CW1		1.2H	0243	FEHÉRFOSZFOR TARTALMÚ, GYÚJTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel
		1	W2		CW1		1.3H	0244	FEHÉRFOSZFOR TARTALMÚ, GYÚJTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel
		1	W2		CW1		1.2H	0245	FEHÉRFOSZFOR TARTALMÚ, FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel
		1	W2		CW1		1.3H	0246	FEHÉRFOSZFOR TARTALMÚ, FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel
		1	W2		CW1		1.3J	0247	GYÚJTÓ HATÁSÚ LŐSZER gyúlékony folyadék vagy gél tartalommal, robbanó-, kidobó- vagy hajtótöltettel
		0	W2		CW1 CW4		1.2L	0248	VÍZZEL AKTÍVÁLHATÓ SZERKEZETEK robbanó-, kidobó- vagy hajtótöltettel
		0	W2		CW1 CW4		1.3L	0249	VÍZZEL AKTÍVÁLHATÓ SZERKEZETEK robbanó-, kidobó- vagy hajtótöltettel
		0	W2		CW1 CW4		1.3L	0250	RAKÉTAHAJTÓMŰVEK HIPERGOL FOLYADÉKOKKAL, kidobótöltettel vagy anélkül
		1	W2		CW1		1.3G	0254	VILÁGÍTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül
		2	W2		CW1		1.4B	0255	VILLAMOS GYUTACSONK robbantáshoz
		2	W2		CW1		1.4B	0257	ROBBANÓGYÚJTÓK
		1	W2 W3		CW1		1.1D	0266	OKTOLIT (OKTOL), száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített
		2	W2		CW1		1.4B	0267	NEMVILLAMOS GYUTACSONK robbantáshoz

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírás- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
0268	GYÚJTÁSERŐSÍTŐK DETONÁTORRAL	1	1.2B		1 (+13)		LQ0	E0	P133	PP69	MP23		
0271	HAJTÓTÖLTETEK	1	1.1C		1 (+13)		LQ0	E0	P143	PP76	MP22		
0272	HAJTÓTÖLTETEK	1	1.3C		1		LQ0	E0	P143	PP76	MP22		
0275	MUNKAVÉGZŐ TÖLTETEK	1	1.3C		1		LQ0	E0	P134 LP102		MP22		
0276	MUNKAVÉGZŐ TÖLTETEK	1	1.4C		1.4		LQ0	E0	P134 LP102		MP22		
0277	GOLYÓS PERFORÁTOR-TÖLTÉNY OLAJKUTAK FÚRÁSÁHOZ	1	1.3C		1		LQ0	E0	P134 LP102		MP22		
0278	GOLYÓS PERFORÁTOR-TÖLTÉNY OLAJKUTAK FÚRÁSÁHOZ	1	1.4C		1.4		LQ0	E0	P134 LP102		MP22		
0279	KIDOBÓTÖLTETEK LÖVEGEKHEZ	1	1.1C		1 (+13)		LQ0	E0	P130		MP22		
0280	RAKÉTAHAJTÓMŰVEK	1	1.1C		1 (+13)		LQ0	E0	P130 LP101	PP67 L1	MP22		
0281	RAKÉTAHAJTÓMŰVEK	1	1.2C		1		LQ0	E0	P130 LP101	PP67 L1	MP22		
0282	NITRO-GUANIDIN (PIKRIT), száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített	1	1.1D		1 (+13)		LQ0	E0	P112a P112b P112c		MP20		
0283	GYÚJTÁSERŐSÍTŐK detonátor nélkül	1	1.2D		1		LQ0	E0	P132a P132b		MP21		
0284	GRÁNÁTOK, kézi- vagy fegyvergránátok robbanótöltettel	1	1.1D		1 (+13)		LQ0	E0	P141		MP21		
0285	GRÁNÁTOK, kézi- vagy fegyvergránátok robbanótöltettel	1	1.2D		1		LQ0	E0	P141		MP21		
0286	TÁMADÓFEJEK RAKÉTAKHOZ robbanótöltettel	1	1.1D		1 (+13)		LQ0	E0	P130 LP101	PP67 L1	MP21		
0287	TÁMADÓFEJEK RAKÉTAKHOZ robbanótöltettel	1	1.2D		1		LQ0	E0	P130 LP101	PP67 L1	MP21		
0288	PROFILOZOTT, HAJLÉKONY, VONAL ALAKÚ ROBBANTÓTÖLTETEK	1	1.1D		1 (+13)		LQ0	E0	P138		MP21		
0289	ROBBANÓZSINÓR, hajlékony	1	1.4D		1.4		LQ0	E0	P139	PP71 PP72	MP21		
0290	ROBBANÓZSINÓR, fémköpenyes	1	1.1D		1 (+13)		LQ0	E0	P139	PP71	MP21		
0291	BOMBÁK robbanótöltettel	1	1.2F		1 (+13)		LQ0	E0	P130		MP23		
0292	GRÁNÁTOK, kézi- vagy fegyvergránátok robbanótöltettel	1	1.1F		1 (+13)		LQ0	E0	P141		MP23		
0293	GRÁNÁTOK, kézi- vagy fegyvergránátok robbanótöltettel	1	1.2F		1 (+13)		LQ0	E0	P141		MP23		
0294	AKNÁK robbanótöltettel	1	1.2F		1 (+13)		LQ0	E0	P130		MP23		
0295	RAKÉTÁK robbanótöltettel	1	1.2F		1 (+13)		LQ0	E0	P130		MP23		
0296	ROBBANÓSZONDÁK	1	1.1F		1 (+13)		LQ0	E0	P134 LP102		MP23		

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		1	W2		CW1		1.2B	0268	GYÚJTÁSERŐSÍTŐK DETONÁTORRAL
		1	W2		CW1		1.1C	0271	HAJTÓTÖLTETEK
		1	W2		CW1		1.3C	0272	HAJTÓTÖLTETEK
		1	W2		CW1		1.3C	0275	MUNKAVÉGZŐ TÖLTETEK
		2	W2		CW1		1.4C	0276	MUNKAVÉGZŐ TÖLTETEK
		1	W2		CW1		1.3C	0277	GOLYÓS PERFORÁTOR-TÖLTÉNY OLAJKUTAK FÚRÁSÁHOZ
		2	W2		CW1		1.4C	0278	GOLYÓS PERFORÁTOR-TÖLTÉNY OLAJKUTAK FÚRÁSÁHOZ
		1	W2		CW1		1.1C	0279	KIDOBÓTÖLTETEK LŐVEGEKHEZ
		1	W2		CW1		1.1C	0280	RAKÉTAHAJTÓMŰVEK
		1	W2		CW1		1.2C	0281	RAKÉTAHAJTÓMŰVEK
		1	W2 W3		CW1		1.1D	0282	NITRO-GUANIDIN (PIKRIT), száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített
		1	W2		CW1		1.2D	0283	GYÚJTÁSERŐSÍTŐK detonátor nélkül
		1	W2		CW1		1.1D	0284	GRÁNÁTOK, kézi- vagy fegyvergránátok robbanótöltettel
		1	W2		CW1		1.2D	0285	GRÁNÁTOK, kézi- vagy fegyvergránátok robbanótöltettel
		1	W2		CW1		1.1D	0286	TÁMADÓFEJEK RAKÉTÁKHOZ robbanótöltettel
		1	W2		CW1		1.2D	0287	TÁMADÓFEJEK RAKÉTÁKHOZ robbanótöltettel
		1	W2		CW1		1.1D	0288	PROFILOZOTT, HAJLÉKONY, VONAL ALAKÚ ROBBANTÓTÖLTETEK
		2	W2		CW1		1.4D	0289	ROBBANÓZSINÓR, hajlékony
		1	W2		CW1		1.1D	0290	ROBBANÓZSINÓR, fémköpenyes
		1	W2		CW1		1.2F	0291	BOMBÁK robbanótöltettel
		1	W2		CW1		1.1F	0292	GRÁNÁTOK, kézi- vagy fegyvergránátok robbanótöltettel
		1	W2		CW1		1.2F	0293	GRÁNÁTOK, kézi- vagy fegyvergránátok robbanótöltettel
		1	W2		CW1		1.2F	0294	AKNÁK robbanótöltettel
		1	W2		CW1		1.2F	0295	RAKÉTÁK robbanótöltettel
		1	W2		CW1		1.1F	0296	ROBBANÓSZONDÁK

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
0297	VILÁGÍTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül	1	1.4G		1.4		LQ0	E0	P130 LP101	PP67 L1	MP23		
0299	BOMBÁK VILLANÓFÉNY TÖLTETTEL	1	1.3G		1		LQ0	E0	P130 LP101	PP67 L1	MP23		
0300	GYÚJTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül	1	1.4G		1.4		LQ0	E0	P130 LP101	PP67 L1	MP23		
0301	KÖNNYEZTETŐ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel	1	1.4G		1.4 + 6.1 + 8		LQ0	E0	P130 LP101	PP67 L1	MP23		
0303	FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül	1	1.4G		1.4		LQ0	E0	P130 LP101	PP67 L1	MP23		
0303	FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül, maró anyag tartalommal	1	1.4G		1.4 + 8		LQ0	E0	P130 LP101	PP67 L1	MP23		
0305	VILLANÓFÉNYPOR	1	1.3G		1		LQ0	E0	P113	PP49	MP20		
0306	NYOMJELZŐK LŐSZEREKHEZ	1	1.4G		1.4		LQ0	E0	P133	PP69	MP23		
0312	JELZŐPATRONOK	1	1.4G		1.4		LQ0	E0	P135		MP23 MP24		
0313	FÜSTJELZŐK	1	1.2G		1		LQ0	E0	P135		MP23		
0314	GYÚJTÓK	1	1.2G		1		LQ0	E0	P142		MP23		
0315	GYÚJTÓK	1	1.3G		1		LQ0	E0	P142		MP23		
0316	INDÍTÓGYÚJTÓK	1	1.3G		1		LQ0	E0	P141		MP23		
0317	INDÍTÓGYÚJTÓK	1	1.4G		1.4		LQ0	E0	P141		MP23		
0318	GYAKORLÓGRÁNÁTOK (kézi- vagy fegyvergránátok)	1	1.3G		1		LQ0	E0	P141		MP23		
0319	GYUTACSCSÖVEK, GYUTACSSZELENCÉK	1	1.3G		1		LQ0	E0	P133		MP23		
0320	GYUTACSCSÖVEK, GYUTACSSZELENCÉK	1	1.4G		1.4		LQ0	E0	P133		MP23		
0321	TÖLTÉNYEK FEGYVEREKHEZ robbanólövedékkel	1	1.2E		1		LQ0	E0	P130 LP101	PP67 L1	MP21		
0322	RAKÉTAHAJTÓMŰVEK HIPERGOL FOLYADÉKOKKAL, kidobótöltettel vagy anélkül	1	1.2L		1 (+13)		LQ0	E0	P101		MP1		
0323	MUNKAVÉGZŐ TÖLTETEK	1	1.4S		1.4		LQ0	E0	P134 LP102		MP23		
0324	LÖVEDÉKEK robbanótöltettel	1	1.2F		1 (+13)		LQ0	E0	P130		MP23		
0325	GYÚJTÓK	1	1.4G		1.4		LQ0	E0	P142		MP23		
0326	VAKTÖLTÉNYEK FEGYVEREKHEZ	1	1.1C		1 (+13)		LQ0	E0	P130		MP22		
0327	VAKTÖLTÉNYEK FEGYVEREKHEZ vagy VAKTÖLTÉNYEK KÉZIFEGYVEREKHEZ	1	1.3C		1		LQ0	E0	P130		MP22		
0328	TÖLTÉNYEK FEGYVEREKHEZ INERT LÖVEDÉKKEL	1	1.2C		1		LQ0	E0	P130 LP101	PP67 L1	MP22		
0329	TORPEDÓK robbanótöltettel	1	1.1E		1 (+13)		LQ0	E0	P130 LP101	PP67 L1	MP21		
0330	TORPEDÓK robbanótöltettel	1	1.1F		1 (+13)		LQ0	E0	P130		MP23		



RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		2	W2		CW1		1.4G	0297	VILÁGÍTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül
		1	W2		CW1		1.3G	0299	BOMBÁK VILLANÓFÉNY TÖLTETTEL
		2	W2		CW1		1.4G	0300	GYÚJTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül
		2	W2		CW1 CW28		1.4G	0301	KÖNNYEZTETŐ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel
		2	W2		CW1		1.4G	0303	FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül
		2	W2		CW1		1.4G	0303	FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel vagy anélkül, maró anyag tartalommal
		1	W2 W3		CW1		1.3G	0305	VILLANÓFÉNYPOR
		2	W2		CW1		1.4G	0306	NYOMJELZŐK LŐSZEREKHEZ
		2	W2		CW1		1.4G	0312	JELZÓPATRONOK
		1	W2		CW1		1.2G	0313	FÜSTJELZŐK
		1	W2		CW1		1.2G	0314	GYÚJTÓK
		1	W2		CW1		1.3G	0315	GYÚJTÓK
		1	W2		CW1		1.3G	0316	INDÍTÓGYÚJTÓK
		2	W2		CW1		1.4G	0317	INDÍTÓGYÚJTÓK
		1	W2		CW1		1.3G	0318	GYAKORLÓGRÁNÁTOK (kézi- vagy fegyvergránátok)
		1	W2		CW1		1.3G	0319	GYUTACSCSŐVEK, GYUTACSSZELENCÉK
		2	W2		CW1		1.4G	0320	GYUTACSCSŐVEK, GYUTACSSZELENCÉK
		1	W2		CW1		1.2E	0321	TÖLTÉNYEK FEGYVEREKHEZ robbanólövedékekkel
		0	W2		CW1 CW4		1.2L	0322	RAKÉTAHAJTÓMŰVEK HIPERGOL FOLYADÉKOKKAL, kidobótöltettel vagy anélkül
		4	W2		CW1	CE1	1.4S	0323	MUNKAVÉGZŐ TÖLTETEK
		1	W2		CW1		1.2F	0324	LÖVEDÉKEK robbanótöltettel
		2	W2		CW1		1.4G	0325	GYÚJTÓK
		1	W2		CW1		1.1C	0326	VAKTÖLTÉNYEK FEGYVEREKHEZ
		1	W2		CW1		1.3C	0327	VAKTÖLTÉNYEK FEGYVEREKHEZ vagy VAKTÖLTÉNYEK KÉZIFEGYVEREKHEZ
		1	W2		CW1		1.2C	0328	TÖLTÉNYEK FEGYVEREKHEZ INERT LÖVEDÉKKEL
		1	W2		CW1		1.1E	0329	TORPEDÓK robbanótöltettel
		1	W2		CW1		1.1F	0330	TORPEDÓK robbanótöltettel

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
0331	B TÍPUSÚ ROBBANTÓANYAG	1	1.5D		1.5	617	LQ0	E0	P116  IBC100	PP61 PP62 PP64 PP65	MP20	T1	TP1 TP17 TP32
0332	E TÍPUSÚ ROBBANTÓANYAG	1	1.5D		1.5	617	LQ0	E0	P116  IBC100	PP61 PP62 PP65	MP20	T1	TP1 TP17 TP32
0333	TŰZIJÁTÉK TESTEK	1	1.1G		1 (+13)	645	LQ0	E0	P135		MP23 MP24		
0334	TŰZIJÁTÉK TESTEK	1	1.2G		1	645	LQ0	E0	P135		MP23 MP24		
0335	TŰZIJÁTÉK TESTEK	1	1.3G		1	645	LQ0	E0	P135		MP23 MP24		
0336	TŰZIJÁTÉK TESTEK	1	1.4G		1.4	645	LQ0	E0	P135		MP23 MP24		
0337	TŰZIJÁTÉK TESTEK	1	1.4S		1.4	645	LQ0	E0	P135		MP23 MP24		
0338	VAKTÖLTÉNYEK FEGYVEREKHEZ vagy VAKTÖLTÉNYEK KÉZIFEGYVEREKHEZ	1	1.4C		1.4		LQ0	E0	P130		MP22		
0339	TÖLTÉNYEK FEGYVEREKHEZ INERT LÖVEDÉKKEL vagy KÉZIFEGYVER TÖLTÉNYEK	1	1.4C		1.4		LQ0	E0	P130		MP22		
0340	NITROCELLULÓZ, száraz vagy 25 tömeg%-nál kevesebb vízzel (vagy alkohollal) nedvesített	1	1.1D		1 (+15)		LQ0	E0	P112a P112b		MP20		
0341	NITROCELLULÓZ, módosítás nélkül vagy 18 tömeg%-nál kevesebb lágyítóval plasztifikálva	1	1.1D		1 (+15)		LQ0	E0	P112b		MP20		
0342	NITROCELLULÓZ, legalább 25 tömeg% alkohollal NEDVESÍTETT	1	1.3C		1 (+13)	105	LQ0	E0	P114a	PP43	MP20		
0343	NITROCELLULÓZ, PLASZTIFIKÁLT legalább 18 tömeg% plasztifikálóval	1	1.3C		1 (+13)	105	LQ0	E0	P111		MP20		
0344	LÖVEDÉKEK robbanótöltettel	1	1.4D		1.4		LQ0	E0	P130 LP101	PP67 L1	MP21		
0345	LÖVEDÉKEK (inertek, nyomjelzőszerrel)	1	1.4S		1.4		LQ0	E0	P130 LP101	PP67 L1	MP23		
0346	LÖVEDÉKEK robbanó- vagy kidobótöltettel	1	1.2D		1		LQ0	E0	P130 LP101	PP67 L1	MP21		
0347	LÖVEDÉKEK robbanó- vagy kidobótöltettel	1	1.4D		1.4		LQ0	E0	P130 LP101	PP67 L1	MP21		
0348	TÖLTÉNYEK FEGYVEREKHEZ robbanólövedékkel	1	1.4F		1.4		LQ0	E0	P130		MP23		
0349	ROBBANÓTÁRGYAK, M.N.N.	1	1.4S		1.4	178 274	LQ0	E0	P101		MP2		
0350	ROBBANÓTÁRGYAK, M.N.N.	1	1.4B		1.4	178 274	LQ0	E0	P101		MP2		
0351	ROBBANÓTÁRGYAK, M.N.N.	1	1.4C		1.4	178 274	LQ0	E0	P101		MP2		

RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		1	W2		CW1		1.5D	0331	B TÍPUSÚ ROBBANTÓANYAG
		1	W2		CW1		1.5D	0332	E TÍPUSÚ ROBBANTÓANYAG
		1	W2 W3		CW1		1.1G	0333	TŰZIJÁTÉK TESTEK
		1	W2 W3		CW1		1.2G	0334	TŰZIJÁTÉK TESTEK
		1	W2 W3		CW1		1.3G	0335	TŰZIJÁTÉK TESTEK
		2	W2		CW1	CE1	1.4G	0336	TŰZIJÁTÉK TESTEK
		4	W2		CW1	CE1	1.4S	0337	TŰZIJÁTÉK TESTEK
		2	W2		CW1		1.4C	0338	VAKTÖLTÉNYEK FEGYVEREKHEZ vagy VAKTÖLTÉNYEK KÉZIFEGYVEREKHEZ
		2	W2		CW1		1.4C	0339	TÖLTÉNYEK FEGYVEREKHEZ INERT LÖVEDÉKKEL vagy KÉZIFEGYVER TÖLTÉNYEK
		1	W2 W3		CW1		1.1D	0340	NITROCELLULÓZ, száraz vagy 25 tömeg%-nál kevesebb vízzel (vagy alkohollal) nedvesített
		1	W2 W3		CW1		1.1D	0341	NITROCELLULÓZ, módosítás nélkül vagy 18 tömeg%-nál kevesebb lágyítóval plasztifikálva
		1	W2		CW1		1.3C	0342	NITROCELLULÓZ, legalább 25 tömeg% alkohollal NEDVESÍTETT
		1	W2		CW1		1.3C	0343	NITROCELLULÓZ, PLASZTIFIKÁLT legalább 18 tömeg% plasztifikálóval
		2	W2		CW1		1.4D	0344	LÖVEDÉKEK robbanótöltettel
		4	W2		CW1	CE1	1.4S	0345	LÖVEDÉKEK (inertek, nyomjelzőszerrel)
		1	W2		CW1		1.2D	0346	LÖVEDÉKEK robbanó- vagy kidobótöltettel
		2	W2		CW1		1.4D	0347	LÖVEDÉKEK robbanó- vagy kidobótöltettel
		2	W2		CW1		1.4F	0348	TÖLTÉNYEK FEGYVEREKHEZ robbanólövedékekkel
		4	W2		CW1	CE1	1.4S	0349	ROBBANÓTÁRGYAK, M.N.N.
		2	W2		CW1		1.4B	0350	ROBBANÓTÁRGYAK, M.N.N.
		2	W2		CW1		1.4C	0351	ROBBANÓTÁRGYAK, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
0352	ROBBANÓTÁRGYAK, M.N.N.	1	1.4D		1.4	178 274	LQ0	E0	P101		MP2		
0353	ROBBANÓTÁRGYAK, M.N.N.	1	1.4G		1.4	178 274	LQ0	E0	P101		MP2		
0354	ROBBANÓTÁRGYAK, M.N.N.	1	1.1L		1 (+13)	178 274	LQ0	E0	P101		MP1		
0355	ROBBANÓTÁRGYAK, M.N.N.	1	1.2L		1 (+13)	178 274	LQ0	E0	P101		MP1		
0356	ROBBANÓTÁRGYAK, M.N.N.	1	1.3L		1 (+13)	178 274	LQ0	E0	P101		MP1		
0357	ROBBANÓANYAGOK, M.N.N.	1	1.1L		1 (+13)	178 274	LQ0	E0	P101		MP1		
0358	ROBBANÓANYAGOK, M.N.N.	1	1.2L		1 (+13)	178 274	LQ0	E0	P101		MP1		
0359	ROBBANÓANYAGOK, M.N.N.	1	1.3L		1 (+13)	178 274	LQ0	E0	P101		MP1		
0360	NEMVILLAMOS DETONÁTORSZERKEZETEK robbantáshoz	1	1.1B		1 (+13)		LQ0	E0	P131		MP23		
0361	NEMVILLAMOS DETONÁTORSZERKEZETEK robbantáshoz	1	1.4B		1.4		LQ0	E0	P131		MP23		
0362	GYAKORLÓLŐSZER	1	1.4G		1.4		LQ0	E0	P130 LP101	PP67 L1	MP23		
0363	PRÓBALŐSZER	1	1.4G		1.4		LQ0	E0	P130 LP101	PP67 L1	MP23		
0364	GYUTACSOK LŐSZEREKHEZ	1	1.2B		1 (+13)		LQ0	E0	P133		MP23		
0365	GYUTACSOK LŐSZEREKHEZ	1	1.4B		1.4		LQ0	E0	P133		MP23		
0366	GYUTACSOK LŐSZEREKHEZ	1	1.4S		1.4		LQ0	E0	P133		MP23		
0367	ROBBANÓGYÚJTÓK	1	1.4S		1.4		LQ0	E0	P141		MP23		
0368	INDÍTÓGYÚJTÓK	1	1.4S		1.4		LQ0	E0	P141		MP23		
0369	TÁMADÓFEJEK RAKÉTAKHOZ robbanótöltettel	1	1.1F		1 (+13)		LQ0	E0	P130		MP23		
0370	TÁMADÓFEJEK RAKÉTAKHOZ robbanó- vagy kidobótöltettel	1	1.4D		1.4		LQ0	E0	P130 LP101	PP67 L1	MP21		
0371	TÁMADÓFEJEK RAKÉTAKHOZ robbanó- vagy kidobótöltettel	1	1.4F		1.4		LQ0	E0	P130		MP23		
0372	GYAKORLÓGRÁNÁTOK (kézi- vagy fegyvergránátok)	1	1.2G		1		LQ0	E0	P141		MP23		
0373	KÉZI JELZŐTESTEK	1	1.4S		1.4		LQ0	E0	P135		MP23 MP24		
0374	ROBBANÓSZONDÁK	1	1.1D		1 (+13)		LQ0	E0	P134 LP102		MP21		
0375	ROBBANÓSZONDÁK	1	1.2D		1		LQ0	E0	P134 LP102		MP21		
0376	GYUTACSCSŐVEK, GYUTACSSZELENCÉK	1	1.4S		1.4		LQ0	E0	P133		MP23		
0377	GYUTACSKAPSZULÁK	1	1.1B		1 (+13)		LQ0	E0	P133		MP23		
0378	GYUTACSKAPSZULÁK	1	1.4B		1.4		LQ0	E0	P133		MP23		
0379	ÜRES TÖLTÉNYHÜVELYEK GYUTACCSAL	1	1.4C		1.4		LQ0	E0	P136		MP22		
0380	PIROFOROS TÁRGYAK	1	1.2L		1 (+13)		LQ0	E0	P101		MP1		

RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		2	W2		CW1		1.4D	0352	ROBBANÓTÁRGYAK, M.N.N.
		2	W2		CW1		1.4G	0353	ROBBANÓTÁRGYAK, M.N.N.
		0	W2		CW1 CW4		1.1L	0354	ROBBANÓTÁRGYAK, M.N.N.
		0	W2		CW1 CW4		1.2L	0355	ROBBANÓTÁRGYAK, M.N.N.
		0	W2		CW1 CW4		1.3L	0356	ROBBANÓTÁRGYAK, M.N.N.
		0	W2		CW1 CW4		1.1L	0357	ROBBANÓANYAGOK, M.N.N.
		0	W2		CW1 CW4		1.2L	0358	ROBBANÓANYAGOK, M.N.N.
		0	W2		CW1 CW4		1.3L	0359	ROBBANÓANYAGOK, M.N.N.
		1	W2		CW1		1.1B	0360	NEMVILLAMOS DETONÁTORSZERKEZETEK robbantáshoz
		2	W2		CW1		1.4B	0361	NEMVILLAMOS DETONÁTORSZERKEZETEK robbantáshoz
		2	W2		CW1		1.4G	0362	GYAKORLÓLŐSZER
		2	W2		CW1		1.4G	0363	PRÓBALŐSZER
		1	W2		CW1		1.2B	0364	GYUTACSOK LŐSZEREKHEZ
		2	W2		CW1		1.4B	0365	GYUTACSOK LŐSZEREKHEZ
		4	W2		CW1	CE1	1.4S	0366	GYUTACSOK LŐSZEREKHEZ
		4	W2		CW1	CE1	1.4S	0367	ROBBANÓGYÚJTÓK
		4	W2		CW1	CE1	1.4S	0368	INDÍTÓGYÚJTÓK
		1	W2		CW1		1.1F	0369	TÁMADÓFEJEK RAKÉTÁKHOZ robbanótöltettel
		2	W2		CW1		1.4D	0370	TÁMADÓFEJEK RAKÉTÁKHOZ robbanó- vagy kidobótöltettel
		2	W2		CW1		1.4F	0371	TÁMADÓFEJEK RAKÉTÁKHOZ robbanó- vagy kidobótöltettel
		1	W2		CW1		1.2G	0372	GYAKORLÓGRÁNÁTOK (kézi- vagy fegyvergránátok)
		4	W2		CW1	CE1	1.4S	0373	KÉZI JELZŐTESTEK
		1	W2		CW1		1.1D	0374	ROBBANÓSZONDÁK
		1	W2		CW1		1.2D	0375	ROBBANÓSZONDÁK
		4	W2		CW1	CE1	1.4S	0376	GYUTACSCSÖVEK, GYUTACSSZELENCÉK
		1	W2		CW1		1.1B	0377	GYUTACSKAPSZULÁK
		2	W2		CW1		1.4B	0378	GYUTACSKAPSZULÁK
		2	W2		CW1		1.4C	0379	ÜRES TÖLTÉNYHÜVELYEK GYUTACCSAL
		0	W2		CW1 CW4		1.2L	0380	PIROFOROS TÁRGYAK

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
0381	MUNKAVÉGZŐ TÖLTETEK	1	1.2C		1		LQ0	E0	P134 LP102		MP22		
0382	ROBBANÓLÁNC ALKOTÓRÉSZEI, M.N.N.	1	1.2B		1 (+13)	178 274	LQ0	E0	P101		MP2		
0383	ROBBANÓLÁNC ALKOTÓRÉSZEI, M.N.N.	1	1.4B		1.4	178 274	LQ0	E0	P101		MP2		
0384	ROBBANÓLÁNC ALKOTÓRÉSZEI, M.N.N.	1	1.4S		1.4	178 274	LQ0	E0	P101		MP2		
0385	5-NITRO-BENZO-TRIAZOL	1	1.1D		1 (+13)		LQ0	E0	P112b P112c		MP20		
0386	TRINITRO-BENZOLSZULFONSAV	1	1.1D		1 (+13)		LQ0	E0	P112b P112c	PP26	MP20		
0387	TRINITRO-FLUORENON	1	1.1D		1 (+13)		LQ0	E0	P112b P112c		MP20		
0388	TRINITRO-TOLUOL (TNT) ÉS TRINITRO-BENZOL KEVERÉKE vagy TRINITRO-TOLUOL (TNT) ÉS HEXANITRO-SZTILBÉN KEVERÉKE	1	1.1D		1 (+13)		LQ0	E0	P112b P112c		MP20		
0389	TRINITRO-TOLUOL (TNT) KEVERÉK TRINITRO-BENZOL ÉS HEXANITRO- SZTILBÉN TARTALOMMAL	1	1.1D		1 (+13)		LQ0	E0	P112b P112c		MP20		
0390	TRITONAL	1	1.1D		1 (+13)		LQ0	E0	P112b P112c		MP20		
0391	CIKLOTRIMETILÉN-TRINITRAMIN (CIKLONIT; HEXOGÉN; RDX) ÉS CIKLOTETRAMETILÉN- TETRAMITRAMIN (OKTOGÉN; HMX) KEVERÉKE, legalább 15 tömeg% vízzel NEDVESÍTETT vagy legalább 10 tömeg% flegmatizálószerrel DESZENZIBILIZÁLT	1	1.1D		1 (+15)	266	LQ0	E0	P112a P112b		MP20		
0392	HEXANITRO-SZTILBÉN	1	1.1D		1 (+13)		LQ0	E0	P112b P112c		MP20		
0393	HEXOTONAL	1	1.1D		1 (+13)		LQ0	E0	P112b		MP20		
0394	TRINITRO-REZORCIN (SZTIFNINSÁV), legalább 20 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT	1	1.1D		1 (+15)		LQ0	E0	P112a	PP26	MP20		
0395	RAKÉTAHAJTÓMŰVEK FOLYÉKONY HAJTÓANYAGGAL	1	1.2J		1 (+13)		LQ0	E0	P101		MP23		
0396	RAKÉTAHAJTÓMŰVEK FOLYÉKONY HAJTÓANYAGGAL	1	1.3J		1 (+13)		LQ0	E0	P101		MP23		
0397	RAKÉTÁK FOLYÉKONY HAJTÓANYAGGAL, robbanótöltettel	1	1.1J		1 (+13)		LQ0	E0	P101		MP23		
0398	RAKÉTÁK FOLYÉKONY HAJTÓANYAGGAL, robbanótöltettel	1	1.2J		1 (+13)		LQ0	E0	P101		MP23		

RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		1	W2		CW1		1.2C	0381	MUNKAVÉGZŐ TÖLTETEK
		1	W2		CW1		1.2B	0382	ROBBANÓLÁNC ALKOTÓRÉSZEI, M.N.N.
		2	W2		CW1		1.4B	0383	ROBBANÓLÁNC ALKOTÓRÉSZEI, M.N.N.
		4	W2		CW1	CE1	1.4S	0384	ROBBANÓLÁNC ALKOTÓRÉSZEI, M.N.N.
		1	W2 W3		CW1		1.1D	0385	5-NITRO-BENZO-TRIAZOL
		1	W2 W3		CW1		1.1D	0386	TRINITRO-BENZOLSZULFONSAV
		1	W2 W3		CW1		1.1D	0387	TRINITRO-FLUORENON
		1	W2 W3		CW1		1.1D	0388	TRINITRO-TOLUOL (TNT) ÉS TRINITRO-BENZOL KEVERÉKE vagy TRINITRO-TOLUOL (TNT) ÉS HEXANITRO-SZTILBÉN KEVERÉKE
		1	W2 W3		CW1		1.1D	0389	TRINITRO-TOLUOL (TNT) KEVERÉK TRINITRO-BENZOL ÉS HEXANITRO-SZTILBÉN TARTALOMMAL
		1	W2 W3		CW1		1.1D	0390	TRITONAL
		1	W2 W3		CW1		1.1D	0391	CIKLOTRIMETILÉN-TRINITRAMIN (CIKLONIT; HEXOGÉN; RDX) ÉS CIKLOTETRAMETILÉN-TETRANITRAMIN (OKTOGÉN; HMX) KEVERÉKE, legalább 15 tömeg% vízzel NEDVESÍTETT vagy legalább 10 tömeg% flegmatizálószerrel DESZENZIBILIZÁLT
		1	W2 W3		CW1		1.1D	0392	HEXANITRO-SZTILBÉN
		1	W2 W3		CW1		1.1D	0393	HEXOTONAL
		1	W2		CW1		1.1D	0394	TRINITRO-REZORCIN (SZTIFNINSAV), legalább 20 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT
		1	W2		CW1		1.2J	0395	RAKÉTAHAJTÓMŰVEK FOLYÉKONY HAJTÓANYAGGAL
		1	W2		CW1		1.3J	0396	RAKÉTAHAJTÓMŰVEK FOLYÉKONY HAJTÓANYAGGAL
		1	W2		CW1		1.1J	0397	RAKÉTÁK FOLYÉKONY HAJTÓANYAGGAL, robbanótöltettel
		1	W2		CW1		1.2J	0398	RAKÉTÁK FOLYÉKONY HAJTÓANYAGGAL, robbanótöltettel

UN szám	Megnevezés és leírás	Osztály	Osztályozási kód	Csomagolási csoport	Bárcák	Különleges előírások	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru-konténer	
									Csomagolási utasítások	Különleges csomagolási előírások	Egybecsomagolási előírások	Utasítások	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
0399	BOMBÁK GYÚLÉKONY FOLYADÉK TARTALOMMAL, robbanótöltettel	1	1.1J		1 (+13)		LQ0	E0	P101		MP23		
0400	BOMBÁK GYÚLÉKONY FOLYADÉK TARTALOMMAL, robbanótöltettel	1	1.2J		1 (+13)		LQ0	E0	P101		MP23		
0401	DIPIKRIL-SZULFID, száraz vagy 10 tömeg%-nál kevesebb vízzel nedvesített	1	1.1D		1 (+13)		LQ0	E0	P112a P112b P112c		MP20		
0402	AMMÓNIUM-PERKLORÁT	1	1.1D		1 (+13)	152	LQ0	E0	P112b P112c		MP20		
0403	LÉGI VILÁGÍTÓTESTEK	1	1.4G		1.4		LQ0	E0	P135		MP23		
0404	LÉGI VILÁGÍTÓTESTEK	1	1.4S		1.4		LQ0	E0	P135		MP23		
0405	JELZÓPATRONOK	1	1.4S		1.4		LQ0	E0	P135		MP23 MP24		
0406	DINITROZO-BENZOL	1	1.3C		1 (+13)		LQ0	E0	P114b		MP20		
0407	TETRAZOL-1-ECETSAV	1	1.4C		1.4		LQ0	E0	P114b		MP20		
0408	ROBBANÓGYÚJTÓK biztonsági szerkezettel	1	1.1D		1 (+13)		LQ0	E0	P141		MP21		
0409	ROBBANÓGYÚJTÓK biztonsági szerkezettel	1	1.2D		1		LQ0	E0	P141		MP21		
0410	ROBBANÓGYÚJTÓK biztonsági szerkezettel	1	1.4D		1.4		LQ0	E0	P141		MP21		
0411	PENTAERITRIT-TETRANITRÁT (PETN) legalább 7 tömeg% viasszal	1	1.1D		1 (+15)	131	LQ0	E0	P112b P112c		MP20		
0412	TÖLTÉNYEK FEGYVEREKHEZ robbanólövedékekkel	1	1.4E		1.4		LQ0	E0	P130 LP101	PP67 L1	MP21		
0413	VAKTÖLTÉNYEK FEGYVEREKHEZ	1	1.2C		1		LQ0	E0	P130		MP22		
0414	KIDOBÓTÖLTETEK LÖVEGEKHEZ	1	1.2C		1		LQ0	E0	P130		MP22		
0415	HAJTÓTÖLTETEK	1	1.2C		1		LQ0	E0	P143	PP76	MP22		
0417	TÖLTÉNYEK FEGYVEREKHEZ INERT LÖVEDÉKKEL vagy KÉZIFEGYVER TÖLTÉNYEK	1	1.3C		1		LQ0	E0	P130		MP22		
0418	FÖLDI VILÁGÍTÓTESTEK	1	1.1G		1 (+13)		LQ0	E0	P135		MP23		
0419	FÖLDI VILÁGÍTÓTESTEK	1	1.2G		1		LQ0	E0	P135		MP23		
0420	LÉGI VILÁGÍTÓTESTEK	1	1.1G		1 (+13)		LQ0	E0	P135		MP23		
0421	LÉGI VILÁGÍTÓTESTEK	1	1.2G		1		LQ0	E0	P135		MP23		
0424	LÖVEDÉKEK (inertek, nyomjelzőszerrel)	1	1.3G		1		LQ0	E0	P130 LP101	PP67 L1	MP23		
0425	LÖVEDÉKEK (inertek, nyomjelzőszerrel)	1	1.4G		1.4		LQ0	E0	P130 LP101	PP67 L1	MP23		
0426	LÖVEDÉKEK robbanó- vagy kidobótöltettel	1	1.2F		1 (+13)		LQ0	E0	P130		MP23		
0427	LÖVEDÉKEK robbanó- vagy kidobótöltettel	1	1.4F		1.4		LQ0	E0	P130		MP23		
0428	PIROTECHNIKAI TÁRGYAK műszaki célokra	1	1.1G		1 (+13)		LQ0	E0	P135		MP23 MP24		
0429	PIROTECHNIKAI TÁRGYAK műszaki célokra	1	1.2G		1		LQ0	E0	P135		MP23 MP24		



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		1	W2		CW1		1.1J	0399	BOMBÁK GYÚLÉKONY FOLYADÉK TARTALOMMAL, robbanótöltettel
		1	W2		CW1		1.2J	0400	BOMBÁK GYÚLÉKONY FOLYADÉK TARTALOMMAL, robbanótöltettel
		1	W2 W3		CW1		1.1D	0401	DIPIKRIL-SZULFID, száraz vagy 10 tömeg%-nál kevesebb vízzel nedvesített
		1	W2 W3		CW1		1.1D	0402	AMMÓNIUM-PERKLORÁT
		2	W2		CW1		1.4G	0403	LÉGI VILÁGÍTÓTESTEK
		4	W2		CW1	CE1	1.4S	0404	LÉGI VILÁGÍTÓTESTEK
		4	W2		CW1	CE1	1.4S	0405	JELZŐPATRONOK
		1	W2 W3		CW1		1.3C	0406	DINITROZO-BENZOL
		2	W2		CW1		1.4C	0407	TETRAZOL-1-ECETSAV
		1	W2		CW1		1.1D	0408	ROBBANÓGYÚJTÓK biztonsági szerkezettel
		1	W2		CW1		1.2D	0409	ROBBANÓGYÚJTÓK biztonsági szerkezettel
		2	W2		CW1		1.4D	0410	ROBBANÓGYÚJTÓK biztonsági szerkezettel
		1	W2 W3		CW1		1.1D	0411	PENTAERITRIT-TETRANITRÁT (PETN) legalább 7 tömeg% viasszal
		2	W2		CW1		1.4E	0412	TÖLTÉNYEK FEGYVEREKHEZ robbanólövedékkel
		1	W2		CW1		1.2C	0413	VAKTÖLTÉNYEK FEGYVEREKHEZ
		1	W2		CW1		1.2C	0414	KIDOBÓTÖLTETEK LÖVEGEKHEZ
		1	W2		CW1		1.2C	0415	HAJTÓTÖLTETEK
		1	W2		CW1		1.3C	0417	TÖLTÉNYEK FEGYVEREKHEZ INERT LÖVEDÉKKEL vagy KÉZIFEGYVER TÖLTÉNYEK
		1	W2		CW1		1.1G	0418	FÖLDI VILÁGÍTÓTESTEK
		1	W2		CW1		1.2G	0419	FÖLDI VILÁGÍTÓTESTEK
		1	W2		CW1		1.1G	0420	LÉGI VILÁGÍTÓTESTEK
		1	W2		CW1		1.2G	0421	LÉGI VILÁGÍTÓTESTEK
		1	W2		CW1		1.3G	0424	LÖVEDÉKEK (inertek, nyomjelzőszerrel)
		2	W2		CW1		1.4G	0425	LÖVEDÉKEK (inertek, nyomjelzőszerrel)
		1	W2		CW1		1.2F	0426	LÖVEDÉKEK robbanó- vagy kidobótöltettel
		2	W2		CW1		1.4F	0427	LÖVEDÉKEK robbanó- vagy kidobótöltettel
		1	W2		CW1		1.1G	0428	PIROTECHNIKAI TÁRGYAK műszaki célokra
		1	W2		CW1		1.2G	0429	PIROTECHNIKAI TÁRGYAK műszaki célokra

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
0430	PIROTECHNIKAI TÁRGYAK műszaki célokra	1	1.3G		1		LQ0	E0	P135		MP23 MP24		
0431	PIROTECHNIKAI TÁRGYAK műszaki célokra	1	1.4G		1.4		LQ0	E0	P135		MP23 MP24		
0432	PIROTECHNIKAI TÁRGYAK műszaki célokra	1	1.4S		1.4		LQ0	E0	P135		MP23 MP24		
0433	LŐPORBRIKETT (LŐPORPASZTA), legalább 17 tömeg% alkohollal NEDVESÍTETT	1	1.1C		1 (+13)	266	LQ0	E0	P111		MP20		
0434	LÖVEDÉKEK robbanó- vagy kidobótöltettel	1	1.2G		1		LQ0	E0	P130 LP101	PP67 L1	MP23		
0435	LÖVEDÉKEK robbanó- vagy kidobótöltettel	1	1.4G		1.4		LQ0	E0	P130 LP101	PP67 L1	MP23		
0436	RAKÉTÁK kidobótöltettel	1	1.2C		1		LQ0	E0	P130 LP101	PP67 L1	MP22		
0437	RAKÉTÁK kidobótöltettel	1	1.3C		1		LQ0	E0	P130 LP101	PP67 L1	MP22		
0438	RAKÉTÁK kidobótöltettel	1	1.4C		1.4		LQ0	E0	P130 LP101	PP67 L1	MP22		
0439	FORMÁZOTT TÖLTETEK detonátor nélkül	1	1.2D		1		LQ0	E0	P137	PP70	MP21		
0440	FORMÁZOTT TÖLTETEK detonátor nélkül	1	1.4D		1.4		LQ0	E0	P137	PP70	MP21		
0441	FORMÁZOTT TÖLTETEK detonátor nélkül	1	1.4S		1.4		LQ0	E0	P137	PP70	MP23		
0442	IPARI ROBBANÓTÖLTETEK detonátor nélkül	1	1.1D		1 (+13)		LQ0	E0	P137		MP21		
0443	IPARI ROBBANÓTÖLTETEK detonátor nélkül	1	1.2D		1		LQ0	E0	P137		MP21		
0444	IPARI ROBBANÓTÖLTETEK detonátor nélkül	1	1.4D		1.4		LQ0	E0	P137		MP21		
0445	IPARI ROBBANÓTÖLTETEK detonátor nélkül	1	1.4S		1.4		LQ0	E0	P137		MP23		
0446	ÜRES TÖLTÉNYHÜVELYEK, ÉGHETŐK, GYUTACS NÉLKÜL	1	1.4C		1.4		LQ0	E0	P136		MP22		
0447	ÜRES TÖLTÉNYHÜVELYEK, ÉGHETŐK, GYUTACS NÉLKÜL	1	1.3C		1		LQ0	E0	P136		MP22		
0448	5-MERKAPTO-TETRAZOL-1- ECETSAV	1	1.4C		1.4		LQ0	E0	P114b		MP20		
0449	TORPEDÓK FOLYÉKONY HAJTÓANYAGGAL, robbanótöltettel vagy anélkül	1	1.1J		1 (+13)		LQ0	E0	P101		MP23		
0450	TORPEDÓK FOLYÉKONY HAJTÓANYAGGAL, inert fejjel	1	1.3J		1 (+13)		LQ0	E0	P101		MP23		
0451	TORPEDÓK robbanótöltettel	1	1.1D		1 (+13)		LQ0	E0	P130 LP101	PP67 L1	MP21		
0452	GYAKORLÓGRÁNÁTOK (kézi- vagy fegyvergránátok)	1	1.4G		1.4		LQ0	E0	P141		MP23		
0453	KÖTÉLVETŐ RAKÉTÁK	1	1.4G		1.4		LQ0	E0	P130		MP23		
0454	GYÚJTÓK	1	1.4S		1.4		LQ0	E0	P142		MP23		
0455	NEMVILLAMOS GYUTACSONK robbantáshoz	1	1.4S		1.4		LQ0	E0	P131	PP68	MP23		
0456	VILLAMOS GYUTACSONK robbantáshoz	1	1.4S		1.4		LQ0	E0	P131		MP23		

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		1	W2		CW1		1.3G	0430	PIROTECHNIKAI TÁRGYAK műszaki célokra
		2	W2		CW1	CE1	1.4G	0431	PIROTECHNIKAI TÁRGYAK műszaki célokra
		4	W2		CW1	CE1	1.4S	0432	PIROTECHNIKAI TÁRGYAK műszaki célokra
		1	W2		CW1		1.1C	0433	LŐPORBRIKETT (LŐPORPASZTA), legalább 17 tömeg% alkohollal NEDVESÍTETT
		1	W2		CW1		1.2G	0434	LŐVEDÉKEK robbanó- vagy kidobótöltettel
		2	W2		CW1		1.4G	0435	LŐVEDÉKEK robbanó- vagy kidobótöltettel
		1	W2		CW1		1.2C	0436	RAKÉTÁK kidobótöltettel
		1	W2		CW1		1.3C	0437	RAKÉTÁK kidobótöltettel
		2	W2		CW1		1.4C	0438	RAKÉTÁK kidobótöltettel
		1	W2		CW1		1.2D	0439	FORMÁZOTT TÖLTETEK detonátor nélkül
		2	W2		CW1		1.4D	0440	FORMÁZOTT TÖLTETEK detonátor nélkül
		4	W2		CW1	CE1	1.4S	0441	FORMÁZOTT TÖLTETEK detonátor nélkül
		1	W2		CW1		1.1D	0442	IPARI ROBBANÓTÖLTETEK detonátor nélkül
		1	W2		CW1		1.2D	0443	IPARI ROBBANÓTÖLTETEK detonátor nélkül
		2	W2		CW1		1.4D	0444	IPARI ROBBANÓTÖLTETEK detonátor nélkül
		4	W2		CW1	CE1	1.4S	0445	IPARI ROBBANÓTÖLTETEK detonátor nélkül
		2	W2		CW1		1.4C	0446	ÜRES TÖLTÉNYHÜVELYEK, ÉGHETŐK, GYUTACS NÉLKÜL
		1	W2		CW1		1.3C	0447	ÜRES TÖLTÉNYHÜVELYEK, ÉGHETŐK, GYUTACS NÉLKÜL
		2	W2		CW1		1.4C	0448	5-MERKAPTO-TETRAZOL-1-ECETSAV
		1	W2		CW1		1.1J	0449	TORPEDÓK FOLYÉKONY HAJTÓANYAGGAL, robbanótöltettel vagy anélkül
		1	W2		CW1		1.3J	0450	TORPEDÓK FOLYÉKONY HAJTÓANYAGGAL, inert fejjel
		1	W2		CW1		1.1D	0451	TORPEDÓK robbanótöltettel
		2	W2		CW1		1.4G	0452	GYAKORLÓGRÁNÁTOK (kézi- vagy fegyvergránátok)
		2	W2		CW1		1.4G	0453	KÖTÉLVETŐ RAKÉTÁK
		4	W2		CW1	CE1	1.4S	0454	GYÚJTÓK
		4	W2		CW1	CE1	1.4S	0455	NEMVILLAMOS GYUTACSON robbantáshoz
		4	W2		CW1	CE1	1.4S	0456	VILLAMOS GYUTACSON robbantáshoz

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
0457	MŰANYAG KÖTÉSŰ ROBBANÓTÖLTETEK	1	1.1D		1 (+13)		LQ0	E0	P130		MP21		
0458	MŰANYAG KÖTÉSŰ ROBBANÓTÖLTETEK	1	1.2D		1		LQ0	E0	P130		MP21		
0459	MŰANYAG KÖTÉSŰ ROBBANÓTÖLTETEK	1	1.4D		1.4		LQ0	E0	P130		MP21		
0460	MŰANYAG KÖTÉSŰ ROBBANÓTÖLTETEK	1	1.4S		1.4		LQ0	E0	P130		MP23		
0461	ROBBANÓLÁNC ALKOTÓRÉSZEI, M.N.N.	1	1.1B		1 (+13)	178 274	LQ0	E0	P101		MP2		
0462	ROBBANÓTÁRGYAK, M.N.N.	1	1.1C		1 (+13)	178 274	LQ0	E0	P101		MP2		
0463	ROBBANÓTÁRGYAK, M.N.N.	1	1.1D		1 (+13)	178 274	LQ0	E0	P101		MP2		
0464	ROBBANÓTÁRGYAK, M.N.N.	1	1.1E		1 (+13)	178 274	LQ0	E0	P101		MP2		
0465	ROBBANÓTÁRGYAK, M.N.N.	1	1.1F		1 (+13)	178 274	LQ0	E0	P101		MP2		
0466	ROBBANÓTÁRGYAK, M.N.N.	1	1.2C		1	178 274	LQ0	E0	P101		MP2		
0467	ROBBANÓTÁRGYAK, M.N.N.	1	1.2D		1	178 274	LQ0	E0	P101		MP2		
0468	ROBBANÓTÁRGYAK, M.N.N.	1	1.2E		1	178 274	LQ0	E0	P101		MP2		
0469	ROBBANÓTÁRGYAK, M.N.N.	1	1.2F		1 (+13)	178 274	LQ0	E0	P101		MP2		
0470	ROBBANÓTÁRGYAK, M.N.N.	1	1.3C		1	178 274	LQ0	E0	P101		MP2		
0471	ROBBANÓTÁRGYAK, M.N.N.	1	1.4E		1.4	178 274	LQ0	E0	P101		MP2		
0472	ROBBANÓTÁRGYAK, M.N.N.	1	1.4F		1.4	178 274	LQ0	E0	P101		MP2		
0473	ROBBANÓANYAGOK, M.N.N.	1	1.1A	A fuvarozásból ki van zárva									
0474	ROBBANÓANYAGOK, M.N.N.	1	1.1C		1 (+13)	178 274	LQ0	E0	P101		MP2		
0475	ROBBANÓANYAGOK, M.N.N.	1	1.1D		1 (+13)	178 274	LQ0	E0	P101		MP2		
0476	ROBBANÓANYAGOK, M.N.N.	1	1.1G		1 (+13)	178 274	LQ0	E0	P101		MP2		
0477	ROBBANÓANYAGOK, M.N.N.	1	1.3C		1 (+13)	178 274	LQ0	E0	P101		MP2		
0478	ROBBANÓANYAGOK, M.N.N.	1	1.3G		1	178 274	LQ0	E0	P101		MP2		
0479	ROBBANÓANYAGOK, M.N.N.	1	1.4C		1.4	178 274	LQ0	E0	P101		MP2		
0480	ROBBANÓANYAGOK, M.N.N.	1	1.4D		1.4	178 274	LQ0	E0	P101		MP2		
0481	ROBBANÓANYAGOK, M.N.N.	1	1.4S		1.4	178 274	LQ0	E0	P101		MP2		
0482	NAGYON ÉRZÉKETLEN ROBBANÓANYAGOK (EVI ANYAGOK), M.N.N.	1	1.5D		1.5	178 274	LQ0	E0	P101		MP2		

RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		1	W2		CW1		1.1D	0457	MŰANYAG KÖTÉSŰ ROBBANÓTÖLTETEK
		1	W2		CW1		1.2D	0458	MŰANYAG KÖTÉSŰ ROBBANÓTÖLTETEK
		2	W2		CW1		1.4D	0459	MŰANYAG KÖTÉSŰ ROBBANÓTÖLTETEK
		4	W2		CW1	CE1	1.4S	0460	MŰANYAG KÖTÉSŰ ROBBANÓTÖLTETEK
		1	W2		CW1		1.1B	0461	ROBBANÓLÁNC ALKOTÓRÉSZEI, M.N.N.
		1	W2		CW1		1.1C	0462	ROBBANÓTÁRGYAK, M.N.N.
		1	W2		CW1		1.1D	0463	ROBBANÓTÁRGYAK, M.N.N.
		1	W2		CW1		1.1E	0464	ROBBANÓTÁRGYAK, M.N.N.
		1	W2		CW1		1.1F	0465	ROBBANÓTÁRGYAK, M.N.N.
		1	W2		CW1		1.2C	0466	ROBBANÓTÁRGYAK, M.N.N.
		1	W2		CW1		1.2D	0467	ROBBANÓTÁRGYAK, M.N.N.
		1	W2		CW1		1.2E	0468	ROBBANÓTÁRGYAK, M.N.N.
		1	W2		CW1		1.2F	0469	ROBBANÓTÁRGYAK, M.N.N.
		1	W2		CW1		1.3C	0470	ROBBANÓTÁRGYAK, M.N.N.
		2	W2		CW1		1.4E	0471	ROBBANÓTÁRGYAK, M.N.N.
		2	W2		CW1		1.4F	0472	ROBBANÓTÁRGYAK, M.N.N.
A fuvarozásból ki van zárva								0473	ROBBANÓANYAGOK, M.N.N.
		1	W2 W3		CW1		1.1C	0474	ROBBANÓANYAGOK, M.N.N.
		1	W2 W3		CW1		1.1D	0475	ROBBANÓANYAGOK, M.N.N.
		1	W2 W3		CW1		1.1G	0476	ROBBANÓANYAGOK, M.N.N.
		1	W2 W3		CW1		1.3C	0477	ROBBANÓANYAGOK, M.N.N.
		1	W2 W3		CW1		1.3G	0478	ROBBANÓANYAGOK, M.N.N.
		2	W2		CW1		1.4C	0479	ROBBANÓANYAGOK, M.N.N.
		2	W2		CW1		1.4D	0480	ROBBANÓANYAGOK, M.N.N.
		4	W2		CW1		1.4S	0481	ROBBANÓANYAGOK, M.N.N.
		1	W2		CW1		1.5D	0482	NAGYON ÉRZÉKETLEN ROBBANÓANYAGOK (EVI ANYAGOK), M.N.N.

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
0483	CIKLOTRIMETILÉN-TRINITRAMIN (CIKLONIT, HEXOGÉN, RDX), DESZENZIBILIZÁLT	1	1.1D		1 (+13)		LQ0	E0	P112b P112c		MP20		
0484	CIKLOTETRAMETILÉN- TETRANITRAMIN (OKTOGÉN, HMX), DESZENZIBILIZÁLT	1	1.1D		1 (+13)		LQ0	E0	P112b P112c		MP20		
0485	ROBBANÓANYAGOK, M.N.N.	1	1.4G		1.4	178 274	LQ0	E0	P101		MP2		
0486	RENDKÍVÜL ÉRZÉKETLEN ROBBANÓTÁRGYAK (EEI TÁRGYAK)	1	1.6N		1.6		LQ0	E0	P101		MP23		
0487	FÜSTJELZŐK	1	1.3G		1		LQ0	E0	P135		MP23		
0488	GYAKORLÓLŐSZER	1	1.3G		1		LQ0	E0	P130 LP101	PP67 L1	MP23		
0489	DINITRO-GLIKOLURIL (DINGU)	1	1.1D		1 (+13)		LQ0	E0	P112b P112c		MP20		
0490	NITRO-TRIAZOLON (NTO)	1	1.1D		1 (+13)		LQ0	E0	P112b P112c		MP20		
0491	HAJTÓTÖLTETEK	1	1.4C		1.4		LQ0	E0	P143	PP76	MP22		
0492	VASÚTI DURRANTYÚK	1	1.3G		1		LQ0	E0	P135		MP23		
0493	VASÚTI DURRANTYÚK	1	1.4G		1.4		LQ0	E0	P135		MP23		
0494	PERFORÁTOR PUSKÁK, TÖLTETTEL, detonátor nélkül, olajkutak fűráshoz	1	1.4D		1.4		LQ0	E0	P101		MP21		
0495	FOLYÉKONY HAJTÓANYAG	1	1.3C		1 (+13)	224	LQ0	E0	P115	PP53 PP54 PP57 PP58	MP20		
0496	OKTONAL	1	1.1D		1 (+13)		LQ0	E0	P112b P112c		MP20		
0497	FOLYÉKONY HAJTÓANYAG	1	1.1C		1 (+13)	224	LQ0	E0	P115	PP53 PP54 PP57 PP58	MP20		
0498	SZILÁRD HAJTÓANYAG	1	1.1C		1 (+13)		LQ0	E0	P114b		MP20		
0499	SZILÁRD HAJTÓANYAG	1	1.3C		1 (+13)		LQ0	E0	P114b		MP20		
0500	NEMVILLAMOS DETONÁTOR- SZERKEZETEK robbantáshoz	1	1.4S		1.4		LQ0	E0	P131		MP23		
0501	SZILÁRD HAJTÓANYAG	1	1.4C		1.4		LQ0	E0	P114b		MP20		
0502	RAKÉTÁK inert fejjel	1	1.2C		1		LQ0	E0	P130 LP101	PP67 L1	MP22		
0503	LÉGZSÁK GÁZGENERÁTOR vagy LÉGZSÁK MODUL vagy BIZTONSÁGI ÖV ELŐFESZÍTŐ	1	1.4G		1.4	235 289	LQ0	E0	P135		MP23		
0504	1H-TETRAZOL	1	1.1D		1 (+13)		LQ0	E0	P112c	PP48	MP20		
0505	VÉSZJELZŐK, tengeri	1	1.4G		1.4		LQ0	E0	P135		MP23 MP24		
0506	VÉSZJELZŐK, tengeri	1	1.4S		1.4		LQ0	E0	P135		MP23 MP24		
0507	FÜSTJELZŐK	1	1.4S		1.4		LQ0	E0	P135		MP23 MP24		

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		1	W2 W3		CW1		1.1D	0483	CIKLOTTRIMETILÉN-TRINITRAMIN (CIKLONIT, HEXOGÉN, RDX), DESZENZIBILIZÁLT
		1	W2 W3		CW1		1.1D	0484	CIKLOTETRAMETILÉN-TETRANITRAMIN (OKTOGÉN, HMX), DESZENZIBILIZÁLT
		2	W2 W3		CW1		1.4G	0485	ROBBANÓANYAGOK, M.N.N.
		2	W2		CW1		1.6N	0486	RENDKÍVÜL ÉRZÉKETLEN ROBBANÓTÁRGYAK (EEI TÁRGYAK)
		1	W2		CW1		1.3G	0487	FÜSTJELZŐK
		1	W2		CW1		1.3G	0488	GYAKORLÓLŐSZER
		1	W2 W3		CW1		1.1D	0489	DINITRO-GLIKOLURIL (DINGU)
		1	W2 W3		CW1		1.1D	0490	NITRO-TRIAZOLON (NTO)
		2	W2		CW1		1.4C	0491	HAJTÓTÖLTETEK
		1	W2		CW1		1.3G	0492	VASÚTI DURRANTYÚK
		2	W2		CW1		1.4G	0493	VASÚTI DURRANTYÚK
		2	W2		CW1		1.4D	0494	PERFORÁTOR PUSKÁK, TÖLTETTEL, detonátor nélkül, olajkutak fúráshoz
		1	W2		CW1		1.3C	0495	FOLYÉKONY HAJTÓANYAG
		1	W2 W3		CW1		1.1D	0496	OKTONAL
		1	W2		CW1		1.1C	0497	FOLYÉKONY HAJTÓANYAG
		1	W2		CW1		1.1C	0498	SZILÁRD HAJTÓANYAG
		1	W2		CW1		1.3C	0499	SZILÁRD HAJTÓANYAG
		4	W2		CW1	CE1	1.4S	0500	NEMVILLAMOS DETONÁTOR-SZERKEZETEK robbantáshoz
		2	W2		CW1		1.4C	0501	SZILÁRD HAJTÓANYAG
		1	W2		CW1		1.2C	0502	RAKÉTÁK inert fejjel
		2	W2		CW1		1.4G	0503	LÉGZSÁK GÁZGENERÁTOR vagy LÉGZSÁK MODUL vagy BIZTONSÁGI ÖV ELŐFESZÍTŐ
		1	W2		CW1		1.1D	0504	1H-TETRAZOL
		2	W2		CW1		1.4G	0505	VÉSZJELZŐK, tengeri
		4	W2		CW1	CE1	1.4S	0506	VÉSZJELZŐK, tengeri
		4	W2		CW1	CE1	1.4S	0507	FÜSTJELZŐK

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
0508	1-HIDROXIBENZOTRIAZOL, VÍZMENTES, száraz vagy 20 tömeg%- nál kevesebb vízzel nedvesített	1	1.3C		1 (+13)		LQ0	E0	P114b	PP48 PP50	MP20		
1001	ACETILÉN, OLDOTT	2	4F		2.1 (+13)		LQ0	E0	P200		MP9		
1002	LEVEGŐ, SŰRÍTETT	2	1A		2.2 (+13)	292	LQ1	E1	P200		MP9	(M)	
1003	LEVEGŐ, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT	2	3O		2.2 + 5.1 (+13)		LQ0	E0	P203		MP9	T75	TP5 TP22
1005	AMMÓNIA, VÍZMENTES	2	2TC		2.3 + 8 (+13)	23	LQ0	E0	P200		MP9	T50 (M)	
1006	ARGON, SŰRÍTETT	2	1A		2.2 (+13)		LQ1	E1	P200		MP9	(M)	
1008	BÓR-TRIFLUORID	2	2TC		2.3 + 8 (+13)		LQ0	E0	P200		MP9	(M)	
1009	BRÓM-TRIFLUOR-METÁN (R 13B1 HŰTŐGÁZ)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
1010	BUTADIÉNEK, STABILIZÁLT vagy BUTADIÉNEK ÉS SZÉNHIDROGÉN KEVERÉKE, STABILIZÁLT, amelynek gőz-nyomása 70 °C-on nem haladja meg az 1,1 MPa-t (11 bar-t) és sűrűsége 50 °C-on legalább 0,525 kg/l	2	2F		2.1 (+13)	618	LQ0	E0	P200		MP9	T50 (M)	
1011	BUTÁN	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	
1012	BUTÉN KEVERÉK vagy 1-BUTÉN vagy cisz-2-BUTÉN vagy transz-2- BUTÉN	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	
1013	SZÉN-DIOXID	2	2A		2.2 (+13)	584 653	LQ1	E1	P200		MP9	(M)	



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		1	W2 W3		CW1		1.3C	0508	1-HIDROXIBENZOTRIAZOL, VÍZMENTES, száraz vagy 20 tömeg%- nál kevesebb vízzel nedvesített
P*BN(M)	TU17 TU38 TE22 TA4 TT9	2			CW9 CW10 CW36	CE2	239	1001	ACETILÉN, OLDOTT
C*BN(M)	TA4 TT9	3			CW9 CW10	CE3	20	1002	LEVEGŐ, SŰRÍTETT
R*BN	TU7 TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	225	1003	LEVEGŐ, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT
P*BH(M)	TU38 TE22 TE25 TA4 TT8 TT9 TM6	1			CW9 CW10 CW36		268	1005	AMMÓNIA, VÍZMENTES
C*BN(M)	TA4 TT9	3			CW9 CW10 CW36	CE3	20	1006	ARGON, SŰRÍTETT
P*BH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		268	1008	BÓR-TRIFLUORID
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	1009	BRÓM-TRIFLUOR-METÁN (R 13B1 HŰTŐGÁZ)
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	239	1010	BUTADIÉNEK, STABILIZÁLT vagy BUTADIÉNEK ÉS SZÉNHDROGÉN KEVERÉKE, STABILIZÁLT, amelynek gőz-nyomása 70 °C-on nem haladja meg az 1,1 MPa-t (11 bar-t) és sűrűsége 50 °C-on legalább 0,525 kg/l
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	1011	BUTÁN
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	1012	BUTÉN KEVERÉK vagy 1-BUTÉN vagy cisz-2-BUTÉN vagy transz-2-BUTÉN
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	1013	SZÉN-DIOXID

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1016	SZÉN-MONOXID, SŰRÍTETT	2	1TF		2.3 + 2.1 (+13)		LQ0	E0	P200		MP9	(M)	
1017	KLÓR	2	2TOC		2.3 + 5.1 +8 (+13)		LQ0	E0	P200		MP9	T50 (M)	TP19
1018	KLÓR-DIFLUOR-METÁN (R 22 HŰTŐGÁZ)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
1020	KLÓR-PENTAFLUOR-ETÁN (R 115 HŰTŐGÁZ)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
1021	1-KLÓR-1,2,2,2-TETRAFLUOR-ETÁN (R 124 HŰTŐGÁZ)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
1022	KLÓR-TRIFLUOR-METÁN (R 13 HŰTŐGÁZ)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	(M)	
1023	VÁROSI GÁZ, SŰRÍTETT	2	1TF		2.3 + 2.1 (+13)		LQ0	E0	P200		MP9	(M)	
1026	DICIÁN	2	2TF		2.3 + 2.1 (+13)		LQ0	E0	P200		MP9	(M)	
1027	CIKLOPROPÁN	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	
1028	DIKLÓR-DIFLUOR-METÁN (R 12 HŰTŐGÁZ)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
1029	DIKLÓR-FLUOR-METÁN (R 21 HŰTŐGÁZ)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
1030	1,1-DIFLUOR-ETÁN (R 152a HŰTŐGÁZ)	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	
1032	DIMETIL-AMIN, VÍZMENTES	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
C*BH(M)	TU38 TE22 TE25 TA4 TT9	1			CW9 CW10 CW36		263	1016	SZÉN-MONOXID, SŰRÍTETT
P22DH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		265	1017	KLÓR
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	1018	KLÓR-DIFLUOR-METÁN (R 22 HŰTŐGÁZ)
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	1020	KLÓR-PENTAFLUOR-ETÁN (R 115 HŰTŐGÁZ)
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	1021	1-KLÓR-1,2,2,2-TETRAFLUOR-ETÁN (R 124 HŰTŐGÁZ)
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	1022	KLÓR-TRIFLUOR-METÁN (R 13 HŰTŐGÁZ)
C*BH(M)	TU38 TE22 TE25 TA4 TT9	1			CW9 CW10 CW36		263	1023	VÁROSI GÁZ, SŰRÍTETT
P*BH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		263	1026	DICIÁN
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	1027	CIKLOPROPÁN
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	1028	DIKLÓR-DIFLUOR-METÁN (R 12 HŰTŐGÁZ)
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	1029	DIKLÓR-FLUOR-METÁN (R 21 HŰTŐGÁZ)
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	1030	1,1-DIFLUOR-ETÁN (R 152a HŰTŐGÁZ)
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	1032	DIMETIL-AMIN, VÍZMENTES

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1033	DIMETIL-ÉTER	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	
1035	ETÁN	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	(M)	
1036	ETIL-AMIN	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	
1037	ETIL-KLORID	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	
1038	ETILÉN, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT	2	3F		2.1 (+13)		LQ0	E0	P203		MP9	T75	TP5
1039	ETIL-METIL-ÉTER	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	(M)	
1040	ETILÉN-OXID	2	2TF		2.3 + 2.1		LQ0	E0	P200		MP9	(M)	
1040	ETILÉN-OXID NITROGÉNNEL 50 °C- on legfeljebb 1 MPa (10 bar) össznyomásig	2	2TF		2.3 + 2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	TP20
1041	ETILÉN-OXID ÉS SZÉN-DIOXID KEVERÉK 9%-nál több, de legfeljebb 87% etilén-oxid tartalommal	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	
1043	AMMÓNIA MŰTRÁGYA OLDAT szabad ammónia-tartalommal	2			2.2	642							
1044	TŰZOLTÓKÉSZÜLÉKEK sűrített vagy cseppfolyósított gázzal	2	6A		2.2	225 594	LQ0	E0	P003		MP9		
1045	FLUOR, SŰRÍTETT	2	1TOC		2.3 + 5.1 + 8		LQ0	E0	P200		MP9		

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	1033	DIMETIL-ÉTER
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	1035	ETÁN
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	1036	ETIL-AMIN
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	1037	ETIL-KLORID
R*BN	TU18 TU38 TE22 TA4 TT9 TM6	2	W5		CW9 CW11 CW30 CW36	CE2	223	1038	ETILÉN, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	1039	ETIL-METIL-ÉTER
		1			CW9 CW10 CW36		263	1040	ETILÉN-OXID
P*BH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		263	1040	ETILÉN-OXID NITROGÉNNEL 50 °C-on legfeljebb 1 MPa (10 bar) össznyomásig
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	239	1041	ETILÉN-OXID ÉS SZÉN-DIOXID KEVERÉK 9%-nál több, de legfeljebb 87% etilén-oxid tartalommal
								1043	AMMÓNIA MŰTRÁGYA OLDAT szabad ammónia-tartalommal
		3			CW9	CE2	20	1044	TŰZOLTÓKÉSZÜLÉKEK sűrített vagy cseppfolyósított gázzal
		1			CW9 CW10 CW36		265	1045	FLUOR, SŰRÍTETT

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és örmlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1046	HÉLIUM, SŰRÍTETT	2	1A		2.2 (+13)		LQ1	E1	P200		MP9	(M)	
1048	HIDROGÉN-BROMID, VÍZMENTES	2	2TC		2.3 + 8 (+13)		LQ0	E0	P200		MP9	(M)	
1049	HIDROGÉN, SŰRÍTETT	2	1F		2.1 (+13)		LQ0	E0	P200		MP9	(M)	
1050	HIDROGÉN-KLORID, VÍZMENTES	2	2TC		2.3 + 8 (+13)		LQ0	E0	P200		MP9	(M)	
1051	HIDROGÉN-CIANID, STABILIZÁLT, 3%-nál kevesebb víztartalommal	6.1	TF1	I	6.1 + 3	603	LQ0	E5	P200		MP2		
1052	HIDROGÉN-FLUORID, VÍZMENTES	8	CT1	I	8 + 6.1		LQ0	E0	P200		MP2	T10	TP2
1053	HIDROGÉN-SZULFID	2	2TF		2.3 + 2.1 (+13)		LQ0	E0	P200		MP9	(M)	
1055	IZOBUTÉN	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	
1056	KRIPTON, SŰRÍTETT	2	1A		2.2 (+13)		LQ1	E1	P200		MP9	(M)	
1057	ÖNGYÚJTÓK vagy ÖNGYÚJTÓ UTÁNTÖLTŐK gyúlékony gáz tartalommal	2	6F		2.1	201 654	LQ0	E0	P002	PP84 RR5	MP9		
1058	CSEPPFOLYÓSÍTOTT GÁZ, nem gyúlékony, nitrogén, szén-dioxid vagy levegő alatt	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	(M)	

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
C*BN(M)	TA4 TT9	3			CW9 CW10 CW36	CE3	20	1046	HÉLIUM, SÚRÍTETT
P*BH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		268	1048	HIDROGÉN-BROMID, VÍZMENTES
C*BN(M)	TU38 TE22 TA4 TT9	2			CW9 CW10 CW36	CE3	23	1049	HIDROGÉN, SÚRÍTETT
P*BH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		268	1050	HIDROGÉN-KLORID, VÍZMENTES
		0			CW13 CW28 CW31		663	1051	HIDROGÉN-CIANID, STABILIZÁLT, 3%-nál kevesebb víztartalommal
L21DH(+)	TU14 TU34 TU38 TC1 TE17 TE21 TE22 TE25 TA4 TT4 TT9 TM3	1			CW13 CW28 CW34		886	1052	HIDROGÉN-FLUORID, VÍZMENTES
P*DH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		263	1053	HIDROGÉN-SZULFID
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	1055	IZOBUTÉN
C*BN(M)	TA4 TT9	3			CW9 CW10 CW36	CE3	20	1056	KRIPTON, SÚRÍTETT
		2			CW9	CE2	23	1057	ÖNGYÚJTÓK vagy ÖNGYÚJTÓ UTÁNTÖLTŐK gyúlékony gáz tartalommal
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	1058	CSEPPFOLYÓSÍTOTT GÁZ, nem gyúlékony, nitrogén, szén-dioxid vagy levegő alatt

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előír- ások	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1060	METIL-ACETILÉN ÉS PROPADIÉN KEVERÉK, STABILIZÁLT, mint P1 keverék vagy P2 keverék	2	2F		2.1 (+13)	581	LQ0	E0	P200		MP9	T50 (M)	
1061	METIL-AMIN, VÍZMENTES	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	
1062	METIL-BROMID legfeljebb 2% klórpikrin tartalommal	2	2T		2.3 (+13)	23	LQ0	E0	P200		MP9	T50 (M)	
1063	METIL-KLORID (R 40 HŰTŐGÁZ)	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	
1064	METIL-MERKAPTÁN	2	2TF		2.3 + 2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	
1065	NEON, SŰRÍTETT	2	1A		2.2 (+13)		LQ1	E1	P200		MP9	(M)	
1066	NITROGÉN, SŰRÍTETT	2	1A		2.2 (+13)		LQ1	E1	P200		MP9	(M)	
1067	DINITROGÉN-TETROXID (NITROGÉN-DIOXID)	2	2TOC		2.3 + 5.1 + 8 (+13)		LQ0	E0	P200		MP9	T50	TP21
1069	NITROZIL-KLORID	2	2TC		2.3 + 8		LQ0	E0	P200		MP9		
1070	DINITROGÉN-OXID	2	2O		2.2 + 5.1 (+13)	584	LQ0	E0	P200		MP9	(M)	
1071	KRAKKGÁZ, SŰRÍTETT	2	1TF		2.3 + 2.1 (+13)		LQ0	E0	P200		MP9	(M)	
1072	OXIGÉN, SŰRÍTETT	2	1O		2.2 + 5.1 (+13)		LQ0	E0	P200		MP9	(M)	



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	239	1060	METIL-ACETILÉN ÉS PROPADIÉN KEVERÉK, STABILIZÁLT, mint P1 keverék vagy P2 keverék
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	1061	METIL-AMIN, VÍZMENTES
P*BH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		26	1062	METIL-BROMID legfeljebb 2% klórpikrin tartalommal
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	1063	METIL-KLORID (R 40 HŰTŐGÁZ)
P*DH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		263	1064	METIL-MERKAPTÁN
C*BN(M)	TA4 TT9	3			CW9 CW10 CW36	CE3	20	1065	NEON, SŰRÍTETT
C*BN(M)	TA4 TT9	3			CW9 CW10 CW36	CE3	20	1066	NITROGÉN, SŰRÍTETT
P*BH(M)	TU17 TU38 TE22 TA4 TT9	1			CW9 CW10 CW36		265	1067	DINITROGÉN-TETROXID (NITROGÉN-DIOXID)
		1			CW9 CW10 CW36		268	1069	NITROZIL-KLORID
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	25	1070	DINITROGÉN-OXID
C*BH(M)	TU38 TE22 TE25 TA4 TT9	1			CW9 CW10 CW36		263	1071	KRAKKGÁZ, SŰRÍTETT
C*BN(M)	TA4 TT9	3			CW9 CW10 CW36	CE3	25	1072	OXIGÉN, SŰRÍTETT

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- mago- lási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1073	OXIGÉN, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT	2	3O		2.2 + 5.1 (+13)		LQ0	E0	P203		MP9	T75	TP5 TP22
1075	PETRÓLEUMGÁZ, CSEPPFOLYÓSÍTOTT	2	2F		2.1 (+13)	274 583 639	LQ0	E0	P200		MP9	T50 (M)	
1076	FOSZGÉN	2	2TC		2.3 + 8 (+13)		LQ0	E0	P200		MP9		
1077	PROPILÉN	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	
1078	HÚTÓGÁZ, M.N.N., mint F1 keverék, F2 keverék vagy F3 keverék	2	2A		2.2 (+13)	274 582	LQ1	E1	P200		MP9	T50 (M)	
1079	KÉN-DIOXID	2	2TC		2.3 + 8 (+13)		LQ0	E0	P200		MP9	T50 (M)	TP19
1080	KÉN-HEXAFLUORID	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	(M)	
1081	TETRAFLUOR-ETILÉN, STABILIZÁLT	2	2F		2.1		LQ0	E0	P200		MP9	(M)	
1082	TRIFLUOR-KLÓR-ETILÉN, STABILIZÁLT	2	2TF		2.3 + 2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	
1083	TRIMETIL-AMIN, VÍZMENTES	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	
1085	VINIL-BROMID, STABILIZÁLT	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
R*BN	TU7 TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	225	1073	OXIGÉN, MÉLYHÚTÓTT, CSEPPFOLYÓSÍTOTT
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	1075	PETRÓLEUMGÁZ, CSEPPFOLYÓSÍTOTT
P22DH(M)	TU17 TU38 TE22 TA4 TT9	1			CW9 CW10 CW36		268	1076	FOSZGÉN
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	1077	PROPILÉN
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	1078	HÚTÓGÁZ, M.N.N., mint F1 keverék, F2 keverék vagy F3 keverék
P*DH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		268	1079	KÉN-DIOXID
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	1080	KÉN-HEXAFLUORID
		2			CW9 CW10 CW36	CE3	239	1081	TETRAFLUOR-ETILÉN, STABILIZÁLT
P*BH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		263	1082	TRIFLUOR-KLÓR-ETILÉN, STABILIZÁLT
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	1083	TRIMETIL-AMIN, VÍZMENTES
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	239	1085	VINIL-BROMID, STABILIZÁLT

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1086	VINIL-KLORID, STABILIZÁLT	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	
1087	VINIL-METIL-ÉTER, STABILIZÁLT	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	
1088	ACETÁL	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1089	ACETALDEHID	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP2 TP7
1090	ACETON	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1091	ACETON OLAJOK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1 TP8
1092	AKROLEIN, STABILIZÁLT	6.1	TF1	I	6.1 + 3		LQ0	E5	P601		MP8 MP17	T22	TP2 TP7 TP35
1093	AKRILNITRIL, STABILIZÁLT	3	FT1	I	3 + 6.1		LQ0	E0	P001		MP7 MP17	T14	TP2
1098	ALLIL-ALKOHOL	6.1	TF1	I	6.1 + 3		LQ0	E5	P602		MP8 MP17	T20	TP2 TP35
1099	ALLIL-BROMID	3	FT1	I	3 + 6.1		LQ0	E0	P001		MP7 MP17	T14	TP2
1100	ALLIL-KLORID	3	FT1	I	3 + 6.1		LQ0	E0	P001		MP7 MP17	T14	TP2
1104	AMIL-ACETÁTOK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1105	PENTANOLOK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1 TP29

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	239	1086	VINIL-KLORID, STABILIZÁLT
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	239	1087	VINIL-METIL-ÉTER, STABILIZÁLT
LGBF		2				CE7	33	1088	ACETÁL
L4BN	TU8	1					33	1089	ACETALDEHID
LGBF		2				CE7	33	1090	ACETON
LGBF		2				CE7	33	1091	ACETON OLAJOK
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	1092	AKROLEIN, STABILIZÁLT
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	1093	AKRILNITRIL, STABILIZÁLT
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	1098	ALLIL-ALKOHOL
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	1099	ALLIL-BROMID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	1100	ALLIL-KLORID
LGBF		3				CE4	30	1104	AMIL-ACETÁTOK
LGBF		2				CE7	33	1105	PENTANOLOK

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1105	PENTANOLOK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1106	AMIL-AMIN	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP1
1106	AMIL-AMIN	3	FC	III	3 + 8		LQ7	E1	P001 IBC03 R001		MP19	T4	TP1
1107	AMIL-KLORID	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1108	1-PENTÉN (n-AMILÉN)	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP2
1109	AMIL-FORMIÁTOK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1110	n-AMIL-METIL-KETON	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1111	AMIL-MERKAPTÁNOK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1112	AMIL-NITRÁT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1113	AMIL-NITRIT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1114	BENZOL	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1120	BUTANOLOK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1 TP29
1120	BUTANOLOK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1123	BUTIL-ACETÁTOK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1123	BUTIL-ACETÁTOK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1125	n-BUTIL-AMIN	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP1
1126	1-BRÓM-BUTÁN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
LGBF		3				CE4	30	1105	PENTANOLOK
L4BH		2				CE7	338	1106	AMIL-AMIN
L4BN		3				CE4	38	1106	AMIL-AMIN
LGBF		2				CE7	33	1107	AMIL-KLORID
L4BN		1					33	1108	1-PENTÉN (n-AMILÉN)
LGBF		3				CE4	30	1109	AMIL-FORMIÁTOK
LGBF		3				CE4	30	1110	n-AMIL-METIL-KETON
LGBF		2				CE7	33	1111	AMIL-MERKAPTÁNOK
LGBF		3				CE4	30	1112	AMIL-NITRÁT
LGBF		2				CE7	33	1113	AMIL-NITRIT
LGBF		2				CE7	33	1114	BENZOL
LGBF		2				CE7	33	1120	BUTANOLOK
LGBF		3				CE4	30	1120	BUTANOLOK
LGBF		2				CE7	33	1123	BUTIL-ACETÁTOK
LGBF		3				CE4	30	1123	BUTIL-ACETÁTOK
L4BH		2				CE7	338	1125	n-BUTIL-AMIN
LGBF		2				CE7	33	1126	1-BRÓM-BUTÁN

UN szám	Megnevezés és leírás	Osztály	Osztályozási kód	Csomagolási csoport	Bárcák	Különleges előírások	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru-konténer	
									Csomagolási utasítások	Különleges csomagolási előírások	Egybe-csomagolási előírások	Utasítások	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1127	KLÓR-BUTÁNOK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1128	n-BUTIL-FORMIÁT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1129	BUTIRALDEHID	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1130	KÁMFOROLAJ	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1131	SZÉN-DISZULFID	3	FT1	I	3 + 6.1		LQ0	E0	P001	PP31	MP7 MP17	T14	TP2 TP7
1133	RAGASZTÓK gyúlékony folyadék tartalommal	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP1 TP8 TP27
1133	RAGASZTÓK gyúlékony folyadék tartalommal (gőznyomás 50 °C-on nagyobb mint 110 kPa)	3	F1	II	3	640C	LQ6	E2	P001	PP1	MP19	T4	TP1 TP8
1133	RAGASZTÓK gyúlékony folyadék tartalommal (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	II	3	640D	LQ6	E2	P001 IBC02 R001	PP1	MP19	T4	TP1 TP8
1133	RAGASZTÓK gyúlékony folyadék tartalommal	3	F1	III	3	640E	LQ7	E1	P001 IBC03 LP01 R001	PP1	MP19	T2	TP1
1133	RAGASZTÓK gyúlékony folyadék tartalommal (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)	3	F1	III	3	640F	LQ7	E1	P001 LP01 R001	PP1	MP19	T2	TP1
1133	RAGASZTÓK gyúlékony folyadék tartalommal (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)	3	F1	III	3	640G	LQ7	E1	P001 LP01 R001	PP1	MP19	T2	TP1
1133	RAGASZTÓK gyúlékony folyadék tartalommal (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	III	3	640H	LQ7	E1	P001 IBC02 LP01 R001	PP1	MP19	T2	TP1
1134	KLÓR-BENZOL	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
LGBF		2				CE7	33	1127	KLÓR-BUTÁNOK
LGBF		2				CE7	33	1128	n-BUTIL-FORMIÁT
LGBF		2				CE7	33	1129	BUTIRALDEHID
LGBF		3				CE4	30	1130	KÁMFOROLAJ
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	1131	SZÉN-DISZULFID
L4BN		1					33	1133	RAGASZTÓK gyúlékony folyadék tartalommal
L1.5BN		2				CE7	33	1133	RAGASZTÓK gyúlékony folyadék tartalommal (gőznyomás 50 °C-on nagyobb mint 110 kPa)
LGBF		2				CE7	33	1133	RAGASZTÓK gyúlékony folyadék tartalommal (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	1133	RAGASZTÓK gyúlékony folyadék tartalommal
L4BN		3				CE4	33	1133	RAGASZTÓK gyúlékony folyadék tartalommal (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)
L1.5BN		3				CE4	33	1133	RAGASZTÓK gyúlékony folyadék tartalommal (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)
LGBF		3				CE4	33	1133	RAGASZTÓK gyúlékony folyadék tartalommal (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	1134	KLÓR-BENZOL

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- mago- lási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1135	ETILÉN-KLÓRHIDRIN	6.1	TF1	I	6.1 + 3		LQ0	E5	P001		MP8 MP17	T14	TP2
1136	GYÚLÉKONY KÖSZÉNKÁTRÁNY PÁRLATOK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1136	GYÚLÉKONY KÖSZÉNKÁTRÁNY PÁRLATOK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1 TP29
1139	BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonó-anyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat)	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP1 TP8 TP27
1139	BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonó-anyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat) (gőznyomás 50 °C-on nagyobb mint 110 kPa)	3	F1	II	3	640C	LQ6	E2	P001		MP19	T4	TP1 TP8
1139	BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonó-anyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat) (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	II	3	640D	LQ6	E2	P001 IBC02 R001		MP19	T4	TP1 TP8
1139	BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonó-anyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat)	3	F1	III	3	640E	LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1139	BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonó-anyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat) (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)	3	F1	III	3	640F	LQ7	E1	P001 LP01 R001		MP19	T2	TP1

RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	1135	ETILÉN-KLÓRHIDRIN
LGBF		2				CE7	33	1136	GYÚLÉKONY KÖSZÉNKÁTRÁNY PÁRLATOK
LGBF		3				CE4	30	1136	GYÚLÉKONY KÖSZÉNKÁTRÁNY PÁRLATOK
L4BN		1					33	1139	BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonó-anyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat)
L1.5BN		2				CE7	33	1139	BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonó-anyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat) (gőznyomás 50 °C-on nagyobb mint 110 kPa)
LGBF		2				CE7	33	1139	BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonó-anyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat) (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	1139	BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonó-anyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat)
L4BN		3				CE4	33	1139	BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonó-anyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat) (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- mago- lási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1139	BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonó-anyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat) (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)	3	F1	III	3	640G	LQ7	E1	P001 LP01 R001		MP19	T2	TP1
1139	BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonó-anyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat) (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	III	3	640H	LQ7	E1	P001 IBC02 LP01 R001		MP19	T2	TP1
1143	KROTONALDEHID vagy KROTONALDEHID, STABILIZÁLT	6.1	TF1	I	6.1 + 3	324	LQ0	E5	P001		MP8 MP17	T20	TP2 TP35
1144	KROTONILÉN	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP2
1145	CIKLOHEXÁN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1146	CIKLOPENTÁN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T7	TP1
1147	DEKAHIDRO-NAFTALIN	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1148	DIACETON-ALKOHOL	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1148	DIACETON-ALKOHOL	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1149	DIBUTIL-ÉTEREK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1150	1,2-DIKLÓR-ETILÉN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T7	TP2
1152	DIKLÓR-PENTÁNOK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L1.5BN		3				CE4	33	1139	BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonó-anyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat) (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)
LGBF		3				CE4	33	1139	BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonó-anyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat) (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	1143	KROTONALDEHID vagy KROTONALDEHID, STABILIZÁLT
L4BN		1					339	1144	KROTONILÉN
LGBF		2				CE7	33	1145	CIKLOHEXÁN
LGBF		2				CE7	33	1146	CIKLOPENTÁN
LGBF		3				CE4	30	1147	DEKAHIDRO-NAFTALIN
LGBF		2				CE7	33	1148	DIACETON-ALKOHOL
LGBF		3				CE4	30	1148	DIACETON-ALKOHOL
LGBF		3				CE4	30	1149	DIBUTIL-ÉTEREK
LGBF		2				CE7	33	1150	1,2-DIKLÓR-ETILÉN
LGBF		3				CE4	30	1152	DIKLÓR-PENTÁNOK

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1153	ETILÉNGLIKOL-DIETIL-ÉTER	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1153	ETILÉNGLIKOL-DIETIL-ÉTER	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1154	DIETIL-AMIN	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP1
1155	DIETIL-ÉTER (ETIL-ÉTER)	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP2
1156	DIETIL-KETON	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1157	DIIZOBUTIL-KETON	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1158	DIIZOPROPIL-AMIN	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP1
1159	DIIZOPROPIL-ÉTER	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1160	DIMETIL-AMIN VIZES OLDAT	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP1
1161	DIMETIL-KARBONÁT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1162	DIMETIL-DIKLÓR-SZILÁN	3	FC	II	3 + 8		LQ4	E2	P010		MP19	T10	TP2 TP7
1163	ASZIMMETRIKUS DIMETIL- HIDRAZIN	6.1	TFC	I	6.1 + 3 + 8		LQ0	E5	P602		MP8 MP17	T20	TP2 TP35
1164	DIMETIL-SZULFID	3	F1	II	3		LQ4	E2	P001 IBC02	B8	MP19	T7	TP2
1165	DIOXÁN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1166	DIOXOLÁN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1167	DIVINIL-ÉTER, STABILIZÁLT	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP2
1169	FOLYÉKONY AROMÁS KIVONATOK	3	F1	I	3		LQ3	E3	P001		MP7 MP17		
1169	FOLYÉKONY AROMÁS KIVONATOK (gőznyomás 50 °C-on nagyobb mint 110 kPa)	3	F1	II	3	601 640C	LQ6	E2	P001		MP19	T4	TP1 TP8
1169	FOLYÉKONY AROMÁS KIVONATOK (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	II	3	601 640D	LQ6	E2	P001 IBC02 R001		MP19	T4	TP1 TP8

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
LGBF		2				CE7	33	1153	ETILÉNGLIKOL-DIETIL-ÉTER
LGBF		3				CE4	30	1153	ETILÉNGLIKOL-DIETIL-ÉTER
L4BH		2				CE7	338	1154	DIETIL-AMIN
L4BN		1					33	1155	DIETIL-ÉTER (ETIL-ÉTER)
LGBF		2				CE7	33	1156	DIETIL-KETON
LGBF		3				CE4	30	1157	DIIZOBUTIL-KETON
L4BH		2				CE7	338	1158	DIIZOPROPIL-AMIN
LGBF		2				CE7	33	1159	DIIZOPROPIL-ÉTER
L4BH		2				CE7	338	1160	DIMETIL-AMIN VIZES OLDAT
LGBF		2				CE7	33	1161	DIMETIL-KARBONÁT
L4BH		2				CE7	X338	1162	DIMETIL-DIKLÓR-SZILÁN
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	1163	ASZIMMETRIKUS DIMETIL-HIDRAZIN
L1.5BN		2				CE7	33	1164	DIMETIL-SZULFID
LGBF		2				CE7	33	1165	DIOXÁN
LGBF		2				CE7	33	1166	DIOXOLÁN
L4BN		1					339	1167	DIVINIL-ÉTER, STABILIZÁLT
L4BN		1					33	1169	FOLYÉKONY AROMÁS KIVONATOK
L1.5BN		2				CE7	33	1169	FOLYÉKONY AROMÁS KIVONATOK (gőznyomás 50 °C-on nagyobb mint 110 kPa)
LGBF		2				CE7	33	1169	FOLYÉKONY AROMÁS KIVONATOK (gőznyomás 50 °C-on legfeljebb 110 kPa)

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1169	FOLYÉKONY AROMÁS KIVONATOK	3	F1	III	3	601 640E	LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1169	FOLYÉKONY AROMÁS KIVONATOK (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)	3	F1	III	3	601 640F	LQ7	E1	P001 LP01 R001		MP19	T2	TP1
1169	FOLYÉKONY AROMÁS KIVONATOK (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)	3	F1	III	3	601 640G	LQ7	E1	P001 LP01 R001		MP19	T2	TP1
1169	FOLYÉKONY AROMÁS KIVONATOK (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	III	3	601 640H	LQ7	E1	P001 IBC02 LP01 R001		MP19	T2	TP1
1170	ETANOL (ETIL-ALKOHOL) vagy ETANOL OLDAT (ETIL-ALKOHOL OLDAT)	3	F1	II	3	144 601	LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1170	ETANOL OLDAT (ETIL-ALKOHOL OLDAT)	3	F1	III	3	144 601	LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1171	ETILÉNGLIKOL-MONOETIL-ÉTER	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1172	ETILÉNGLIKOL-MONOETIL-ÉTER- ACETÁT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1173	ETIL-ACETÁT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1175	ETIL-BENZOL	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1176	TRIETIL-BORÁT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1177	2-ETIL-BUTIL-ACETÁT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1178	2-ETIL-BUTIRALDEHID	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1179	ETIL-BUTIL-ÉTER	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
LGBF		3				CE4	30	1169	FOLYÉKONY AROMÁS KIVONATOK
L4BN		3				CE4	33	1169	FOLYÉKONY AROMÁS KIVONATOK (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus) (forráspont legfeljebb 35 °C)
L1.5BN		3				CE4	33	1169	FOLYÉKONY AROMÁS KIVONATOK (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)
LGBF		3				CE4	33	1169	FOLYÉKONY AROMÁS KIVONATOK (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus) (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		2				CE7	33	1170	ETANOL (ETIL-ALKOHOL) vagy ETANOL OLDAT (ETIL-ALKOHOL OLDAT)
LGBF		3				CE4	30	1170	ETANOL OLDAT (ETIL-ALKOHOL OLDAT)
LGBF		3				CE4	30	1171	ETILÉNGLIKOL-MONOETIL-ÉTER
LGBF		3				CE4	30	1172	ETILÉNGLIKOL-MONOETIL-ÉTER-ACETÁT
LGBF		2				CE7	33	1173	ETIL-ACETÁT
LGBF		2				CE7	33	1175	ETIL-BENZOL
LGBF		2				CE7	33	1176	TRIETIL-BORÁT
LGBF		3				CE4	30	1177	2-ETIL-BUTIL-ACETÁT
LGBF		2				CE7	33	1178	2-ETIL-BUTIRALDEHID
LGBF		2				CE7	33	1179	ETIL-BUTIL-ÉTER

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1180	ETIL-BUTIRÁT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1181	ETIL-KLÓR-ACETÁT	6.1	TF1	II	6.1 + 3		LQ17	E4	P001 IBC02		MP15	T7	TP2
1182	ETIL-KLÓR-FORMIÁT	6.1	TFC	I	6.1 + 3 + 8		LQ0	E5	P602		MP8 MP17	T14	TP2
1183	ETIL-DIKLÓR-SZILÁN	4.3	WFC	I	4.3 + 3 + 8		LQ0	E0	P401	RR7	MP2	T14	TP2 TP7
1184	1,2-DIKLÓR-ETÁN	3	FT1	II	3 + 6.1		LQ0	E2	P001 IBC02		MP19	T7	TP1
1185	ETILÉN-IMIN, STABILIZÁLT	6.1	TF1	I	6.1 + 3		LQ0	E5	P601		MP2	T22	TP2
1188	ETILÉNGLIKOL-MONOMETIL-ÉTER	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1189	ETILÉNGLIKOL-MONOMETIL-ÉTER- ACETÁT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1190	ETIL-FORMIÁT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1191	OKTILALDEHIDEK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1192	ETIL-LAKTÁT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1193	ETIL-METIL-KETON (METIL-ETIL- KETON)	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1194	ETIL-NITRIT OLDAT	3	FT1	I	3 + 6.1		LQ0	E0	P001		MP7 MP17		

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
LGBF		3				CE4	30	1180	ETIL-BUTIRÁT
L4BH	TU15	2			CW13 CW28 CW31	CE5	63	1181	ETIL-KLÓR-ACETÁT
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	1182	ETIL-KLÓR-FORMIÁT
L10DH	TU14 TU23 TU38 TE21 TE22 TM2 TM3	0	W1		CW23		X338	1183	ETIL-DIKLÓR-SZILÁN
L4BH	TU15	2			CW13 CW28	CE7	336	1184	1,2-DIKLÓR-ETÁN
L15CH	TU14 TU15 TU38 TE21 TE22 TE25	1			CW13 CW28 CW31		663	1185	ETILÉN-IMIN, STABILIZÁLT
LGBF		3				CE4	30	1188	ETILÉNGLIKOL-MONOMETIL-ÉTER
LGBF		3				CE4	30	1189	ETILÉNGLIKOL-MONOMETIL-ÉTER-ACETÁT
LGBF		2				CE7	33	1190	ETIL-FORMIÁT
LGBF		3				CE4	30	1191	OKTILALDEHIDEK
LGBF		3				CE4	30	1192	ETIL-LAKTÁT
LGBF		2				CE7	33	1193	ETIL-METIL-KETON (METIL-ETIL-KETON)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	1194	ETIL-NITRIT OLDAT

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1195	ETIL-PROPIONÁT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1196	ETIL-TRIKLÓR-SZILÁN	3	FC	II	3 + 8		LQ4	E2	P010		MP19	T10	TP2 TP7
1197	FOLYÉKONY ÍZANYAG KIVONATOK	3	F1	I	3		LQ3	E3	P001		MP7 MP17		
1197	FOLYÉKONY ÍZANYAG KIVONATOK (gőznyomás 50 °C-on nagyobb mint 110 kPa)	3	F1	II	3	601 640C	LQ6	E2	P001		MP19	T4	TP1 TP8
1197	FOLYÉKONY ÍZANYAG KIVONATOK (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	II	3	601 640D	LQ6	E2	P001 IBC02 R001		MP19	T4	TP1 TP8
1197	FOLYÉKONY ÍZANYAG KIVONATOK	3	F1	III	3	601 640E	LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1197	FOLYÉKONY ÍZANYAG KIVONATOK (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus) (forráspont legfeljebb 35 °C)	3	F1	III	3	601 640F	LQ7	E1	P001 LP01 R001		MP19	T2	TP1
1197	FOLYÉKONY ÍZANYAG KIVONATOK (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)	3	F1	III	3	601 640G	LQ7	E1	P001 LP01 R001		MP19	T2	TP1
1197	FOLYÉKONY ÍZANYAG KIVONATOK (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus) (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	III	3	601 640H	LQ7	E1	P001 IBC02 LP01 R001		MP19	T2	TP1
1198	GYŰLÉKONY FORMALDEHID OLDAT	3	FC	III	3 + 8		LQ7	E1	P001 IBC03 R001		MP19	T4	TP1
1199	FURFURALDEHIDEK	6.1	TF1	II	6.1 + 3		LQ0	E4	P001 IBC02		MP15	T7	TP2
1201	KOZMAOLAJ	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1201	KOZMAOLAJ	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1202	GÁZOLAJ vagy DÍZELOLAJ vagy KÖNNYŰ FŰTŐOLAJ (lobbanáspont legfeljebb 60 °C)	3	F1	III	3	640K	LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
LGBF		2				CE7	33	1195	ETIL-PROPIONÁT
L4BH		2				CE7	X338	1196	ETIL-TRIKLÓR-SZILÁN
L4BN		1					33	1197	FOLYÉKONY ÍZANYAG KIVONATOK
L1.5BN		2				CE7	33	1197	FOLYÉKONY ÍZANYAG KIVONATOK (gőznyomás 50 °C-on nagyobb mint 110 kPa)
LGBF		2				CE7	33	1197	FOLYÉKONY ÍZANYAG KIVONATOK (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	1197	FOLYÉKONY ÍZANYAG KIVONATOK
L4BN		3				CE4	33	1197	FOLYÉKONY ÍZANYAG KIVONATOK (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)
L1.5BN		3				CE4	33	1197	FOLYÉKONY ÍZANYAG KIVONATOK (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)
LGBF		3				CE4	33	1197	FOLYÉKONY ÍZANYAG KIVONATOK (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)
L4BN		3				CE4	38	1198	GYŰLÉKONY FORMALDEHID OLDAT
L4BH	TU15	2			CW13 CW28 CW31	CE5	63	1199	FURFURALDEHIDEK
LGBF		2				CE7	33	1201	KOZMAOLAJ
LGBF		3				CE4	30	1201	KOZMAOLAJ
LGBF		3				CE4	30	1202	GÁZOLAJ vagy DÍZELOLAJ vagy KÖNNYŰ FŰTŐOLAJ (lobbanáspont legfeljebb 60 °C)

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1202	DÍZELOLAJ, amely megfelel az EN 590:2004 szabványnak vagy GÁZOLAJ vagy KÖNNYŰ FŰTŐOLAJ az EN 590:2004 szabványban meghatározott lobbasponttal	3	F1	III	3	640L	LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1202	GÁZOLAJ vagy DÍZELOLAJ vagy KÖNNYŰ FŰTŐOLAJ (lobbaspont magasabb mint 60 °C, de legfeljebb 100 °C)	3	F1	III	3	640M	LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1203	MOTORBENZIN vagy BENZIN vagy GAZOLIN	3	F1	II	3	243 534	LQ4	E2	P001 IBC02 R001	BB2	MP19	T4	TP1
1204	NITROGLICERIN ALKOHOLOS OLDATBAN, legfeljebb 1% nitroglicerintartalommal	3	D	II	3	601	LQ0	E0	P001 IBC02	PP5	MP2		
1206	HEPTÁNOK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1207	HEXALDEHID	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1208	HEXÁNOK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1210	NYOMDAFESTÉK, gyúlékony vagy NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony	3	F1	I	3	163	LQ3	E3	P001		MP7 MP17	T11	TP1 TP8
1210	NYOMDAFESTÉK, gyúlékony vagy NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony (gőznyomás 50 °C-on nagyobb mint 110 kPa)	3	F1	II	3	163 640C	LQ6	E2	P001	PP1	MP19	T4	TP1 TP8
1210	NYOMDAFESTÉK, gyúlékony vagy NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	II	3	163 640D	LQ6	E2	P001 IBC02 R001	PP1	MP19	T4	TP1 TP8
1210	NYOMDAFESTÉK, gyúlékony vagy NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony	3	F1	III	3	163 640E	LQ7	E1	P001 IBC03 LP01 R001	PP1	MP19	T2	TP1

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
LGBF		3				CE4	30	1202	DÍZELOLAJ, amely megfelel az EN 590:2004 szabványnak vagy GÁZOLAJ vagy KÖNNYŰ FŰTŐOLAJ az EN 590:2004 szabványban meghatározott lobbánásponttal
LGBV		3				CE4	30	1202	GÁZOLAJ vagy DÍZELOLAJ vagy KÖNNYŰ FŰTŐOLAJ (lobbanáspont magasabb mint 60 °C, de legfeljebb 100 °C)
LGBF	TU9	2				CE7	33	1203	MOTORBENZIN vagy BENZIN vagy GAZOLIN
		2				CE7	33	1204	NITROGLICERIN ALKOHOLOS OLDATBAN, legfeljebb 1% nitroglicerintartalommal
LGBF		2				CE7	33	1206	HEPTÁNOK
LGBF		3				CE4	30	1207	HEXALDEHID
LGBF		2				CE7	33	1208	HEXÁNOK
L4BN		1					33	1210	NYOMDAFESTÉK, gyúlékony vagy NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony
L1.5BN		2				CE7	33	1210	NYOMDAFESTÉK, gyúlékony vagy NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony (gőznyomás 50 °C-on nagyobb mint 110 kPa)
LGBF		2				CE7	33	1210	NYOMDAFESTÉK, gyúlékony vagy NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	1210	NYOMDAFESTÉK, gyúlékony vagy NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- mago- lási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1210	NYOMDAFESTÉK, gyúlékony vagy NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)	3	F1	III	3	163 640F	LQ7	E1	P001 LP01 R001	PP1	MP19	T2	TP1
1210	NYOMDAFESTÉK, gyúlékony vagy NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)	3	F1	III	3	163 640G	LQ7	E1	P001 LP01 R001	PP1	MP19	T2	TP1
1210	NYOMDAFESTÉK, gyúlékony vagy NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	III	3	163 640H	LQ7	E1	P001 IBC02 LP01 R001	PP1	MP19	T2	TP1
1212	IZOBUTANOL (IZOBUTIL- ALKOHOL)	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1213	IZOBUTIL-ACETÁT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1214	IZOBUTIL-AMIN	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP1
1216	IZOOKTÉNEK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1218	IZOPRÉN, STABILIZÁLT	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP2
1219	IZOPROPANOL (IZOPROPIL- ALKOHOL)	3	F1	II	3	601	LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1220	IZOPROPIL-ACETÁT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1221	IZOPROPIL-AMIN	3	FC	I	3 + 8		LQ3	E0	P001		MP7 MP17	T11	TP2
1222	IZOPROPIL-NITRÁT	3	F1	II	3		LQ4	E2	P001 IBC02 R001	B7	MP19		



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BN		3				CE4	33	1210	NYOMDAFESTÉK, gyúlékony vagy NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)
L1.5BN		3				CE4	33	1210	NYOMDAFESTÉK, gyúlékony vagy NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)
LGBF		3				CE4	33	1210	NYOMDAFESTÉK, gyúlékony vagy NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket), gyúlékony (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	1212	IZOBUTANOL (IZOBUTIL-ALKOHOL)
LGBF		2				CE7	33	1213	IZOBUTIL-ACETÁT
L4BH		2				CE7	338	1214	IZOBUTIL-AMIN
LGBF		2				CE7	33	1216	IZOOKTÉNEK
L4BN		1					339	1218	IZOPRÉN, STABILIZÁLT
LGBF		2				CE7	33	1219	IZOPROPANOL (IZOPROPIL-ALKOHOL)
LGBF		2				CE7	33	1220	IZOPROPIL-ACETÁT
L10CH	TU14 TU38 TE21 TE22	1					338	1221	IZOPROPIL-AMIN
		2				CE7	33	1222	IZOPROPIL-NITRÁT

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1223	KEROZIN	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP2
1224	FOLYÉKONY KETONOK, M.N.N. (gőznyomás 50 °C-on nagyobb mint 110 kPa)	3	F1	II	3	274 640C	LQ4	E2	P001		MP19	T7	TP1 TP8 TP28
1224	FOLYÉKONY KETONOK, M.N.N. (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	II	3	274 640D	LQ4	E2	P001 IBC02 R001		MP19	T7	TP1 TP8 TP28
1224	FOLYÉKONY KETONOK, M.N.N.	3	F1	III	3	274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1 TP29
1228	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ MERKAPTÁNOK, M.N.N. vagy FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ MERKAPTÁN KEVERÉK, M.N.N.	3	FT1	II	3 + 6.1	274	LQ0	E2	P001 IBC02		MP19	T11	TP2 TP27
1228	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ MERKAPTÁNOK, M.N.N. vagy FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ MERKAPTÁN KEVERÉK, M.N.N.	3	FT1	III	3 + 6.1	274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP1 TP28
1229	MEZITIL-OXID	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1230	METANOL	3	FT1	II	3 + 6.1	279	LQ0	E2	P001 IBC02		MP19	T7	TP2
1231	METIL-ACETÁT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1233	METIL-AMIL-ACETÁT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1234	METILÁL	3	F1	II	3		LQ4	E2	P001 IBC02	B8	MP19	T7	TP2
1235	METIL-AMIN VIZES OLDAT	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP1
1237	METIL-BUTIRÁT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1238	METIL-KLÓR-FORMIÁT	6.1	TFC	I	6.1 + 3 + 8		LQ0	E5	P602		MP8 MP17	T22	TP2 TP35

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
LGBF		3				CE4	30	1223	KEROZIN
L1.5BN		2				CE7	33	1224	FOLYÉKONY KETONOK, M.N.N. (gőznyomás 50 °C-on nagyobb mint 110 kPa)
LGBF		2				CE7	33	1224	FOLYÉKONY KETONOK, M.N.N. (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	1224	FOLYÉKONY KETONOK, M.N.N.
L4BH	TU15	2			CW13 CW28	CE7	336	1228	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ MERKAPTÁNOK, M.N.N. vagy FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ MERKAPTÁN KEVERÉK, M.N.N.
L4BH	TU15	3			CW13 CW28	CE4	36	1228	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ MERKAPTÁNOK, M.N.N. vagy FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ MERKAPTÁN KEVERÉK, M.N.N.
LGBF		3				CE4	30	1229	MEZITIL-OXID
L4BH	TU15	2			CW13 CW28	CE7	336	1230	METANOL
LGBF		2				CE7	33	1231	METIL-ACETÁT
LGBF		3				CE4	30	1233	METIL-AMIL-ACETÁT
L1.5BN		2				CE7	33	1234	METILÁL
L4BH		2				CE7	338	1235	METIL-AMIN VIZES OLDAT
LGBF		2				CE7	33	1237	METIL-BUTIRÁT
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	1238	METIL-KLÓR-FORMIÁT

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1239	METIL-KLÓR-METIL-ÉTER	6.1	TF1	I	6.1 + 3		LQ0	E5	P602		MP8 MP17	T22	TP2 TP35
1242	METIL-DIKLÓR-SZILÁN	4.3	WFC	I	4.3 + 3 + 8		LQ0	E0	P401	RR7	MP2	T14	TP2 TP7
1243	METIL-FORMIÁT	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP2
1244	METIL-HIDRAZIN	6.1	TFC	I	6.1 + 3 + 8		LQ0	E5	P602		MP8 MP17	T22	TP2 TP35
1245	METIL-IZOBUTIL-KETON	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1246	METIL-IZOPROPENIL-KETON, STABILIZÁLT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1247	METIL-METAKRILÁT MONOMER, STABILIZÁLT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1248	METIL-PROPIONÁT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1249	METIL-PROPIL-KETON	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1250	METIL-TRIKLÓR-SZILÁN	3	FC	II	3 + 8		LQ4	E2	P010		MP19	T10	TP2 TP7
1251	METIL-VINIL-KETON, STABILIZÁLT	6.1	TFC	I	6.1 + 3 + 8		LQ0	E5	P601	RR7	MP8 MP17	T14	TP2
1259	NIKKEL-TETRAKARBONIL	6.1	TF1	I	6.1 + 3		LQ0	E5	P601		MP2		
1261	NITRO-METÁN	3	F1	II	3		LQ4	E2	P001 R001	RR2	MP19		
1262	OKTÁNOK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1

RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	1239	METIL-KLÓR-METIL-ÉTER
L10DH	TU14 TU24 TU38 TE21 TE22 TM2 TM3	0	W1		CW23		X338	1242	METIL-DIKLÓR-SZILÁN
L4BN		1					33	1243	METIL-FORMIÁT
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	1244	METIL-HIDRAZIN
LGBF		2				CE7	33	1245	METIL-IZOBUTIL-KETON
LGBF		2				CE7	339	1246	METIL-IZOPROPENIL-KETON, STABILIZÁLT
LGBF		2				CE7	339	1247	METIL-METAKRILÁT MONOMER, STABILIZÁLT
LGBF		2				CE7	33	1248	METIL-PROPIONÁT
LGBF		2				CE7	33	1249	METIL-PROPIL-KETON
L4BH		2				CE7	X338	1250	METIL-TRIKLÓR-SZILÁN
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		639	1251	METIL-VINIL-KETON, STABILIZÁLT
L15CH	TU14 TU15 TU31 TU38 TE21 TE22 TE25 TM3	1			CW13 CW28 CW31		663	1259	NIKKEL-TETRAKARBONIL
		2				CE7	33	1261	NITRO-METÁN
LGBF		2				CE7	33	1262	OKTÁNOK

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1263	FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket)	3	F1	I	3	163 650	LQ3	E3	P001		MP7 MP17	T11	TP1 TP8 TP27
1263	FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket) (gőznyomás 50 °C-on nagyobb mint 110 kPa)	3	F1	II	3	163 640C 650	LQ6	E2	P001	PP1	MP19	T4	TP1 TP8 TP28
1263	FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket) (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	II	3	163 640D 650	LQ6	E2	P001 IBC02 R001	PP1	MP19	T4	TP1 TP8 TP28
1263	FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket)	3	F1	III	3	163 640E 650	LQ7	E1	P001 IBC03 LP01 R001	PP1	MP19	T2	TP1 TP29
1263	FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket) (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)	3	F1	III	3	163 640F 650	LQ7	E1	P001 LP01 R001	PP1	MP19	T2	TP1 TP29
1263	FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket) (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)	3	F1	III	3	163 640G 650	LQ7	E1	P001 LP01 R001	PP1	MP19	T2	TP1 TP29

RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BN		1					33	1263	FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket)
L1.5BN		2				CE7	33	1263	FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket) (gőznyomás 50 °C-on nagyobb mint 110 kPa)
LGBF		2				CE7	33	1263	FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket) (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	1263	FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket)
L4BN		3				CE4	33	1263	FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket) (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus) (forráspont legfeljebb 35 °C)
L1.5BN		3				CE4	33	1263	FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket) (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1263	FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket) (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	III	3	163 640H 650	LQ7	E1	P001 IBC02 LP01 R001	PP1	MP19	T2	TP1 TP29
1264	PARALDEHID	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1265	PENTÁNOK, folyékony	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP2
1265	PENTÁNOK, folyékony	3	F1	II	3		LQ4	E2	P001 IBC02	B8	MP19	T4	TP1
1266	PARFÜM KÉSZÍTMÉNYEK gyúlékony oldószerekkel	3	F1	I	3		LQ3	E3	P001		MP7 MP17		
1266	PARFÜM KÉSZÍTMÉNYEK gyúlékony oldószerekkel (gőznyomás 50 °C-on nagyobb mint 110 kPa)	3	F1	II	3	640C	LQ6	E2	P001		MP19	T4	TP1 TP8
1266	PARFÜM KÉSZÍTMÉNYEK gyúlékony oldószerekkel (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	II	3	640D	LQ6	E2	P001 IBC02 R001		MP19	T4	TP1 TP8
1266	PARFÜM KÉSZÍTMÉNYEK gyúlékony oldószerekkel	3	F1	III	3	640E	LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1266	PARFÜM KÉSZÍTMÉNYEK gyúlékony oldószerekkel (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)	3	F1	III	3	640F	LQ7	E1	P001 LP01 R001		MP19	T2	TP1
1266	PARFÜM KÉSZÍTMÉNYEK gyúlékony oldószerekkel (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)	3	F1	III	3	640G	LQ7	E1	P001 LP01 R001		MP19	T2	TP1
1266	PARFÜM KÉSZÍTMÉNYEK gyúlékony oldószerekkel (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	III	3	640H	LQ7	E1	P001 IBC02 LP01 R001		MP19	T2	TP1
1267	NYERSOLAJ (PETRÓLEUM)	3	F1	I	3	649	LQ3	E3	P001		MP7 MP17	T11	TP1 TP8



RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
LGBF		3				CE4	33	1263	FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket) (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	1264	PARALDEHID
L4BN		1					33	1265	PENTÁNOK, folyékony
L1.5BN		2				CE7	33	1265	PENTÁNOK, folyékony
L4BN		1					33	1266	PARFÜM KÉSZÍTMÉNYEK gyúlékony oldószerekkel
L1.5BN		2				CE7	33	1266	PARFÜM KÉSZÍTMÉNYEK gyúlékony oldószerekkel (gőznyomás 50 °C-on nagyobb mint 110 kPa)
LGBF		2				CE7	33	1266	PARFÜM KÉSZÍTMÉNYEK gyúlékony oldószerekkel (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	1266	PARFÜM KÉSZÍTMÉNYEK gyúlékony oldószerekkel
L4BN		3				CE4	33	1266	PARFÜM KÉSZÍTMÉNYEK gyúlékony oldószerekkel (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)
L1.5BN		3				CE4	33	1266	PARFÜM KÉSZÍTMÉNYEK gyúlékony oldószerekkel (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)
LGBF		3				CE4	33	1266	PARFÜM KÉSZÍTMÉNYEK gyúlékony oldószerekkel (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)
L4BN		1					33	1267	NYERSOLAJ (PETRÓLEUM)

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1267	NYERSOLAJ (PETRÓLEUM) (gőznyomás 50 °C-on nagyobb mint 110 kPa)	3	F1	II	3	640C 649	LQ4	E2	P001		MP19	T4	TP1 TP8
1267	NYERSOLAJ (PETRÓLEUM) (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	II	3	640D 649	LQ4	E2	P001 IBC02 R001		MP19	T4	TP1 TP8
1267	NYERSOLAJ (PETRÓLEUM)	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1268	NYERSOLAJ (PETRÓLEUM) PÁRLATOK, M.N.N. vagy NYERSOLAJ (PETRÓLEUM) TERMÉKEK, M.N.N.	3	F1	I	3	649	LQ3	E3	P001		MP7 MP17	T11	TP1 TP8
1268	NYERSOLAJ (PETRÓLEUM) PÁRLATOK, M.N.N. vagy NYERSOLAJ (PETRÓLEUM) TERMÉKEK, M.N.N. (gőznyomás 50 °C-on nagyobb mint 110 kPa)	3	F1	II	3	640C 649	LQ4	E2	P001		MP19	T7	TP1 TP8 TP28
1268	NYERSOLAJ (PETRÓLEUM) PÁRLATOK, M.N.N. vagy NYERSOLAJ (PETRÓLEUM) TERMÉKEK, M.N.N. (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	II	3	640D 649	LQ4	E2	P001 IBC02 R001		MP19	T7	TP1 TP8 TP28
1268	NYERSOLAJ (PETRÓLEUM) PÁRLATOK, M.N.N. vagy NYERSOLAJ (PETRÓLEUM) TERMÉKEK, M.N.N.	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1 TP29
1272	FENYŐOLAJ	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1274	n-PROPANOL (NORMÁL PROPIL- ALKOHOL)	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1274	n-PROPANOL (NORMÁL PROPIL- ALKOHOL)	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1275	PROPIONALDEHID	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T7	TP1
1276	n-PROPIL-ACETÁT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1277	PROPIL-AMIN	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP1
1278	1-KLÓR-PROPÁN	3	F1	II	3		LQ4	E2	P001 IBC02	B8	MP19	T7	TP2
1279	1,2-DIKLÓR-PROPÁN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1280	PROPILÉN-OXID	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP2 TP7

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L1.5BN		2				CE7	33	1267	NYERSOLAJ (PETRÓLEUM) (gőznyomás 50 °C-on nagyobb mint 110 kPa)
LGBF		2				CE7	33	1267	NYERSOLAJ (PETRÓLEUM) (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	1267	NYERSOLAJ (PETRÓLEUM)
L4BN		1					33	1268	NYERSOLAJ (PETRÓLEUM) PÁRLATOK, M.N.N. vagy NYERSOLAJ (PETRÓLEUM) TERMÉKEK, M.N.N.
L1.5BN		2				CE7	33	1268	NYERSOLAJ (PETRÓLEUM) PÁRLATOK, M.N.N. vagy NYERSOLAJ (PETRÓLEUM) TERMÉKEK, M.N.N. (gőznyomás 50 °C-on nagyobb mint 110 kPa)
LGBF		2				CE7	33	1268	NYERSOLAJ (PETRÓLEUM) PÁRLATOK, M.N.N. vagy NYERSOLAJ (PETRÓLEUM) TERMÉKEK, M.N.N. (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	1268	NYERSOLAJ (PETRÓLEUM) PÁRLATOK, M.N.N. vagy NYERSOLAJ (PETRÓLEUM) TERMÉKEK, M.N.N.
LGBF		3				CE4	30	1272	FENYŐOLAJ
LGBF		2				CE7	33	1274	n-PROPANOL (NORMÁL PROPIL-ALKOHOL)
LGBF		3				CE4	30	1274	n-PROPANOL (NORMÁL PROPIL-ALKOHOL)
LGBF		2				CE7	33	1275	PROPIONALDEHID
LGBF		2				CE7	33	1276	n-PROPIL-ACETÁT
L4BH		2				CE7	338	1277	PROPIL-AMIN
L1.5BN		2				CE7	33	1278	1-KLÓR-PROPÁN
LGBF		2				CE7	33	1279	1,2-DIKLÓR-PROPÁN
L4BN		1					33	1280	PROPILÉN-OXID

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1281	PROPIL-FORMIÁTOK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1282	PIRIDIN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP2
1286	GYANTAOLAJ	3	F1	I	3		LQ3	E3	P001		MP7 MP17		
1286	GYANTAOLAJ (gőznyomás 50 °C-on nagyobb mint 110 kPa)	3	F1	II	3	640C	LQ6	E2	P001		MP19	T4	TP1
1286	GYANTAOLAJ (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	II	3	640D	LQ6	E2	P001 IBC02 R001		MP19	T4	TP1
1286	GYANTAOLAJ	3	F1	III	3	640E	LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1286	GYANTAOLAJ (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)	3	F1	III	3	640F	LQ7	E1	P001 LP01 R001		MP19	T2	TP1
1286	GYANTAOLAJ (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)	3	F1	III	3	640G	LQ7	E1	P001 LP01 R001		MP19	T2	TP1
1286	GYANTAOLAJ (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	III	3	640H	LQ7	E1	P001 IBC02 LP01 R001		MP19	T2	TP1
1287	GUMIOLDAT	3	F1	I	3		LQ3	E3	P001		MP7 MP17		
1287	GUMIOLDAT (gőznyomás 50 °C-on nagyobb mint 110 kPa)	3	F1	II	3	640C	LQ6	E2	P001		MP19	T4	TP1 TP8
1287	GUMIOLDAT (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	II	3	640D	LQ6	E2	P001 IBC02 R001		MP19	T4	TP1 TP8
1287	GUMIOLDAT	3	F1	III	3	640E	LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1287	GUMIOLDAT (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)	3	F1	III	3	640F	LQ7	E1	P001 LP01 R001		MP19	T2	TP1
1287	GUMIOLDAT (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)	3	F1	III	3	640G	LQ7	E1	P001 LP01 R001		MP19	T2	TP1

RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
LGBF		2				CE7	33	1281	PROPIL-FORMIÁTOK
LGBF		2				CE7	33	1282	PIRIDIN
L4BN		1					33	1286	GYANTAOLAJ
L1.5BN		2				CE7	33	1286	GYANTAOLAJ (gőznyomás 50 °C-on nagyobb mint 110 kPa)
LGBF		2				CE7	33	1286	GYANTAOLAJ (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	1286	GYANTAOLAJ
L4BN		3				CE4	33	1286	GYANTAOLAJ (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)
L1.5BN		3				CE4	33	1286	GYANTAOLAJ (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)
LGBF		3				CE4	33	1286	GYANTAOLAJ (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)
L4BN		1					33	1287	GUMIOLDAT
L1.5BN		2				CE7	33	1287	GUMIOLDAT (gőznyomás 50 °C-on nagyobb mint 110 kPa)
LGBF		2				CE7	33	1287	GUMIOLDAT (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	1287	GUMIOLDAT
L4BN		3				CE4	33	1287	GUMIOLDAT (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)
L1.5BN		3				CE4	33	1287	GUMIOLDAT (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1287	GUMIOLDAT (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus) (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	III	3	640H	LQ7	E1	P001 IBC02 LP01 R001		MP19	T2	TP1
1288	PALAOLAJ	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1 TP8
1288	PALAOLAJ	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1289	NÁTRIUM-METILÁT alkoholos OLDAT	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP1 TP8
1289	NÁTRIUM-METILÁT alkoholos OLDAT	3	FC	III	3 + 8		LQ7	E1	P001 IBC02 R001		MP19	T4	TP1
1292	TETRAETIL-SZILIKÁT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1293	GYÓGYÁSZATI TINKTÚRÁK	3	F1	II	3	601	LQ4	E2	P001 IBC02 R001		MP19	T4	TP1 TP8
1293	GYÓGYÁSZATI TINKTÚRÁK	3	F1	III	3	601	LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1294	TOLUOL	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1295	TRIKLÓR-SZILÁN	4.3	WFC	I	4.3 + 3 + 8		LQ0	E0	P401	RR7	MP2	T14	TP2 TP7
1296	TRIETIL-AMIN	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP1
1297	TRIMETIL-AMIN VIZES OLDAT legfeljebb 50 tömeg% trimetil-amin tartalommal	3	FC	I	3 + 8		LQ3	E0	P001		MP7 MP17	T11	TP1
1297	TRIMETIL-AMIN VIZES OLDAT legfeljebb 50 tömeg% trimetil-amin tartalommal	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP1
1297	TRIMETIL-AMIN VIZES OLDAT legfeljebb 50 tömeg% trimetil-amin tartalommal	3	FC	III	3 + 8		LQ7	E1	P001 IBC03 R001		MP19	T7	TP1
1298	TRIMETIL-KLÓR-SZILÁN	3	FC	II	3 + 8		LQ4	E2	P010		MP19	T10	TP2 TP7

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
LGBF		3				CE4	33	1287	GUMIOLDAT (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		2				CE7	33	1288	PALAOLAJ
LGBF		3				CE4	30	1288	PALAOLAJ
L4BH		2				CE7	338	1289	NÁTRIUM-METILÁT alkoholos OLDAT
L4BN		3				CE4	38	1289	NÁTRIUM-METILÁT alkoholos OLDAT
LGBF		3				CE4	30	1292	TETRAETIL-SZILIKÁT
LGBF		2				CE7	33	1293	GYÓGYÁSZATI TINKTÚRÁK
LGBF		3				CE4	30	1293	GYÓGYÁSZATI TINKTÚRÁK
LGBF		2				CE7	33	1294	TOLUOL
L10DH	TU14 TU25 TU38 TE21 TE22 TM2 TM3	0	W1		CW23		X338	1295	TRIKLÓR-SZILÁN
L4BH		2				CE7	338	1296	TRIETIL-AMIN
L10CH	TU14 TU38 TE21 TE22	1					338	1297	TRIMETIL-AMIN VIZES OLDAT legfeljebb 50 tömeg% trimetil-amin tartalommal
L4BH		2				CE7	338	1297	TRIMETIL-AMIN VIZES OLDAT legfeljebb 50 tömeg% trimetil-amin tartalommal
L4BN		3				CE4	38	1297	TRIMETIL-AMIN VIZES OLDAT legfeljebb 50 tömeg% trimetil-amin tartalommal
L4BH		2				CE7	X338	1298	TRIMETIL-KLÓR-SZILÁN

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- mago- lási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1299	TERPENTIN	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1300	TERPENTINPÓTLÓ	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1300	TERPENTINPÓTLÓ	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1301	VINIL-ACETÁT, STABILIZÁLT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1302	ETIL-VINIL-ÉTER, STABILIZÁLT	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP2
1303	VINILIDÉN-KLORID, STABILIZÁLT	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T12	TP2 TP7
1304	IZOBUTIL-VINIL-ÉTER, STABILIZÁLT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1305	VINIL-TRIKLÓR-SZILÁN	3	FC	II	3 + 8		LQ4	E2	P010		MP19	T10	TP2 TP7
1306	FOLYÉKONY FAKONZERVÁLÓ ANYAGOK (gőznyomás 50 °C-on nagyobb mint 110 kPa)	3	F1	II	3	640C	LQ6	E2	P001		MP19	T4	TP1 TP8
1306	FOLYÉKONY FAKONZERVÁLÓ ANYAGOK (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	II	3	640D	LQ6	E2	P001 IBC02 R001		MP19	T4	TP1 TP8
1306	FOLYÉKONY FAKONZERVÁLÓ ANYAGOK	3	F1	III	3	640E	LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1306	FOLYÉKONY FAKONZERVÁLÓ ANYAGOK (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus) (forráspont legfeljebb 35 °C)	3	F1	III	3	640F	LQ7	E1	P001 LP01 R001		MP19	T2	TP1
1306	FOLYÉKONY FAKONZERVÁLÓ ANYAGOK (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)	3	F1	III	3	640G	LQ7	E1	P001 LP01 R001		MP19	T2	TP1
1306	FOLYÉKONY FAKONZERVÁLÓ ANYAGOK (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus) (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	III	3	640H	LQ7	E1	P001 IBC02 LP01 R001		MP19	T2	TP1



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
LGBF		3				CE4	30	1299	TERPENTIN
LGBF		2				CE7	33	1300	TERPENTINPÓTLÓ
LGBF		3				CE4	30	1300	TERPENTINPÓTLÓ
LGBF		2				CE7	339	1301	VINIL-ACETÁT, STABILIZÁLT
L4BN		1					339	1302	ETIL-VINIL-ÉTER, STABILIZÁLT
L4BN		1					339	1303	VINILIDÉN-KLORID, STABILIZÁLT
LGBF		2				CE7	339	1304	IZOBUTIL-VINIL-ÉTER, STABILIZÁLT
L4BH		2				CE7	X338	1305	VINIL-TRIKLÓR-SZILÁN
L1.5BN		2				CE7	33	1306	FOLYÉKONY FAKONZERVÁLÓ ANYAGOK (gőznyomás 50 °C-on nagyobb mint 110 kPa)
LGBF		2				CE7	33	1306	FOLYÉKONY FAKONZERVÁLÓ ANYAGOK (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	1306	FOLYÉKONY FAKONZERVÁLÓ ANYAGOK
L4BN		3				CE4	33	1306	FOLYÉKONY FAKONZERVÁLÓ ANYAGOK (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)
L1.5BN		3				CE4	33	1306	FOLYÉKONY FAKONZERVÁLÓ ANYAGOK (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)
LGBF		3				CE4	33	1306	FOLYÉKONY FAKONZERVÁLÓ ANYAGOK (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1307	XILOLOK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1307	XILOLOK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1308	CIRKÓNIUM GYŰLÉKONY FOLYADÉKBAN SZUSZPENDÁLVA	3	F1	I	3		LQ3	E3	P001	PP33	MP7 MP17		
1308	CIRKÓNIUM GYŰLÉKONY FOLYADÉKBAN SZUSZPENDÁLVA (gőznyomás 50 °C-on nagyobb mint 110 kPa)	3	F1	II	3	640C	LQ4	E2	P001 R001	PP33	MP19		
1308	CIRKÓNIUM GYŰLÉKONY FOLYADÉKBAN SZUSZPENDÁLVA (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	II	3	640D	LQ4	E2	P001 R001	PP33	MP19		
1308	CIRKÓNIUM GYŰLÉKONY FOLYADÉKBAN SZUSZPENDÁLVA	3	F1	III	3		LQ7	E1	P001 R001		MP19		
1309	BEVONT ALUMÍNÜMPOR	4.1	F3	II	4.1		LQ8	E2	P002 IBC08	PP38 B4	MP11	T3	TP33
1309	BEVONT ALUMÍNÜMPOR	4.1	F3	III	4.1		LQ9	E1	P002 IBC08 LP02 R001	PP11 B3	MP11	T1	TP33
1310	AMMÓNIUM-PIKRÁT, legalább 10 tömeg% vízzel NEDVESÍTETT	4.1	D	I	4.1		LQ0	E0	P406	PP26	MP2		
1312	BORNEOL	4.1	F1	III	4.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1313	KALCIUM-REZINÁT	4.1	F3	III	4.1		LQ9	E1	P002 IBC06 R001		MP11	T1	TP33
1314	OLVASZTOTT KALCIUM-REZINÁT	4.1	F3	III	4.1		LQ9	E1	P002 IBC04 R001		MP11	T1	TP33
1318	LECSAPATOTT KOBALT-REZINÁT	4.1	F3	III	4.1		LQ9	E1	P002 IBC06 R001		MP11	T1	TP33
1320	DINITRO-FENOL, legalább 15 tömeg% vízzel NEDVESÍTETT	4.1	DT	I	4.1 + 6.1		LQ0	E0	P406	PP26	MP2		
1321	DINITRO-FENOLÁTOK, legalább 15 tömeg% vízzel NEDVESÍTETT	4.1	DT	I	4.1 + 6.1		LQ0	E0	P406	PP26	MP2		
1322	DINITRO-REZORCIN, legalább 15 tömeg% vízzel NEDVESÍTETT	4.1	D	I	4.1		LQ0	E0	P406	PP26	MP2		
1323	FERROCÉRIUM	4.1	F3	II	4.1	249	LQ8	E2	P002 IBC08	B4	MP11	T3	TP33
1324	NITROCELLULÓZ ALAPÚ FILMEK zselatin bevonattal, a hulladék kivételeivel	4.1	F1	III	4.1		LQ9	E1	P002 R001	PP15	MP11		

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
LGBF		2				CE7	33	1307	XILOLOK
LGBF		3				CE4	30	1307	XILOLOK
L4BN		1					33	1308	CIRKÓNIUM GYÚLÉKONY FOLYADÉKBAN SZUSZPENDÁLVA
L1.5BN		2				CE7	33	1308	CIRKÓNIUM GYÚLÉKONY FOLYADÉKBAN SZUSZPENDÁLVA (gőznyomás 50 °C-on nagyobb mint 110 kPa)
LGBF		2				CE7	33	1308	CIRKÓNIUM GYÚLÉKONY FOLYADÉKBAN SZUSZPENDÁLVA (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	1308	CIRKÓNIUM GYÚLÉKONY FOLYADÉKBAN SZUSZPENDÁLVA
SGAN		2	W1			CE10	40	1309	BEVONT ALUMÍNÍUMPOR
SGAV		3	W1	VW1		CE11	40	1309	BEVONT ALUMÍNÍUMPOR
		1	W1				40	1310	AMMÓNIUM-PIKRÁT, legalább 10 tömeg% vízzel NEDVESÍTETT
SGAV		3	W1	VW1		CE11	40	1312	BORNEOL
SGAV		3	W1 W12	VW1		CE11	40	1313	KALCIUM-REZINÁT
SGAV		3	W1	VW1		CE11	40	1314	OLVASZTOTT KALCIUM-REZINÁT
SGAV		3	W1 W12	VW1		CE11	40	1318	LECSAPATOTT KOBALT-REZINÁT
		1	W1		CW28		46	1320	DINITRO-FENOL, legalább 15 tömeg% vízzel NEDVESÍTETT
		1	W1		CW28		46	1321	DINITRO-FENOLÁTOK, legalább 15 tömeg% vízzel NEDVESÍTETT
		1	W1				40	1322	DINITRO-REZORCIN, legalább 15 tömeg% vízzel NEDVESÍTETT
SGAN		2	W1			CE10	40	1323	FERROCÉRIUM
		3	W1			CE11	40	1324	NITROCELLULÓZ ALAPÚ FILMEK zselatin bevonattal, a hulladék kivételével

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1325	GYŰLÉKONY, SZERVES SZILÁRD ANYAG, M.N.N.	4.1	F1	II	4.1	274	LQ8	E2	P002 IBC08	B4	MP10	T3	TP33
1325	GYŰLÉKONY, SZERVES SZILÁRD ANYAG, M.N.N.	4.1	F1	III	4.1	274	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1326	NEDVESÍTETT HAFNIUMPOR legalább 25% vízzel	4.1	F3	II	4.1	586	LQ8	E2	P410 IBC06	PP40	MP11	T3	TP33
1327	SZÉNA vagy SZALMA vagy BHUSA	4.1	F1	Nem tartozik a RID hatálya alá									
1328	HEXAMETILÉN-TETRAMIN	4.1	F1	III	4.1		LQ9	E1	P002 IBC08 R001	B3	MP10	T1	TP33
1330	MANGÁN-REZINÁT	4.1	F3	III	4.1		LQ9	E1	P002 IBC06 R001		MP11	T1	TP33
1331	MINDENÜTT GYULLADÓ GYUFA	4.1	F1	III	4.1	293	LQ9	E1	P407	PP27	MP12		
1332	METALDEHID	4.1	F1	III	4.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1333	CÉRIUM lemezek, rudak vagy öntecsek	4.1	F3	II	4.1		LQ8	E2	P002 IBC08	B4	MP11		
1334	NYERS NAFTALIN vagy FINOMÍTOTT NAFTALIN	4.1	F1	III	4.1	501	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1 BK1 BK2	TP33
1336	NITRO-GUANIDIN (PIKRIT), legalább 20 tömeg% vízzel NEDVESÍTETT	4.1	D	I	4.1		LQ0	E0	P406		MP2		
1337	NITROKEMÉNYÍTŐ, legalább 20 tömeg% vízzel NEDVESÍTETT	4.1	D	I	4.1		LQ0	E0	P406		MP2		
1338	AMORF FOSZFOR	4.1	F3	III	4.1		LQ9	E1	P410 IBC08 R001	B3	MP11	T1	TP33
1339	FOSZFOR-HEPTASZULFID, sárga- és fehérfoszfortól mentes	4.1	F3	II	4.1	602	LQ8	E2	P410 IBC04		MP11	T3	TP33
1340	FOSZFOR-PENTASZULFID, sárga- és fehérfoszfortól mentes	4.3	WF2	II	4.3 + 4.1	602	LQ11	E2	P410 IBC04		MP14	T3	TP33
1341	FOSZFOR-SZESZKVISZULFID, sárga- és fehérfoszfortól mentes	4.1	F3	II	4.1	602	LQ8	E2	P410 IBC04		MP11	T3	TP33
1343	FOSZFOR-TRISZULFID, sárga- és fehérfoszfortól mentes	4.1	F3	II	4.1	602	LQ8	E2	P410 IBC04		MP11	T3	TP33
1344	TRINITRO-FENOL (PIKRINSÁV), legalább 30 tömeg% vízzel NEDVESÍTETT	4.1	D	I	4.1		LQ0	E0	P406	PP26	MP2		
1345	GUMI HULLADÉK vagy GUMI ÖRLEMÉNY, porított vagy granuált	4.1	F1	II	4.1		LQ8	E2	P002 IBC08	B4	MP11	T3	TP33
1346	AMORF SZILÍCIUMPOR	4.1	F3	III	4.1	32	LQ9	E1	P002 IBC08 LP02 R001	B3	MP11	T1	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAN		2	W1			CE10	40	1325	GYÚLÉKONY, SZERVES SZILÁRD ANYAG, M.N.N.
SGAV		3	W1	VW1		CE11	40	1325	GYÚLÉKONY, SZERVES SZILÁRD ANYAG, M.N.N.
SGAN		2	W1 W12			CE10	40	1326	NEDVESÍTETT HAFNIUMPOR legalább 25% vízzel
Nem tartozik a RID hatálya alá								1327	SZÉNA vagy SZALMA vagy BHUSA
SGAV		3	W1	VW1		CE11	40	1328	HEXAMETILÉN-TETRAMIN
SGAV		3	W1 W12	VW1		CE11	40	1330	MANGÁN-REZINÁT
		4	W1			CE11	40	1331	MINDENÜTT GYULLADÓ GYUFA
SGAV		3	W1	VW1		CE11	40	1332	METALDEHID
		2	W1			CE10	40	1333	CÉRIUM lemezek, rudak vagy öntecsek
SGAV		3	W1	VW2		CE11	40	1334	NYERS NAFTALIN vagy FINOMÍTOTT NAFTALIN
		1	W1				40	1336	NITRO-GUANIDIN (PIKRIT), legalább 20 tömeg% vízzel NEDVESÍTETT
		1	W1				40	1337	NITROKEMÉNYÍTŐ, legalább 20 tömeg% vízzel NEDVESÍTETT
SGAV		3	W1	VW1		CE11	40	1338	AMORF FOSZFOR
SGAN		2	W1			CE10	40	1339	FOSZFOR-HEPTASZULFID, sárga- és fehérfoszfortól mentes
SGAN		0	W1		CW23	CE10	423	1340	FOSZFOR-PENTASZULFID, sárga- és fehérfoszfortól mentes
SGAN		2	W1			CE10	40	1341	FOSZFOR-SZESZKVISZULFID, sárga- és fehérfoszfortól mentes
SGAN		2	W1			CE10	40	1343	FOSZFOR-TRISZULFID, sárga- és fehérfoszfortól mentes
		1	W1				40	1344	TRINITRO-FENOL (PIKRINSAV), legalább 30 tömeg% vízzel NEDVESÍTETT
SGAN		4	W1			CE10	40	1345	GUMI HULLADÉK vagy GUMI ŐRLEMÉNY, porított vagy granulált
SGAV		3	W1	VW1		CE11	40	1346	AMORF SZILÍCIUMPOR

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- mago- lási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1347	EZÜST-PIKRÁT, legalább 30 tömeg% vízzel NEDVESÍTETT	4.1	D	I	4.1		LQ0	E0	P406	PP25 PP26	MP2		
1348	NÁTRIUM-DINITRO-o-KREZOLÁT, legalább 15 tömeg% vízzel NEDVESÍTETT	4.1	DT	I	4.1 + 6.1		LQ0	E0	P406	PP26	MP2		
1349	NÁTRIUM-PIKRAMÁT, legalább 20 tömeg% vízzel NEDVESÍTETT	4.1	D	I	4.1		LQ0	E0	P406	PP26	MP2		
1350	KÉN	4.1	F3	III	4.1	242	LQ9	E1	P002 IBC08 LP02 R001	B3	MP11	T1 BK1 BK2	TP33
1352	NEDVESÍTETT TITÁNPOR legalább 25% vízzel	4.1	F3	II	4.1	586	LQ8	E2	P410 IBC06	PP40	MP11	T3	TP33
1353	GYENGÉN NITRÁLT NITROCELLULÓZZAL IMPREGNÁLT SZÁLAk vagy SZÖVETEK, M.N.N.	4.1	F1	III	4.1	274 502	LQ9	E1	P410 IBC08 R001	B3	MP11		
1354	TRINITRO-BENZOL, legalább 30 tömeg% vízzel NEDVESÍTETT	4.1	D	I	4.1		LQ0	E0	P406		MP2		
1355	TRINITRO-BENZOÉSAV, legalább 30 tömeg% vízzel NEDVESÍTETT	4.1	D	I	4.1		LQ0	E0	P406		MP2		
1356	TRINITRO-TOLUOL (TROIL, TNT), legalább 30 tömeg% vízzel NEDVESÍTETT	4.1	D	I	4.1		LQ0	E0	P406		MP2		
1357	KARBAMID-NITRÁT, legalább 20 tömeg% vízzel NEDVESÍTETT	4.1	D	I	4.1	227	LQ0	E0	P406		MP2		
1358	NEDVESÍTETT CIRKÓNIUMPOR legalább 25% vízzel	4.1	F3	II	4.1	586	LQ8	E2	P410 IBC06	PP40	MP11	T3	TP33
1360	KALCIUM-FOSZFID	4.3	WT2	I	4.3 + 6.1		LQ0	E0	P403		MP2		
1361	SZÉN vagy KOROM (állati vagy növényi eredetű)	4.2	S2	II	4.2		LQ0	E2	P002 IBC06	PP12	MP14	T3	TP33
1361	SZÉN vagy KOROM (állati vagy növényi eredetű)	4.2	S2	III	4.2		LQ0	E1	P002 IBC08 LP02 R001	PP12 B3	MP14	T1	TP33
1362	AKTÍV SZÉN	4.2	S2	III	4.2	646	LQ0	E1	P002 IBC08 LP02 R001	PP11 B3	MP14	T1	TP33
1363	KOPRA	4.2	S2	III	4.2		LQ0	E1	P003 IBC08 LP02 R001	PP20 B3 B6	MP14		
1364	OLAJOS GYAPOT HULLADÉK	4.2	S2	III	4.2		LQ0	E1	P003 IBC08 LP02 R001	PP19 B3 B6	MP14		
1365	NEDVES GYAPOT	4.2	S2	III	4.2		LQ0	E1	P003 IBC08 LP02 R001	PP19 B3 B6	MP14		

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		1	W1				40	1347	EZÜST-PIKRÁT, legalább 30 tömeg% vízzel NEDVESÍTETT
		1	W1		CW28		46	1348	NÁTRIUM-DINITRO-o-KREZOLÁT, legalább 15 tömeg% vízzel NEDVESÍTETT
		1	W1				40	1349	NÁTRIUM-PIKRAMÁT, legalább 20 tömeg% vízzel NEDVESÍTETT
SGAV		3	W1	VW1		CE11	40	1350	KÉN
SGAN		2	W1 W12			CE10	40	1352	NEDVESÍTETT TITÁNPOR legalább 25% vízzel
		3	W1			CE11	40	1353	GYENGÉN NITRÁLT NITROCELLULÓZZAL IMPREGNÁLT SZÁLAk vagy SZÖVETEK, M.N.N.
		1	W1				40	1354	TRINITRO-BENZOL, legalább 30 tömeg% vízzel NEDVESÍTETT
		1	W1				40	1355	TRINITRO-BENZOÉSAV, legalább 30 tömeg% vízzel NEDVESÍTETT
		1	W1				40	1356	TRINITRO-TOLUOL (TROIL, TNT), legalább 30 tömeg% vízzel NEDVESÍTETT
		1	W1				40	1357	KARBAMID-NITRÁT, legalább 20 tömeg% vízzel NEDVESÍTETT
SGAN		2	W1 W12			CE10	40	1358	NEDVESÍTETT CIRKÓNIUMPOR legalább 25% vízzel
		1	W1		CW23 CW28		X462	1360	KALCIUM-FOSZFID
SGAN	TU11	2	W1 W12 W13			CE10	40	1361	SZÉN vagy KOROM (állati vagy növényi eredetű)
SGAV		4	W1 W13	VW4		CE11	40	1361	SZÉN vagy KOROM (állati vagy növényi eredetű)
SGAV		4	W1	VW4		CE11	40	1362	AKTÍV SZÉN
		3	W1	VW4		CE11	40	1363	KOPRA
		3	W1	VW4		CE11	40	1364	OLAJOS GYAPOT HULLADÉK
		3	W1	VW4		CE11	40	1365	NEDVES GYAPOT

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1369	p-NITROZO-DIMETIL-ANILIN	4.2	S2	II	4.2		LQ0	E2	P410 IBC06		MP14	T3	TP33
1372	ÁLLATI vagy NÖVÉNYI EREDETŰ SZÁLAK, égett, nedves vagy vizes	4.2	S2	Nem tartozik a RID hatálya alá									
1373	ÁLLATI vagy NÖVÉNYI vagy SZINTETIKUS EREDETŰ SZÁLAK vagy SZÖVETEK, M.N.N., olajjal	4.2	S2	III	4.2	274	LQ0	E1	P410 IBC08 R001	B3	MP14	T1	TP33
1374	HALLISZT (HALHULLADÉK), NEM STABILIZÁLT	4.2	S2	II	4.2	300	LQ0	E2	P410 IBC08	B4	MP14	T3	TP33
1376	KIMERÜLT VAS-OXID vagy KIMERÜLT VASSZIVACS a generátorgáz tisztításából	4.2	S4	III	4.2	592	LQ0	E1	P002 IBC08 LP02 R001	B3	MP14	T1 BK2	TP33
1378	FÉM KATALIZÁTOR, NEDVESÍTETT, látható folyadékfelesleggel	4.2	S4	II	4.2	274	LQ0	E2	P410 IBC01	PP39	MP14	T3	TP33
1379	TELÍTETLEN OLAJJAL KEZELT PAPÍR, nem teljesen száraz (beleértve a karbonpapírt)	4.2	S2	III	4.2		LQ0	E1	P410 IBC08 R001	B3	MP14		
1380	PENTABORÁN	4.2	ST3	I	4.2 + 6.1		LQ0	E0	P601		MP2		
1381	FEHÉR- vagy SÁRGAFOSZFOR, VÍZ ALATT vagy OLDATBAN	4.2	ST3	I	4.2 + 6.1	503	LQ0	E0	P405		MP2	T9	TP3 TP31
1381	FEHÉR- vagy SÁRGAFOSZFOR, SZÁRAZ	4.2	ST4	I	4.2 + 6.1	503	LQ0	E0	P405		MP2	T9	TP3 TP31
1382	VÍZMENTES KÁLIUM-SZULFID vagy KÁLIUM-SZULFID 30%-nál kevesebb kristályvíz-tartalommal	4.2	S4	II	4.2	504	LQ0	E2	P410 IBC06		MP14	T3	TP33
1383	PIROFOROS FÉM, M.N.N. vagy PIROFOROS ÖTVÖZET, M.N.N.	4.2	S4	I	4.2	274	LQ0	E0	P404		MP13	T21	TP7 TP33
1384	NÁTRIUM-DITIONIT (NÁTRIUM- HIPODISZULFIT)	4.2	S4	II	4.2		LQ0	E2	P410 IBC06		MP14	T3	TP33
1385	VÍZMENTES NÁTRIUM-SZULFID vagy NÁTRIUM-SZULFID 30%-nál kevesebb kristályvíz-tartalommal	4.2	S4	II	4.2	504	LQ0	E2	P410 IBC06		MP14	T3	TP33



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAN		2	W1 W12			CE10	40	1369	p-NITROZO-DIMETIL-ANILIN
Nem tartozik a RID hatálya alá								1372	ÁLLATI vagy NÖVÉNYI EREDETŰ SZÁLAK, égett, nedves vagy vizes
		3	W1	VW4		CE11	40	1373	ÁLLATI vagy NÖVÉNYI vagy SZINTETIKUS EREDETŰ SZÁLAK vagy SZÖVETEK, M.N.N., olajjal
		2	W1			CE10	40	1374	HALLISZT (HALHULLADÉK), NEM STABILIZÁLT
SGAV		3	W1	VW4		CE11	40	1376	KIMERÜLT VAS-OXID vagy KIMERÜLT VASSZIVACS a generátorgáz tisztításából
SGAN		2	W1			CE10	40	1378	FÉM KATALIZÁTOR, NEDVESÍTETT látható folyadékfelesleggel
		3	W1	VW4		CE11	40	1379	TELÍTETLEN OLAJJAL KEZELT PAPIR, nem teljesen száraz (beleértve a karbonpapírt)
L21DH	TU14 TU38 TC1 TE21 TE22 TE25 TM1	0	W1		CW28		333	1380	PENTABORÁN
L10DH(+)	TU14 TU16 TU21 TU38 TE3 TE21 TE22	0	W1		CW28		46	1381	FEHÉR- vagy SÁRGAFOSZFOR, VÍZ ALATT vagy OLDATBAN
L10DH(+)	TU14 TU16 TU21 TU38 TE3 TE21 TE22	0	W1		CW28		46	1381	FEHÉR- vagy SÁRGAFOSZFOR, SZÁRAZ
SGAN		2	W1 W12			CE10	40	1382	VÍZMENTES KÁLIUM-SZULFID vagy KÁLIUM-SZULFID 30%-nál kevesebb kristályvíz-tartalommal
		0	W1				43	1383	PIROFOROS FÉM, M.N.N. vagy PIROFOROS ÖTVÖZET, M.N.N.
SGAN		2	W1 W12			CE10	40	1384	NÁTRIUM-DITIONIT (NÁTRIUM-HIPODISZULFIT)
SGAN		2	W1 W12			CE10	40	1385	VÍZMENTES NÁTRIUM-SZULFID vagy NÁTRIUM-SZULFID 30%-nál kevesebb kristályvíz-tartalommal

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1386	OLAJPOGÁCSA 1,5 tömeg%-nál nagyobb olajtartalommal és legfeljebb 11 tömeg% nedvességtartalommal	4.2	S2	III	4.2		LQ0	E1	P003 IBC08 LP02 R001	PP20 B3 B6	MP14		
1387	NEDVES GYAPIÚHULLADÉK	4.2	S2	Nem tartozik a RID hatálya alá									
1389	FOLYÉKONY ALKÁLIFÉM AMALGÁM	4.3	W1	I	4.3	182 274	LQ0	E0	P402	RR8	MP2		
1390	ALKÁLIFÉM AMIDOK	4.3	W2	II	4.3	182 274 505	LQ11	E2	P410 IBC07		MP14	T3	TP33
1391	ALKÁLIFÉM DISZPERZIÓ vagy ALKÁLIFÖLDFÉM DISZPERZIÓ 60 °C feletti lobbanásponttal	4.3	W1	I	4.3	182 183 274 506	LQ0	E0	P402	RR8	MP2		
1391	ALKÁLIFÉM DISZPERZIÓ vagy ALKÁLIFÖLDFÉM DISZPERZIÓ legfeljebb 60 °C lobbanásponttal	4.3	WF1	I	4.3 + 3	182 183 274 506	LQ0	E0	P402	RR8	MP2		
1392	FOLYÉKONY ALKÁLIFÖLDFÉM AMALGÁM	4.3	W1	I	4.3	183 274 506	LQ0	E0	P402		MP2		
1393	ALKÁLIFÖLDFÉM ÖTVÖZET, M.N.N.	4.3	W2	II	4.3	183 274 506	LQ11	E2	P410 IBC07		MP14	T3	TP33
1394	ALUMÍNÍUM-KARBID	4.3	W2	II	4.3		LQ11	E2	P410 IBC07		MP14	T3	TP33
1395	ALUMÍNÍUM-FERROSZILÍCIUM POR	4.3	WT2	II	4.3 + 6.1		LQ11	E2	P410 IBC05	PP40	MP14	T3	TP33
1396	ALUMÍNÍUMPOR BEVONAT NÉLKÜL	4.3	W2	II	4.3		LQ12	E2	P410 IBC07	PP40	MP14	T3	TP33
1396	ALUMÍNÍUMPOR BEVONAT NÉLKÜL	4.3	W2	III	4.3		LQ12	E1	P410 IBC08 R001	B4	MP14	T1	TP33
1397	ALUMÍNÍUM-FOSZFID	4.3	WT2	I	4.3 + 6.1	507	LQ0	E0	P403		MP2		
1398	ALUMÍNÍUM-SZILÍCIUM POR BEVONAT NÉLKÜL	4.3	W2	III	4.3	37	LQ12	E1	P410 IBC08 R001	B4	MP14	T1	TP33
1400	BÁRIUM	4.3	W2	II	4.3		LQ11	E2	P410 IBC07		MP14	T3	TP33
1401	KALCIUM	4.3	W2	II	4.3		LQ11	E2	P410 IBC07		MP14	T3	TP33
1402	KALCIUM-KARBID	4.3	W2	I	4.3		LQ0	E0	P403 IBC04		MP2	T9	TP7 TP33
1402	KALCIUM-KARBID	4.3	W2	II	4.3		LQ11	E2	P410 IBC07		MP14	T3	TP33
1403	KALCIUM-CIÁNAMID 0,1%-nál nagyobb kalcium-karbid tartalommal	4.3	W2	III	4.3	38	LQ12	E1	P410 IBC08 R001	B4	MP14	T1	TP33
1404	KALCIUM-HIDRID	4.3	W2	I	4.3		LQ0	E0	P403		MP2		
1405	KALCIUM-SZILICID	4.3	W2	II	4.3		LQ11	E2	P410 IBC07		MP14	T3	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		3	W1	VW4		CE11	40	1386	OLAJPOGÁCSA 1,5 tömeg%-nál nagyobb olajtartalommal és legfeljebb 11 tömeg% nedvességtartalommal
Nem tartozik a RID hatálya alá								1387	NEDVES GYAPJÚHULLADÉK
L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X323	1389	FOLYÉKONY ALKÁLIFÉM AMALGÁM
SGAN		0	W1 W12		CW23	CE10	423	1390	ALKÁLIFÉM AMIDOK
L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X323	1391	ALKÁLIFÉM DISZPERZIÓ vagy ALKÁLIFÖLDFÉM DISZPERZIÓ 60 °C feletti lobbanásponttal
L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X323	1391	ALKÁLIFÉM DISZPERZIÓ vagy ALKÁLIFÖLDFÉM DISZPERZIÓ legfeljebb 60 °C lobbanásponttal
L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X323	1392	FOLYÉKONY ALKÁLIFÖLDFÉM AMALGÁM
SGAN		2	W1 W12		CW23	CE7	423	1393	ALKÁLIFÖLDFÉM ÖTVÖZET, M.N.N
SGAN		2	W1 W12	VW5	CW23	CE10	423	1394	ALUMÍNIUM-KARBID
SGAN		2	W1		CW23 CW28	CE10	462	1395	ALUMÍNIUM-FERROSZILÍCIUM POR
SGAN		2	W1 W12		CW23	CE10	423	1396	ALUMÍNIUMPOR BEVONAT NÉLKÜL
SGAN		3	W1	VW5	CW23	CE11	423	1396	ALUMÍNIUMPOR BEVONAT NÉLKÜL
		1	W1		CW23 CW28		X462	1397	ALUMÍNIUM-FOSZFID
SGAN		3	W1	VW5	CW23	CE11	423	1398	ALUMÍNIUM-SZILÍCIUM POR BEVONAT NÉLKÜL
SGAN		2	W1 W12		CW23	CE10	423	1400	BÁRIUM
SGAN		2	W1 W12		CW23	CE10	423	1401	KALCIUM
		1	W1		CW23		X423	1402	KALCIUM-KARBID
SGAN		2	W1 W12	VW5	CW23	CE10	423	1402	KALCIUM-KARBID
SGAN		0	W1		CW23	CE11	423	1403	KALCIUM-CIÁNAMID 0,1%-nál nagyobb kalcium-karbid tartalommal
		1	W1		CW23		X423	1404	KALCIUM-HIDRID
SGAN		2	W1 W12	VW7	CW23	CE10	423	1405	KALCIUM-SZILICID

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1405	KALCIUM-SZILICID	4.3	W2	III	4.3		LQ12	E1	P410 IBC08 R001	B4	MP14	T1	TP33
1407	CÉZIUM	4.3	W2	I	4.3		LQ0	E0	P403 IBC04		MP2		
1408	FERROSZILÍCIUM 30 tömeg% vagy több, de 90 tömeg%-nál kevesebb szilíciumtartalommal	4.3	WT2	III	4.3 + 6.1	39	LQ12	E1	P003 IBC08 R001	PP20 B4 B6	MP14	T1 BK2	TP33
1409	VÍZZEL REAKTÍV FÉMHIIDRIK, M.N.N.	4.3	W2	I	4.3	274 508	LQ0	E0	P403		MP2		
1409	VÍZZEL REAKTÍV FÉMHIIDRIK, M.N.N.	4.3	W2	II	4.3	274 508	LQ11	E2	P410 IBC04		MP14	T3	TP33
1410	LÍTIUM-ALUMÍNIUM-HIDRID	4.3	W2	I	4.3		LQ0	E0	P403		MP2		
1411	LÍTIUM-ALUMÍNIUM-HIDRID ÉTERBEN	4.3	WF1	I	4.3 + 3		LQ0	E0	P402	RR8	MP2		
1413	LÍTIUM-BÓR-HIDRID	4.3	W2	I	4.3		LQ0	E0	P403		MP2		
1414	LÍTIUM-HIDRID	4.3	W2	I	4.3		LQ0	E0	P403		MP2		
1415	LÍTIUM	4.3	W2	I	4.3		LQ0	E0	P403 IBC04		MP2		
1417	LÍTIUM-SZILÍCIUM	4.3	W2	II	4.3		LQ11	E2	P410 IBC07		MP14	T3	TP33
1418	MAGNÉZIUMPOR vagy MAGNÉZIUM ÖTVÖZET POR	4.3	WS	I	4.3 + 4.2		LQ0	E0	P403		MP2		
1418	MAGNÉZIUMPOR vagy MAGNÉZIUM ÖTVÖZET POR	4.3	WS	II	4.3 + 4.2		LQ11	E2	P410 IBC05		MP14	T3	TP33
1418	MAGNÉZIUMPOR vagy MAGNÉZIUM ÖTVÖZET POR	4.3	WS	III	4.3 + 4.2		LQ12	E1	P410 IBC08 R001	B4	MP14	T1	TP33
1419	MAGNÉZIUM- -ALUMÍNIUM- FOSZFID	4.3	WT2	I	4.3 + 6.1		LQ0	E0	P403		MP2		
1420	FOLYÉKONY KÁLIUMFÉM ÖTVÖZETEK	4.3	W1	I	4.3		LQ0	E0	P402		MP2		
1421	FOLYÉKONY ALKÁLIFÉM ÖTVÖZETEK, M.N.N.	4.3	W1	I	4.3	182 274	LQ0	E0	P402	RR8	MP2		
1422	FOLYÉKONY KÁLIUM-NÁTRIUM ÖTVÖZETEK	4.3	W1	I	4.3		LQ0	E0	P402		MP2	T9	TP3 TP7 TP31

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAN		3	W1	VW5 VW7	CW23	CE11	423	1405	KALCIUM-SZILICID
L10CH(+)	TU2 TU14 TU38 TE5 TE21 TE22 TT3 TM2	1	W1		CW23		X423	1407	CÉZIUM
SGAN		3	W1	VW1	CW23 CW28	CE11	462	1408	FERROSZILÍCIUM 30 tömeg% vagy több, de 90 tömeg%-nál kevesebb szilíciumtartalommal
		1	W1		CW23		X423	1409	VÍZZEL REAKTÍV FÉMHIIDRIK, M.N.N.
SGAN		2	W1		CW23	CE10	423	1409	VÍZZEL REAKTÍV FÉMHIIDRIK, M.N.N.
		1	W1		CW23		X423	1410	LÍTIUM-ALUMÍNIUM-HIDRID
		1	W1		CW23		X323	1411	LÍTIUM-ALUMÍNIUM-HIDRID ÉTERBEN
		1	W1		CW23		X423	1413	LÍTIUM-BÓR-HIDRID
		1	W1		CW23		X423	1414	LÍTIUM-HIDRID
L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X423	1415	LÍTIUM
SGAN		2	W1 W12		CW23	CE10	423	1417	LÍTIUM-SZILÍCIUM
		1	W1		CW23		X423	1418	MAGNÉZIUMPOR vagy MAGNÉZIUM ÖTVÖZET POR
SGAN		2	W1		CW23	CE10	423	1418	MAGNÉZIUMPOR vagy MAGNÉZIUM ÖTVÖZET POR
SGAN		3	W1	VW5	CW23	CE11	423	1418	MAGNÉZIUMPOR vagy MAGNÉZIUM ÖTVÖZET POR
		1	W1		CW23 CW28		X462	1419	MAGNÉZIUM- -ALUMÍNIUM-FOSZFID
L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X323	1420	FOLYÉKONY KÁLIUMFÉM ÖTVÖZETEK
L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X323	1421	FOLYÉKONY ALKÁLIFÉM ÖTVÖZETEK, M.N.N.
L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X323	1422	FOLYÉKONY KÁLIUM-NÁTRIUM ÖTVÖZETEK

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1423	RUBÍDIUM	4.3	W2	I	4.3		LQ0	E0	P403 IBC04		MP2		
1426	NÁTRIUM-BÓR-HIDRID	4.3	W2	I	4.3		LQ0	E0	P403		MP2		
1427	NÁTRIUM-HIDRID	4.3	W2	I	4.3		LQ0	E0	P403		MP2		
1428	NÁTRIUM	4.3	W2	I	4.3		LQ0	E0	P403 IBC04		MP2	T9	TP7 TP33
1431	NÁTRIUM-METILÁT	4.2	SC4	II	4.2 + 8		LQ0	E2	P410 IBC05		MP14	T3	TP33
1432	NÁTRIUM-FOSZFID	4.3	WT2	I	4.3 + 6.1		LQ0	E0	P403		MP2		
1433	ÓN-FOSZFIDEK	4.3	WT2	I	4.3 + 6.1		LQ0	E0	P403		MP2		
1435	CINKHAMUK	4.3	W2	III	4.3		LQ12	E1	P002 IBC08 R001	B4	MP14	T1	TP33
1436	CINKPOR vagy CINKPÜDER	4.3	WS	I	4.3 + 4.2		LQ0	E0	P403		MP2		
1436	CINKPOR vagy CINKPÜDER	4.3	WS	II	4.3 + 4.2		LQ11	E2	P410 IBC07	PP40	MP14	T3	TP33
1436	CINKPOR vagy CINKPÜDER	4.3	WS	III	4.3 + 4.2		LQ12	E1	P410 IBC08 R001	B4	MP14	T1	TP33
1437	CIRKÓNIUM-HIDRID	4.1	F3	II	4.1		LQ8	E2	P410 IBC04	PP40	MP11	T3	TP33
1438	ALUMÍNÍUM-NITRÁT	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1 BK1 BK2	TP33
1439	AMMÓNIUM-DIKROMÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33
1442	AMMÓNIUM-PERKLORÁT	5.1	O2	II	5.1	152	LQ11	E2	P002 IBC06		MP2	T3	TP33
1444	AMMÓNIUM-PERSZULFÁT	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1445	SZILÁRD BÁRIUM-KLORÁT	5.1	OT2	II	5.1 + 6.1		LQ11	E2	P002 IBC06		MP2	T3	TP33
1446	BÁRIUM-NITRÁT	5.1	OT2	II	5.1 + 6.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33
1447	SZILÁRD BÁRIUM-PERKLORÁT	5.1	OT2	II	5.1 + 6.1		LQ11	E2	P002 IBC06		MP2	T3	TP33
1448	BÁRIUM-PERMANGANÁT	5.1	OT2	II	5.1 + 6.1		LQ11	E2	P002 IBC06		MP2	T3	TP33
1449	BÁRIUM-PEROXID	5.1	OT2	II	5.1 + 6.1		LQ11	E2	P002 IBC06		MP2	T3	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10CH(+)	TU2 TU14 TU38 TE5 TE21 TE22 TT3 TM2	1	W1		CW23		X423	1423	RUBÍDIUM
		1	W1		CW23		X423	1426	NÁTRIUM-BÓR-HIDRID
		1	W1		CW23		X423	1427	NÁTRIUM-HIDRID
L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X423	1428	NÁTRIUM
SGAN		2	W1			CE10	48	1431	NÁTRIUM-METILÁT
		1	W1		CW23 CW28		X462	1432	NÁTRIUM-FOSZFID
		1	W1		CW23 CW28		X462	1433	ÖN-FOSZFIDEK
SGAN		3	W1	VW5	CW23	CE11	423	1435	CINKHAMUK
		1	W1		CW23		X423	1436	CINKPOR vagy CINKPÚDER
SGAN		2	W1 W12		CW23	CE10	423	1436	CINKPOR vagy CINKPÚDER
SGAN		3	W1	VW5	CW23	CE11	423	1436	CINKPOR vagy CINKPÚDER
SGAN		2	W1			CE10	40	1437	CIRKÓNIUM-HIDRID
SGAV	TU3	3		VW8	CW24	CE11	50	1438	ALUMÍNIUM-NITRÁT
SGAN	TU3	2	W11		CW24	CE10	50	1439	AMMÓNIUM-DIKROMÁT
		2	W11 W12	VW8	CW24	CE10	50	1442	AMMÓNIUM-PERKLORÁT
SGAV	TU3	3		VW8	CW24	CE11	50	1444	AMMÓNIUM-PERSZULFÁT
SGAN	TU3	2	W11 W12		CW24 CW28	CE10	56	1445	SZILÁRD BÁRIUM-KLORÁT
SGAN	TU3	2	W11		CW24 CW28	CE10	56	1446	BÁRIUM-NITRÁT
SGAN	TU3	2	W11 W12		CW24 CW28	CE10	56	1447	SZILÁRD BÁRIUM-PERKLORÁT
SGAN	TU3	2	W11 W12		CW24 CW28	CE10	56	1448	BÁRIUM-PERMANGANÁT
SGAN	TU3	2	W11 W12		CW24 CW28	CE10	56	1449	BÁRIUM-PEROXID

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1450	SZERVETLEN BROMÁTOK, M.N.N.	5.1	O2	II	5.1	274 604	LQ11	E2	P002 IBC08	B4	MP2	T3	TP33
1451	CÉZIUM-NITRÁT	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1452	KALCIUM-KLORÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33
1453	KALCIUM-KLORIT	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33
1454	KALCIUM-NITRÁT	5.1	O2	III	5.1	208	LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1 BK1 BK2	TP33
1455	KALCIUM-PERKLORÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC06		MP2	T3	TP33
1456	KALCIUM-PERMANGANÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC06		MP2	T3	TP33
1457	KALCIUM-PEROXID	5.1	O2	II	5.1		LQ11	E2	P002 IBC06		MP2	T3	TP33
1458	KLORÁT ÉS BORÁT KEVERÉK	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33
1458	KLORÁT ÉS BORÁT KEVERÉK	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP2	T1	TP33
1459	KLORÁT ÉS MAGNÉZIUM-KLORID SZILÁRD KEVERÉK	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33
1459	KLORÁT ÉS MAGNÉZIUM-KLORID SZILÁRD KEVERÉK	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP2	T1	TP33
1461	SZERVETLEN KLORÁTOK, M.N.N.	5.1	O2	II	5.1	274 605	LQ11	E2	P002 IBC06		MP2	T3	TP33
1462	SZERVETLEN KLORITOK, M.N.N.	5.1	O2	II	5.1	274 509 606	LQ11	E2	P002 IBC06		MP2	T3	TP33
1463	VÍZMENTES KRÓM-TRIOXID	5.1	OTC	II	5.1 + 6.1 + 8	510	LQ11	E2	P002 IBC08	B4	MP2	T3	TP33
1465	DIDÍMIUM-NITRÁT	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1466	VAS(III)-NITRÁT	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1467	GUANIDIN-NITRÁT	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1469	ÓLOM-NITRÁT	5.1	OT2	II	5.1 + 6.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAV	TU3	2	W11	VW8	CW24	CE10	50	1450	SZERVETLEN BROMÁTOK, M.N.N.
SGAV	TU3	3		VW8	CW24	CE11	50	1451	CÉZIUM-NITRÁT
SGAV	TU3	2	W11	VW8	CW24	CE10	50	1452	KALCIUM-KLORÁT
SGAN	TU3	2	W11		CW24	CE10	50	1453	KALCIUM-KLORIT
SGAV	TU3	3		VW8	CW24	CE11	50	1454	KALCIUM-NITRÁT
SGAV	TU3	2	W11 W12	VW8	CW24	CE10	50	1455	KALCIUM-PERKLORÁT
SGAN	TU3	2	W11 W12		CW24	CE10	50	1456	KALCIUM-PERMANGANÁT
SGAN	TU3	2	W11 W12		CW24	CE10	50	1457	KALCIUM-PEROXID
SGAV	TU3	2	W11	VW8	CW24	CE10	50	1458	KLORÁT ÉS BORÁT KEVERÉK
SGAV	TU3	3		VW8	CW24	CE11	50	1458	KLORÁT ÉS BORÁT KEVERÉK
SGAV	TU3	2	W11	VW8	CW24	CE10	50	1459	KLORÁT ÉS MAGNÉZIUM-KLORID SZILÁRD KEVERÉK
SGAV	TU3	3		VW8	CW24	CE11	50	1459	KLORÁT ÉS MAGNÉZIUM-KLORID SZILÁRD KEVERÉK
SGAV	TU3	2	W11 W12	VW8	CW24	CE10	50	1461	SZERVETLEN KLORÁTOK, M.N.N.
SGAN	TU3	2	W11 W12		CW24	CE10	50	1462	SZERVETLEN KLORITOK, M.N.N.
SGAN	TU3	2	W11 W12		CW24 CW28	CE10	568	1463	VÍZMENTES KRÓM-TRIOXID
SGAV	TU3	3		VW8	CW24	CE11	50	1465	DIDÍMIUM-NITRÁT
SGAV	TU3	3		VW8	CW24	CE11	50	1466	VAS(III)-NITRÁT
SGAV	TU3	3		VW8	CW24	CE11	50	1467	GUANIDIN-NITRÁT
SGAN	TU3	2	W11		CW24 CW28	CE10	56	1469	ÓLOM-NITRÁT

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1470	SZILÁRD ÓLOM-PERKLORÁT	5.1	OT2	II	5.1 + 6.1		LQ11	E2	P002 IBC06		MP2	T3	TP33
1471	LÍTIUM-HIPOKLORIT, SZÁRAZ vagy LÍTIUM-HIPOKLORIT KEVERÉK	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP10		
1472	LÍTIUM-PEROXID	5.1	O2	II	5.1		LQ11	E2	P002 IBC06		MP2	T3	TP33
1473	MAGNÉZIUM-BROMÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33
1474	MAGNÉZIUM-NITRÁT	5.1	O2	III	5.1	332	LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1 BK1 BK2	TP33
1475	MAGNÉZIUM-PERKLORÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC06		MP2	T3	TP33
1476	MAGNÉZIUM-PEROXID	5.1	O2	II	5.1		LQ11	E2	P002 IBC06		MP2	T3	TP33
1477	SZERVETLEN NITRÁTOK, M.N.N.	5.1	O2	II	5.1	274 511	LQ11	E2	P002 IBC08	B4	MP10	T3	TP33
1477	SZERVETLEN NITRÁTOK, M.N.N.	5.1	O2	III	5.1	274 511	LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1479	SZILÁRD, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.	5.1	O2	I	5.1	274	LQ0	E0	P503 IBC05		MP2		
1479	SZILÁRD, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.	5.1	O2	II	5.1	274	LQ11	E2	P002 IBC08	B4	MP2	T3	TP33
1479	SZILÁRD, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.	5.1	O2	III	5.1	274	LQ12	E1	P002 IBC08 LP02 R001	B3	MP2	T1	TP33
1481	SZERVETLEN PERKLORÁTOK, M.N.N.	5.1	O2	II	5.1	274	LQ11	E2	P002 IBC06		MP2	T3	TP33
1481	SZERVETLEN PERKLORÁTOK, M.N.N.	5.1	O2	III	5.1	274	LQ12	E1	P002 IBC08 LP02 R001	B3	MP2	T1	TP33
1482	SZERVETLEN PERMANGANÁTOK, M.N.N.	5.1	O2	II	5.1	274 608	LQ11	E2	P002 IBC06		MP2	T3	TP33
1482	SZERVETLEN PERMANGANÁTOK, M.N.N.	5.1	O2	III	5.1	274 608	LQ12	E1	P002 IBC08 LP02 R001	B3	MP2	T1	TP33
1483	SZERVETLEN PEROXIDOK, M.N.N.	5.1	O2	II	5.1	274	LQ11	E2	P002 IBC06		MP2	T3	TP33
1483	SZERVETLEN PEROXIDOK, M.N.N.	5.1	O2	III	5.1	274	LQ12	E1	P002 IBC08 LP02 R001	B3	MP2	T1	TP33
1484	KÁLIUM-BROMÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33
1485	KÁLIUM-KLORÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAN	TU3	2	W11 W12		CW24 CW28	CE10	56	1470	SZILÁRD ÓLOM-PERKLORÁT
SGAN	TU3	2	W11		CW24	CE10	50	1471	LÍTIUM-HIPOKLORIT, SZÁRAZ vagy LÍTIUM-HIPOKLORIT KEVERÉK
SGAN	TU3	2	W11 W12		CW24	CE10	50	1472	LÍTIUM-PEROXID
SGAV	TU3	2	W11	VW8	CW24	CE10	50	1473	MAGNÉZIUM-BROMÁT
SGAV	TU3	3		VW8	CW24	CE11	50	1474	MAGNÉZIUM-NITRÁT
SGAV	TU3	2	W11 W12	VW8	CW24	CE10	50	1475	MAGNÉZIUM-PERKLORÁT
SGAN	TU3	2	W11 W12		CW24	CE10	50	1476	MAGNÉZIUM-PEROXID
SGAN	TU3	2	W11		CW24	CE10	50	1477	SZERVETLEN NITRÁTOK, M.N.N.
SGAV	TU3	3		VW8	CW24	CE11	50	1477	SZERVETLEN NITRÁTOK, M.N.N.
		1	W10		CW24		55	1479	SZILÁRD, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.
SGAN	TU3	2	W11		CW24	CE10	50	1479	SZILÁRD, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.
SGAN	TU3	3			CW24	CE11	50	1479	SZILÁRD, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.
SGAV	TU3	2	W11 W12	VW8	CW24	CE10	50	1481	SZERVETLEN PERKLORÁTOK, M.N.N.
SGAV	TU3	3		VW8	CW24	CE11	50	1481	SZERVETLEN PERKLORÁTOK, M.N.N.
SGAN	TU3	2	W11 W12		CW24	CE10	50	1482	SZERVETLEN PERMANGANÁTOK, M.N.N.
SGAN	TU3	3			CW24	CE11	50	1482	SZERVETLEN PERMANGANÁTOK, M.N.N.
SGAN	TU3	2	W11 W12		CW24	CE10	50	1483	SZERVETLEN PEROXIDOK, M.N.N.
SGAN	TU3	3			CW24	CE11	50	1483	SZERVETLEN PEROXIDOK, M.N.N.
SGAV	TU3	2	W11	VW8	CW24	CE10	50	1484	KÁLIUM-BROMÁT
SGAV	TU3	2	W11	VW8	CW24	CE10	50	1485	KÁLIUM-KLORÁT

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1486	KÁLIUM-NITRÁT	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1 BK1 BK2	TP33
1487	KÁLIUM-NITRÁT ÉS NÁTRIUM- NITRIT KEVERÉK	5.1	O2	II	5.1	607	LQ11	E2	P002 IBC08	B4	MP10	T3	TP33
1488	KÁLIUM-NITRIT	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP10	T3	TP33
1489	KÁLIUM-PERKLORÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC06		MP2	T3	TP33
1490	KÁLIUM-PERMANGANÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33
1491	KÁLIUM-PEROXID	5.1	O2	I	5.1		LQ0	E0	P503 IBC06		MP2		
1492	KÁLIUM-PERSZULFÁT	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1493	EZÜST-NITRÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP10	T3	TP33
1494	NÁTRIUM-BROMÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33
1495	NÁTRIUM-KLORÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3 BK1 BK2	TP33
1496	NÁTRIUM-KLORIT	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33
1498	NÁTRIUM-NITRÁT	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1 BK1 BK2	TP33
1499	NÁTRIUM-NITRÁT ÉS KÁLIUM- NITRÁT KEVERÉK	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1 BK1 BK2	TP33
1500	NÁTRIUM-NITRIT	5.1	OT2	III	5.1 + 6.1		LQ12	E1	P002 IBC08 R001	B3	MP10	T1	TP33
1502	NÁTRIUM-PERKLORÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC06		MP2	T3	TP33
1503	NÁTRIUM-PERMANGANÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC06		MP2	T3	TP33
1504	NÁTRIUM-PEROXID	5.1	O2	I	5.1		LQ0	E0	P503 IBC05		MP2		
1505	NÁTRIUM-PERSZULFÁT	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1506	STRONCIUM-KLORÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33
1507	STRONCIUM-NITRÁT	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAV	TU3	3		VW8	CW24	CE11	50	1486	KÁLIUM-NITRÁT
SGAV	TU3	2	W11	VW8	CW24	CE10	50	1487	KÁLIUM-NITRÁT ÉS NÁTRIUM-NITRIT KEVERÉK
SGAV	TU3	2	W11	VW8	CW24	CE10	50	1488	KÁLIUM-NITRIT
SGAV	TU3	2	W11 W12	VW8	CW24	CE10	50	1489	KÁLIUM-PERKLOORÁT
SGAN	TU3	2	W11		CW24	CE10	50	1490	KÁLIUM-PERMANGANÁT
		1	W10 W12		CW24		55	1491	KÁLIUM-PEROXID
SGAV	TU3	3		VW8	CW24	CE11	50	1492	KÁLIUM-PERSZULFÁT
SGAV	TU3	2	W11	VW8	CW24	CE10	50	1493	EZÜST-NITRÁT
SGAV	TU3	2	W11	VW8	CW24	CE10	50	1494	NÁTRIUM-BROMÁT
SGAV	TU3	2	W11	VW8	CW24	CE10	50	1495	NÁTRIUM-KLOORÁT
SGAN	TU3	2	W11		CW24	CE10	50	1496	NÁTRIUM-KLORIT
SGAV	TU3	3		VW8	CW24	CE11	50	1498	NÁTRIUM-NITRÁT
SGAV	TU3	3		VW8	CW24	CE11	50	1499	NÁTRIUM-NITRÁT ÉS KÁLIUM-NITRÁT KEVERÉK
SGAN	TU3	3			CW24 CW28	CE11	56	1500	NÁTRIUM-NITRIT
SGAV	TU3	2	W11 W12	VW8	CW24	CE10	50	1502	NÁTRIUM-PERKLOORÁT
SGAN	TU3	2	W11 W12		CW24	CE10	50	1503	NÁTRIUM-PERMANGANÁT
		1	W10		CW24		55	1504	NÁTRIUM-PEROXID
SGAV	TU3	3		VW8	CW24	CE11	50	1505	NÁTRIUM-PERSZULFÁT
SGAV	TU3	2	W11	VW8	CW24	CE10	50	1506	STRONCIUM-KLOORÁT
SGAV	TU3	3		VW8	CW24	CE11	50	1507	STRONCIUM-NITRÁT

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1508	STRONCIUM-PERKLORÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC06		MP2	T3	TP33
1509	STRONCIUM-PEROXID	5.1	O2	II	5.1		LQ11	E2	P002 IBC06		MP2	T3	TP33
1510	TETRANITRO-METÁN	5.1	OT1	I	5.1 + 6.1	609	LQ0	E0	P602		MP2		
1511	KARBAMID-HIDROGÉN-PEROXID	5.1	OC2	III	5.1 + 8		LQ12	E1	P002 IBC08 R001	B3	MP2	T1	TP33
1512	CINK-AMMÓNIUM-NITRIT	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP10	T3	TP33
1513	CINK-KLORÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33
1514	CINK-NITRÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP10	T3	TP33
1515	CINK-PERMANGANÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC06		MP2	T3	TP33
1516	CINK-PEROXID	5.1	O2	II	5.1		LQ11	E2	P002 IBC06		MP2	T3	TP33
1517	CIRKÓNIUM-PIKRAMÁT, legalább 20 tömeg% vízzel NEDVESÍTETT	4.1	D	I	4.1		LQ0	E0	P406	PP26	MP2		
1541	ACETON-CIÁNHIDRIN, STABILIZÁLT	6.1	T1	I	6.1		LQ0	E5	P602		MP8 MP17	T14	TP2
1544	SZILÁRD ALKALOIDOK, M.N.N. vagy SZILÁRD ALKALOIDA SÓK, M.N.N.	6.1	T2	I	6.1	43 274	LQ0	E5	P002 IBC07		MP18	T6	TP33
1544	SZILÁRD ALKALOIDOK, M.N.N. vagy SZILÁRD ALKALOIDA SÓK, M.N.N.	6.1	T2	II	6.1	43 274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1544	SZILÁRD ALKALOIDOK, M.N.N. vagy SZILÁRD ALKALOIDA SÓK, M.N.N.	6.1	T2	III	6.1	43 274	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1545	ALLIL-IZOTIOCIANÁT, STABILIZÁLT	6.1	TF1	II	6.1 + 3		LQ17	E4	P001 IBC02		MP15	T7	TP2
1546	AMMÓNIUM-ARZENÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1547	ANILIN	6.1	T1	II	6.1	279	LQ17	E4	P001 IBC02		MP15	T7	TP2
1548	ANILIN-HIDROKLORID	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1549	SZERVETLEN, SZILÁRD ANTIMONVEGYÜLET, M.N.N.	6.1	T5	III	6.1	45 274 512	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAV	TU3	2	W11 W12	VW8	CW24	CE10	50	1508	STRONCIUM-PERKLORÁT
SGAN	TU3	2	W11 W12		CW24	CE10	50	1509	STRONCIUM-PEROXID
L4BN	TU3 TU28	1	W5		CW24 CW28		559	1510	TETRANITRO-METÁN
SGAN	TU3	3			CW24	CE11	58	1511	KARBAMID-HIDROGÉN-PEROXID
SGAN	TU3	2	W11		CW24	CE10	50	1512	CINK-AMMÓNIUM-NITRIT
SGAV	TU3	2	W11	VW8	CW24	CE10	50	1513	CINK-KLORÁT
SGAN	TU3	2	W11		CW24	CE10	50	1514	CINK-NITRÁT
SGAN	TU3	2	W11 W12		CW24	CE10	50	1515	CINK-PERMANGANÁT
SGAN	TU3	2	W11 W12		CW24	CE10	50	1516	CINK-PEROXID
		1	W1				40	1517	CIRKÓNIUM-PIKRAMÁT, legalább 20 tömeg% vízzel NEDVESÍTETT
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		669	1541	ACETON-CIÁNHIDRIN, STABILIZÁLT
S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66	1544	SZILÁRD ALKALOIDOK, M.N.N. vagy SZILÁRD ALKALOIDA SÓK, M.N.N.
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1544	SZILÁRD ALKALOIDOK, M.N.N. vagy SZILÁRD ALKALOIDA SÓK, M.N.N.
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	1544	SZILÁRD ALKALOIDOK, M.N.N. vagy SZILÁRD ALKALOIDA SÓK, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	639	1545	ALLIL-IZOTIOCIANÁT, STABILIZÁLT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1546	AMMÓNIUM-ARZENÁT
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1547	ANILIN
SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	1548	ANILIN-HIDROKLORID
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	1549	SZERVETLEN, SZILÁRD ANTIMONVEGYÜLET, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1550	ANTIMON-LAKTÁT	6.1	T5	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1551	ANTIMON-KÁLIUM-TARTARÁT	6.1	T5	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1553	FOLYÉKONY ARZÉNSAV	6.1	T4	I	6.1		LQ0	E5	P001		MP8 MP17	T20	TP2 TP7
1554	SZILÁRD ARZÉNSAV	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1555	ARZÉN-BROMID	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1556	FOLYÉKONY ARZÉNVEGYÜLET, M.N.N., szervesetlen, pl.: arzenátok, m.n.n., arzenitek, m.n.n., arzén- szulfidok, m.n.n.	6.1	T4	I	6.1	43 274	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
1556	FOLYÉKONY ARZÉNVEGYÜLET, M.N.N., szervesetlen, pl.: arzenátok, m.n.n., arzenitek, m.n.n., arzén- szulfidok, m.n.n.	6.1	T4	II	6.1	43 274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
1556	FOLYÉKONY ARZÉNVEGYÜLET, M.N.N., szervesetlen, pl.: arzenátok, m.n.n., arzenitek, m.n.n., arzén- szulfidok, m.n.n.	6.1	T4	III	6.1	43 274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28
1557	SZILÁRD ARZÉNVEGYÜLET, M.N.N., szervesetlen, pl.: arzenátok, m.n.n., arzenitek, m.n.n., arzén- szulfidok, m.n.n.	6.1	T5	I	6.1	43 274	LQ0	E5	P002 IBC07		MP18	T6	TP33
1557	SZILÁRD ARZÉNVEGYÜLET, M.N.N., szervesetlen, pl.: arzenátok, m.n.n., arzenitek, m.n.n., arzén- szulfidok, m.n.n.	6.1	T5	II	6.1	43 274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1557	SZILÁRD ARZÉNVEGYÜLET, M.N.N., szervesetlen, pl.: arzenátok, m.n.n., arzenitek, m.n.n., arzén- szulfidok, m.n.n.	6.1	T5	III	6.1	43 274	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1558	ARZÉN	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1559	ARZÉN-PENTOXID	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	1550	ANTIMON-LAKTÁT
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	1551	ANTIMON-KÁLIUM-TARTARÁT
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	1553	FOLYÉKONY ARZÉNSAV
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1554	SZILÁRD ARZÉNSAV
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1555	ARZÉN-BROMID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	1556	FOLYÉKONY ARZÉNVEGYÜLET, M.N.N., szerves, pl.: arzenátok, m.n.n., arzenitek, m.n.n., arzen- szulfidok, m.n.n.
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1556	FOLYÉKONY ARZÉNVEGYÜLET, M.N.N., szerves, pl.: arzenátok, m.n.n., arzenitek, m.n.n., arzen- szulfidok, m.n.n.
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	1556	FOLYÉKONY ARZÉNVEGYÜLET, M.N.N., szerves, pl.: arzenátok, m.n.n., arzenitek, m.n.n., arzen- szulfidok, m.n.n.
L10CH S10AH	TU15 TU38 TE22	1	W10 W12		CW13 CW28 CW31		66	1557	SZILÁRD ARZÉNVEGYÜLET, M.N.N., szerves, pl.: arzenátok, m.n.n., arzenitek, m.n.n., arzen- szulfidok, m.n.n.
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1557	SZILÁRD ARZÉNVEGYÜLET, M.N.N., szerves, pl.: arzenátok, m.n.n., arzenitek, m.n.n., arzen- szulfidok, m.n.n.
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	1557	SZILÁRD ARZÉNVEGYÜLET, M.N.N., szerves, pl.: arzenátok, m.n.n., arzenitek, m.n.n., arzen- szulfidok, m.n.n.
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1558	ARZÉN
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1559	ARZÉN-PENTOXID

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1560	ARZÉN-TRIKLORID	6.1	T4	I	6.1		LQ0	E5	P602		MP8 MP17	T14	TP2
1561	ARZÉN-TRIOXID	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1562	ARZÉNPOR	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1564	BÁRIUMVEGYÜLET, M.N.N.	6.1	T5	II	6.1	177 274 513 587	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1564	BÁRIUMVEGYÜLET, M.N.N.	6.1	T5	III	6.1	177 274 513 587	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1565	BÁRIUM-CIANID	6.1	T5	I	6.1		LQ0	E5	P002 IBC07		MP18	T6	TP33
1566	BERILLIUMVEGYÜLET, M.N.N.	6.1	T5	II	6.1	274 514	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1566	BERILLIUMVEGYÜLET, M.N.N.	6.1	T5	III	6.1	274 514	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1567	BERILLIUMPOR	6.1	TF3	II	6.1 + 4.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1569	BRÓM-ACETON	6.1	TF1	II	6.1 + 3		LQ17	E4	P602		MP15	T20	TP2
1570	BRUCIN	6.1	T2	I	6.1	43	LQ0	E5	P002 IBC07		MP18	T6	TP33
1571	BÁRIUM-AZID, legalább 50 tömeg% vízzel NEDVESÍTETT	4.1	DT	I	4.1 + 6.1	568	LQ0	E0	P406		MP2		
1572	KAKODILSAV	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1573	KALCIUM-ARZENÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1574	KALCIUM-ARZENÁT ÉS KALCIUM- ARZENIT SZILÁRD KEVERÉK	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1575	KALCIUM-CIANID	6.1	T5	I	6.1		LQ0	E5	P002 IBC07		MP18	T6	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	1560	ARZÉN-TRIKLORID
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1561	ARZÉN-TRIOXID
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1562	ARZÉNPOR
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1564	BÁRIUMVEGYÜLET, M.N.N.
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	1564	BÁRIUMVEGYÜLET, M.N.N.
S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66	1565	BÁRIUM-CIANID
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1566	BERILLIUMVEGYÜLET, M.N.N.
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	1566	BERILLIUMVEGYÜLET, M.N.N.
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	64	1567	BERILLIUMPOR
L4BH	TU15	2			CW13 CW28 CW31	CE5	63	1569	BRÓM-ACETON
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66	1570	BRUCIN
		1	W1		CW28		46	1571	BÁRIUM-AZID, legalább 50 tömeg% vízzel NEDVESÍTETT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1572	KAKODILSAV
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1573	KALCIUM-ARZENÁT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1574	KALCIUM-ARZENÁT ÉS KALCIUM-ARZENIT SZILÁRD KEVERÉK
S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66	1575	KALCIUM-CIANID

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1577	FOLYÉKONY KLÓR-DINITRO- BENZOLOK	6.1	T1	II	6.1	279	LQ17	E4	P001 IBC02		MP15	T7	TP2
1578	SZILÁRD KLÓR-NITRO-BENZOLOK	6.1	T2	II	6.1	279	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1579	SZILÁRD 4-KLÓR-o-TOLUIDIN- HIDROKLORID	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1580	KLÓRPIKRIN	6.1	T1	I	6.1		LQ0	E5	P602		MP8 MP17	T14	TP2
1581	KLÓRPIKRIN ÉS METIL-BROMID KEVERÉK 2%-nál nagyobb klórpikrin tartalommal	2	2T		2.3 (+13)		LQ0	E0	P200		MP9	T50 (M)	
1582	KLÓRPIKRIN ÉS METIL-KLORID KEVERÉK	2	2T		2.3 (+13)		LQ0	E0	P200		MP9	T50 (M)	
1583	KLÓRPIKRIN KEVERÉK, M.N.N.	6.1	T1	I	6.1	274 315 515	LQ0	E5	P602		MP8 MP17		
1583	KLÓRPIKRIN KEVERÉK, M.N.N.	6.1	T1	II	6.1	274 515	LQ17	E4	P001 IBC02		MP15		
1583	KLÓRPIKRIN KEVERÉK, M.N.N.	6.1	T1	III	6.1	274 515	LQ7	E1	P001 IBC03 LP01 R001		MP19		
1585	RÉZ-ACETO-ARZENIT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1586	RÉZ-ARZENIT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1587	RÉZ-CIANID	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1588	SZERVETLEN, SZILÁRD CIANIDOK, M.N.N.	6.1	T5	I	6.1	47 274	LQ0	E5	P002 IBC07		MP18	T6	TP33
1588	SZERVETLEN, SZILÁRD CIANIDOK, M.N.N.	6.1	T5	II	6.1	47 274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1577	FOLYÉKONY KLÓR-DINITRO-BENZOLOK
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1578	SZILÁRD KLÓR-NITRO-BENZOLOK
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	1579	SZILÁRD 4-KLÓR-o-TOLUIDIN-HIDROKLORID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	1580	KLÓRPIKRIN
P*BH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		26	1581	KLÓRPIKRIN ÉS METIL-BROMID KEVERÉK 2%-nál nagyobb klórpikrin tartalommal
P*BH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		26	1582	KLÓRPIKRIN ÉS METIL-KLORID KEVERÉK
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	1583	KLÓRPIKRIN KEVERÉK, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1583	KLÓRPIKRIN KEVERÉK, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	1583	KLÓRPIKRIN KEVERÉK, M.N.N.
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1585	RÉZ-ACETO-ARZENIT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1586	RÉZ-ARZENIT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1587	RÉZ-CIANID
S10AH	TU15	1	W10 W12		CW13 CW28 CW31	CE13	66	1588	SZERVETLEN, SZILÁRD CIANIDOK, M.N.N.
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1588	SZERVETLEN, SZILÁRD CIANIDOK, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1588	SZERVETLEN, SZILÁRD CIANIDOK, M.N.N.	6.1	T5	III	6.1	47 274	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1589	KLÓR-CIÁN, STABILIZÁLT	2	2TC		2.3 + 8		LQ0	E0	P200		MP9		
1590	FOLYÉKONY DIKLÓR-ANILINEK	6.1	T1	II	6.1	279	LQ17	E4	P001 IBC02		MP15	T7	TP2
1591	o-DIKLÓR-BENZOL	6.1	T1	III	6.1	279	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
1593	DIKLÓR-METÁN (metilén-klorid)	6.1	T1	III	6.1	516	LQ7	E1	P001 IBC03 LP01 R001	B8	MP19	T7	TP2
1594	DIETIL-SZULFÁT	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
1595	DIMETIL-SZULFÁT	6.1	TC1	I	6.1 + 8		LQ0	E5	P602		MP8 MP17	T20	TP2 TP35
1596	DINITRO-ANILINEK	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1597	FOLYÉKONY DINITRO-BENZOLOK	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
1597	FOLYÉKONY DINITRO-BENZOLOK	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2
1598	DINITRO-o-KREZOL	6.1	T2	II	6.1	43	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1599	DINITRO-FENOL OLDAT	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
1599	DINITRO-FENOL OLDAT	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
1600	OLVASZTOTT DINITRO-TOLUOLOK	6.1	T1	II	6.1		LQ0	E0				T7	TP3
1601	SZILÁRD, MÉRGEZŐ FERTŐTLENÍTŐSZER, M.N.N.	6.1	T2	I	6.1	274	LQ0	E5	P002 IBC07		MP18	T6	TP33
1601	SZILÁRD, MÉRGEZŐ FERTŐTLENÍTŐSZER, M.N.N.	6.1	T2	II	6.1	274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	1588	SZERVETLEN, SZILÁRD CIANIDOK, M.N.N.
		1			CW9 CW10 CW36		268	1589	KLÓR-CIÁN, STABILIZÁLT
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1590	FOLYÉKONY DIKLÓR-ANILINEK
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	1591	o-DIKLÓR-BENZOL
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	1593	DIKLÓR-METÁN (metilén-klorid)
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1594	DIETIL-SZULFÁT
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		668	1595	DIMETIL-SZULFÁT
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1596	DINITRO-ANILINEK
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1597	FOLYÉKONY DINITRO-BENZOLOK
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	1597	FOLYÉKONY DINITRO-BENZOLOK
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1598	DINITRO-o-KREZOL
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1599	DINITRO-FENOL OLDAT
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	1599	DINITRO-FENOL OLDAT
L4BH	TU15	0			CW13 CW31		60	1600	OLVASZTOTT DINITRO-TOLUOLOK
L10CH S10AH	TU15 TU38 TE22	1	W10 W12		CW13 CW28 CW31		66	1601	SZILÁRD, MÉRGEZŐ FERTŐTLENÍTŐSZER, M.N.N.
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1601	SZILÁRD, MÉRGEZŐ FERTŐTLENÍTŐSZER, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1601	SZILÁRD, MÉRGEZŐ FERTŐTLENÍTŐSZER, M.N.N.	6.1	T2	III	6.1	274	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1602	FOLYÉKONY, MÉRGEZŐ SZÍNEZÉK, M.N.N. vagy FOLYÉKONY, MÉRGEZŐ SZÍNEZÉK INTERMEDIER, M.N.N.	6.1	T1	I	6.1	274	LQ0	E5	P001		MP8 MP17		
1602	FOLYÉKONY, MÉRGEZŐ SZÍNEZÉK, M.N.N. vagy FOLYÉKONY, MÉRGEZŐ SZÍNEZÉK INTERMEDIER, M.N.N.	6.1	T1	II	6.1	274	LQ17	E4	P001 IBC02		MP15		
1602	FOLYÉKONY, MÉRGEZŐ SZÍNEZÉK, M.N.N. vagy FOLYÉKONY, MÉRGEZŐ SZÍNEZÉK INTERMEDIER, M.N.N.	6.1	T1	III	6.1	274	LQ7	E1	P001 IBC03 LP01 R001		MP19		
1603	ETIL-BRÓM-ACETÁT	6.1	TF1	II	6.1 + 3		LQ17	E4	P001 IBC02		MP15	T7	TP2
1604	ETILÉN-DIAMIN	8	CF1	II	8 + 3		LQ22	E2	P001 IBC02		MP15	T7	TP2
1605	ETILÉN-DIBROMID (1,2-dibrom-etán)	6.1	T1	I	6.1		LQ0	E5	P602		MP8 MP17	T14	TP2
1606	VAS(III)-ARZENÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1607	VAS(III)-ARZENIT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1608	VAS(II)-ARZENÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1611	HEXAETIL-TETRAFOSZFÁT	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
1612	HEXAETIL-TETRAFOSZFÁT ÉS SŰRÍTETT GÁZ KEVERÉK	2	1T		2.3 (+13)		LQ0	E0	P200		MP9	(M)	
1613	HIDROGÉN-CIANID VIZES OLDAT (CIÁN-HIDROGÉNSAV VIZES OLDAT) legfeljebb 20% hidrogén-cianid tartalommal	6.1	TF1	I	6.1 + 3	48	LQ0	E5	P601		MP8 MP17	T14	TP2



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	1601	SZILÁRD, MÉRGEZŐ FERTŐTLENÍTŐSZER, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	1602	FOLYÉKONY, MÉRGEZŐ SZÍNEZÉK, M.N.N. vagy FOLYÉKONY, MÉRGEZŐ SZÍNEZÉK INTERMEDIER, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1602	FOLYÉKONY, MÉRGEZŐ SZÍNEZÉK, M.N.N. vagy FOLYÉKONY, MÉRGEZŐ SZÍNEZÉK INTERMEDIER, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	1602	FOLYÉKONY, MÉRGEZŐ SZÍNEZÉK, M.N.N. vagy FOLYÉKONY, MÉRGEZŐ SZÍNEZÉK INTERMEDIER, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	63	1603	ETIL-BRÓM-ACETÁT
L4BN		2				CE6	83	1604	ETILÉN-DIAMIN
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	1605	ETILÉN-DIBROMID (1,2-dibróm-etán)
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1606	VAS(III)-ARZENÁT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1607	VAS(III)-ARZENIT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1608	VAS(II)-ARZENÁT
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1611	HEXAETIL-TETRAFOSZFÁT
C*BH(M)	TU38 TE22 TE25 TA4 TT9	1			CW9 CW10 CW36		26	1612	HEXAETIL-TETRAFOSZFÁT ÉS SŰRÍTETT GÁZ KEVERÉK
L15DH(+)	TU14 TU15 TU38 TE21 TE22 TE25	0			CW13 CW28 CW31		663	1613	HIDROGÉN-CIANID VIZES OLDAT (CIÁN-HIDROGÉNSAV VIZES OLDAT) legfeljebb 20% hidrogén-cianid tartalommal

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1614	HIDROGÉN-CIANID, STABILIZÁLT, 3%-nál kevesebb víztartalommal és inert porózus anyagban abszorbeálva	6.1	TF1	I	6.1 + 3	603	LQ0	E5	P099 P601	RR10	MP2		
1616	ÓLOM-ACETÁT	6.1	T5	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1617	ÓLOM-ARZENÁTOK	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1618	ÓLOM-ARZENITEK	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1620	ÓLOM-CIANID	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1621	LONDON VÖRÖS	6.1	T5	II	6.1	43	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1622	MAGNÉZIUM-ARZENÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1623	HIGANY(II)-ARZENÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1624	HIGANY(II)-KLORID	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1625	HIGANY(II)-NITRÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1626	KÁLIUM-HIGANY-CIANID	6.1	T5	I	6.1		LQ0	E5	P002 IBC07		MP18	T6	TP33
1627	HIGANY(I)-NITRÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1629	HIGANY-ACETÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1630	HIGANY(II)-AMMÓNIUM-KLORID	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1631	HIGANY(II)-BENZOÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1634	HIGANY-BROMIDOK	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1636	HIGANY-CIANID	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		0			CW13 CW28 CW31		663	1614	HIDROGÉN-CIANID, STABILIZÁLT, 3%-nál kevesebb víztartalommal és inert porózus anyagban abszorbeálva
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	1616	ÓLOM-ACETÁT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1617	ÓLOM-ARZENÁTOK
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1618	ÓLOM-ARZENITEK
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1620	ÓLOM-CIANID
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1621	LONDON VÖRÖS
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1622	MAGNÉZIUM-ARZENÁT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1623	HIGANY(II)-ARZENÁT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1624	HIGANY(II)-KLORID
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1625	HIGANY(II)-NITRÁT
S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66	1626	KÁLIUM-HIGANY-CIANID
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1627	HIGANY(I)-NITRÁT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1629	HIGANY-ACETÁT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1630	HIGANY(II)-AMMÓNIUM-KLORID
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1631	HIGANY(II)-BENZOÁT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1634	HIGANY-BROMIDOK
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1636	HIGANY-CIANID

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- mago- lási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1637	HIGANY-GLUKONÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1638	HIGANY-JODID	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1639	HIGANY-NUKLEÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1640	HIGANY-OLEÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1641	HIGANY-OXID	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1642	HIGANY-OXICIANID, ÉRZÉKETLENÍTETT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1643	KÁLIUM-HIGANY-JODID	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1644	HIGANY-SZALICILÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1645	HIGANY-SZULFÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1646	HIGANY-TIOCIANÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1647	METIL-BROMID ÉS ETILÉN- DIBROMID FOLYÉKONY KEVERÉK	6.1	T1	I	6.1		LQ0	E5	P602		MP8 MP17	T20	TP2
1648	ACETONITRIL	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T7	TP2
1649	KOPOGÁSGÁTÓ KEVERÉK TÜZELŐANYAGOKHOZ 60 °C feletti lobbanásponttal	6.1	T3	I	6.1		LQ0	E5	P602		MP8 MP17	T14	TP2
1649	KOPOGÁSGÁTÓ KEVERÉK TÜZELŐANYAGOKHOZ legfeljebb 60 °C lobbanásponttal	6.1	TF1	I	6.1 + 3		LQ0	E5	P602		MP8 MP17	T14	TP2
1650	SZILÁRD béta-NAFTIL-AMIN	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1637	HIGANY-GLUKONÁT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1638	HIGANY-JODID
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1639	HIGANY-NUKLEÁT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1640	HIGANY-OLEÁT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1641	HIGANY-OXID
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1642	HIGANY-OXICIANID, ÉRZÉKETLENÍTETT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1643	KÁLIUM-HIGANY-JODID
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1644	HIGANY-SZALICILÁT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1645	HIGANY-SZULFÁT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1646	HIGANY-TIOCIANÁT
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	1647	METIL-BROMID ÉS ETILÉN-DIBROMID FOLYÉKONY KEVERÉK
LGBF		2				CE7	33	1648	ACETONITRIL
L10CH	TU14 TU15 TU38 TE21 TE22 TT6	1			CW13 CW28 CW31		66	1649	KOPOGÁSGÁTLO KEVERÉK TŰZELŐANYAGOKHOZ 60 °C feletti lobbasponttal
L10CH	TU14 TU15 TU38 TE21 TE22 TT6	1			CW13 CW28 CW31		663	1649	KOPOGÁSGÁTLO KEVERÉK TŰZELŐANYAGOKHOZ legfeljebb 60 °C lobbasponttal
SGAH L4BH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1650	SZILÁRD béta-NAFTIL-AMIN

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1651	NAFTIL-TIOKARBAMID	6.1	T2	II	6.1	43	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1652	NAFTIL-KARBAMID	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1653	NIKKEL-CIANID	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1654	NIKOTIN	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15		
1655	SZILÁRD NIKOTINVEGYÜLET, M.N.N. vagy SZILÁRD NIKOTINKÉSZÍTMÉNY, M.N.N.	6.1	T2	I	6.1	47 274	LQ0	E5	P002 IBC07		MP18	T6	TP33
1655	SZILÁRD NIKOTINVEGYÜLET, M.N.N. vagy SZILÁRD NIKOTINKÉSZÍTMÉNY, M.N.N.	6.1	T2	II	6.1	47 274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1655	SZILÁRD NIKOTINVEGYÜLET, M.N.N. vagy SZILÁRD NIKOTINKÉSZÍTMÉNY, M.N.N.	6.1	T2	III	6.1	47 274	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1656	FOLYÉKONY NIKOTIN- HIDROKLORID vagy NIKOTIN- HIDROKLORID OLDAT	6.1	T1	II	6.1	43	LQ17	E4	P001 IBC02		MP15		
1656	FOLYÉKONY NIKOTIN- HIDROKLORID vagy NIKOTIN- HIDROKLORID OLDAT	6.1	T1	III	6.1	43	LQ7	E1	P001 IBC03 LP01 R001		MP19		
1657	NIKOTIN-SZALICILÁT	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1658	NIKOTIN-SZULFÁT OLDAT	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
1658	NIKOTIN-SZULFÁT OLDAT	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2
1659	NIKOTIN-TARTARÁT	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1660	NITROGÉN-MONOXID, SŰRÍTETT	2	I/TOC		2.3 + 5.1 + 8		LQ0	E0	P200		MP9		
1661	NITRO-ANILINEK (o-, m-, p-)	6.1	T2	II	6.1	279	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1662	NITRO-BENZOL	6.1	T1	II	6.1	279	LQ17	E4	P001 IBC02		MP15	T7	TP2
1663	NITRO-FENOLOK (o-, m-, p-)	6.1	T2	III	6.1	279	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1651	NAFTIL-TIOKARBAMID
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1652	NAFTIL-KARBAMID
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1653	NIKKEL-CIANID
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1654	NIKOTIN
L10CH S10AH	TU15 TU38 TE22	1	W10 W12		CW13 CW28 CW31		66	1655	SZILÁRD NIKOTINVEGYÜLET, M.N.N. vagy SZILÁRD NIKOTINKÉSZÍTMÉNY, M.N.N.
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1655	SZILÁRD NIKOTINVEGYÜLET, M.N.N. vagy SZILÁRD NIKOTINKÉSZÍTMÉNY, M.N.N.
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	1655	SZILÁRD NIKOTINVEGYÜLET, M.N.N. vagy SZILÁRD NIKOTINKÉSZÍTMÉNY, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1656	FOLYÉKONY NIKOTIN-HIDROKLORID vagy NIKOTIN-HIDROKLORID OLDAT
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	1656	FOLYÉKONY NIKOTIN-HIDROKLORID vagy NIKOTIN-HIDROKLORID OLDAT
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1657	NIKOTIN-SZALICILÁT
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1658	NIKOTIN-SZULFÁT OLDAT
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	1658	NIKOTIN-SZULFÁT OLDAT
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1659	NIKOTIN-TARTARÁT
		1			CW9 CW10 CW36		265	1660	NITROGÉN-MONOXID, SŰRÍTETT
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1661	NITRO-ANILINEK (o-, m-, p-)
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1662	NITRO-BENZOL
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	1663	NITRO-FENOLOK (o-, m-, p-)

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1664	FOLYÉKONY NITRO-TOLUOLOK	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
1665	FOLYÉKONY NITRO-XILOLOK	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
1669	PENTAKLÓR-ETÁN	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
1670	PERKLÓR-METIL-MERKAPTÁN	6.1	T1	I	6.1		LQ0	E5	P602		MP8 MP17	T14	TP2
1671	SZILÁRD FENOL	6.1	T2	II	6.1	279	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1672	FENIL-KARBIL-AMIN-KLORID	6.1	T1	I	6.1		LQ0	E5	P602		MP8 MP17	T14	TP2
1673	FENILÉN-DIAMINOK (o-, m-, p-)	6.1	T2	III	6.1	279	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1674	FENIL-HIGANY(II)- -ACETÁT	6.1	T3	II	6.1	43	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1677	KÁLIUM-ARZENÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1678	KÁLIUM-ARZENIT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1679	KÁLIUM-RÉZ(I)- -CIANID	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1680	SZILÁRD KÁLIUM-CIANID	6.1	T5	I	6.1		LQ0	E5	P002 IBC07		MP18	T6	TP33
1683	EZÜST-ARZENIT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1684	EZÜST-CIANID	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1685	NÁTRIUM-ARZENÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1686	NÁTRIUM-ARZENIT VIZES OLDAT	6.1	T4	II	6.1	43	LQ17	E4	P001 IBC02		MP15	T7	TP2



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1664	FOLYÉKONY NITRO-TOLUOLOK
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1665	FOLYÉKONY NITRO-XILOLOK
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1669	PENTAKLÓR-ETÁN
L10CH	TU14 TU15 TE21 TU38 TE22	1			CW13 CW28 CW31		66	1670	PERKLÓR-METIL-MERKAPTÁN
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1671	SZILÁRD FENOL
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	1672	FENIL-KARBIL-AMIN-KLORID
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	1673	FENILÉN-DIAMINOK (o-, m-, p-)
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1674	FENIL-HIGANY(II)- -ACETÁT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1677	KÁLIUM-ARZENÁT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1678	KÁLIUM-ARZENIT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1679	KÁLIUM-RÉZ(I)- -CIANID
S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66	1680	SZILÁRD KÁLIUM-CIANID
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1683	EZÜST-ARZENIT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1684	EZÜST-CIANID
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1685	NÁTRIUM-ARZENÁT
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1686	NÁTRIUM-ARZENIT VIZES OLDAT

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- mago- lási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1686	NÁTRIUM-ARZENIT VIZES OLDAT	6.1	T4	III	6.1	43	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP2
1687	NÁTRIUM-AZID	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10		
1688	NÁTRIUM-KAKODILÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1689	SZILÁRD NÁTRIUM-CIANID	6.1	T5	I	6.1		LQ0	E5	P002 IBC07		MP18	T6	TP33
1690	SZILÁRD NÁTRIUM-FLUORID	6.1	T5	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1691	STRONCIUM-ARZENIT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1692	SZTRICHNIN vagy SZTRICHNIN SÓK	6.1	T2	I	6.1		LQ0	E5	P002 IBC07		MP18	T6	TP33
1693	FOLYÉKONY KÖNNYGÁZ ANYAG, M.N.N.	6.1	T1	I	6.1	274	LQ0	E5	P001		MP8 MP17		
1693	FOLYÉKONY KÖNNYGÁZ ANYAG, M.N.N.	6.1	T1	II	6.1	274	LQ17	E4	P001 IBC02		MP15		
1694	FOLYÉKONY BRÓM-BENZIL- CIANIDOK	6.1	T1	I	6.1	138	LQ0	E5	P001		MP8 MP17	T14	TP2
1695	KLÓR-ACETON, STABILIZÁLT	6.1	TFC	I	6.1 + 3 + 8		LQ0	E5	P001		MP8 MP17	T20	TP2 TP35
1697	SZILÁRD KLÓR-ACETOFENON	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1698	DIFENIL-AMIN-KLÓR-ARZIN	6.1	T3	I	6.1		LQ0	E5	P002		MP18	T6	TP33
1699	FOLYÉKONY DIFENIL-KLÓR-ARZIN	6.1	T3	I	6.1		LQ0	E5	P001		MP8 MP17		
1700	KÖNNYGÁZGYERTYÁK	6.1	TF3	II	6.1 + 4.1		LQ18	E0	P600				

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	1686	NÁTRIUM-ARZENIT VIZES OLDAT
		2	W11		CW13 CW28 CW31	CE9	60	1687	NÁTRIUM-AZID
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1688	NÁTRIUM-KAKODILÁT
S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66	1689	SZILÁRD NÁTRIUM-CIANID
SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	1690	SZILÁRD NÁTRIUM-FLUORID
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1691	STRONCIUM-ARZENIT
S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66	1692	SZTRICHNIN vagy SZTRICHNIN SÓK
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	1693	FOLYÉKONY KÖNNYGÁZ ANYAG, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1693	FOLYÉKONY KÖNNYGÁZ ANYAG, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	1694	FOLYÉKONY BRÓM-BENZIL-CIANIDOK
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	1695	KLÓR-ACETON, STABILIZÁLT
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1697	SZILÁRD KLÓR-ACETOFENON
S10AH	TU15	1			CW13 CW28 CW31		66	1698	DIFENIL-AMIN-KLÓR-ARZIN
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	1699	FOLYÉKONY DIFENIL-KLÓR-ARZIN
		2			CW13 CW28 CW31		64	1700	KÖNNYGÁZGYERTYÁK

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírás- ok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1701	FOLYÉKONY XILIL-BROMID	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
1702	1,1,2,2-TETRAKLÓR-ETÁN	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
1704	TETRAETIL-DITIO-PIROFOSZFÁT	6.1	T2	II	6.1	43	LQ18	E4	P001 IBC02		MP10	T7	TP2
1707	TALLIUMVEGYÜLET, M.N.N.	6.1	T5	II	6.1	43 274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1708	FOLYÉKONY TOLUIDINEK	6.1	T1	II	6.1	279	LQ17	E4	P001 IBC02		MP15	T7	TP2
1709	SZILÁRD 2,4-TOLUILÉN-DIAMIN	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1710	TRIKLÓR-ETILÉN	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
1711	FOLYÉKONY XILIDINEK	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
1712	CINK-ARZENÁT, CINK-ARZENIT vagy CINK-ARZENÁT ÉS CINK- ARZENIT KEVERÉK	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1713	CINK-CIANID	6.1	T5	I	6.1		LQ0	E5	P002 IBC07		MP18	T6	TP33
1714	CINK-FOSZFID	4.3	WT2	I	4.3 + 6.1		LQ0	E0	P403		MP2		
1715	ECETSAVANHIDRID	8	CF1	II	8 + 3		LQ22	E2	P001 IBC02		MP15	T7	TP2
1716	ACETIL-BROMID	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T8	TP2
1717	ACETIL-KLORID	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T8	TP2
1718	FOSZFORSAV-MONOBUTIL-ÉSZTER	8	C3	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
1719	MARÓ, LŰGOS FOLYÉKONY ANYAG, M.N.N.	8	C5	II	8	274	LQ22	E2	P001 IBC02		MP15	T11	TP2 TP27
1719	MARÓ, LŰGOS FOLYÉKONY ANYAG, M.N.N.	8	C5	III	8	274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP1 TP28
1722	ALLIL-KLÓR-FORMIÁT	6.1	TFC	I	6.1 + 3 + 8		LQ0	E5	P001		MP8 MP17	T14	TP2

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1701	FOLYÉKONY XILIL-BROMID
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1702	1,1,2,2-TETRAKLÓR-ETÁN
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1704	TETRAETIL-DITIO-PIROFOSZFÁT
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1707	TALLIUMVEGYÜLET, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1708	FOLYÉKONY TOLUIDINEK
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	1709	SZILÁRD 2,4-TOLUILÉN-DIAMIN
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	1710	TRIKLÓR-ETILÉN
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1711	FOLYÉKONY XILIDINEK
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1712	CINK-ARZENÁT, CINK-ARZENIT vagy CINK-ARZENÁT ÉS CINK-ARZENIT KEVERÉK
S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66	1713	CINK-CIANID
		1	W1		CW23 CW28		X462	1714	CINK-FOSZFID
L4BN		2				CE6	83	1715	ECETSAVANHIDRID
L4BN		2				CE6	80	1716	ACETIL-BROMID
L4BH		2				CE7	X338	1717	ACETIL-KLORID
L4BN		3				CE8	80	1718	FOSZFORSAV-MONOBUTIL-ÉSZTER
L4BN		2				CE6	80	1719	MARÓ, LÚGOS FOLYÉKONY ANYAG, M.N.N.
L4BN		3				CE8	80	1719	MARÓ, LÚGOS FOLYÉKONY ANYAG, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		668	1722	ALLIL-KLÓR-FORMIÁT

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1723	ALLIL-JODID	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP2
1724	ALLIL-TRIKLÓR-SZILÁN, STABILIZÁLT	8	CF1	II	8 + 3		LQ22	E2	P010		MP15	T10	TP2 TP7
1725	VÍZMENTES ALUMÍNÍUM-BROMID	8	C2	II	8	588	LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
1726	VÍZMENTES ALUMÍNÍUM-KLORID	8	C2	II	8	588	LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
1727	SZILÁRD AMMÓNIUM-HIDROGÉN- DIFLUORID	8	C2	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
1728	AMIL-TRIKLÓR-SZILÁN	8	C3	II	8		LQ22	E2	P010		MP15	T10	TP2 TP7
1729	ANIZOIL-KLORID	8	C4	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
1730	FOLYÉKONY ANTIMON- PENTAKLORID	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
1731	ANTIMON-PENTAKLORID OLDAT	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
1731	ANTIMON-PENTAKLORID OLDAT	8	C1	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
1732	ANTIMON-PENTAFLUORID	8	CT1	II	8 + 6.1		LQ22	E2	P001 IBC02		MP15	T7	TP2
1733	ANTIMON-TRIKLORID	8	C2	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
1736	BENZOIL-KLORID	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T8	TP2
1737	BENZIL-BROMID	6.1	TC1	II	6.1 + 8		LQ17	E4	P001 IBC02		MP15	T8	TP2
1738	BENZIL-KLORID	6.1	TC1	II	6.1 + 8		LQ17	E4	P001 IBC02		MP15	T8	TP2
1739	BENZIL-KLÓR-FORMIÁT	8	C9	I	8		LQ0	E0	P001		MP8 MP17	T10	TP2
1740	SZILÁRD HIDROGÉN- DIFLUORIDOK, M.N.N.	8	C2	II	8	274 517	LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
1740	SZILÁRD HIDROGÉN- DIFLUORIDOK, M.N.N.	8	C2	III	8	274 517	LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1741	BÓR-TRIKLORID	2	2TC		2.3 + 8		LQ0	E0	P200		MP9	(M)	
1742	FOLYÉKONY BÓR-TRIFLUORID- ECETSAV KOMPLEX	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T8	TP2
1743	FOLYÉKONY BÓR-TRIFLUORID- PROPIONSÁV KOMPLEX	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T8	TP2

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH		2				CE7	338	1723	ALLIL-JODID
L4BN		2				CE6	X839	1724	ALLIL-TRIKLÓR-SZILÁN, STABILIZÁLT
SGAN		2	W11			CE10	80	1725	VÍZMENTES ALUMÍNIUM-BROMID
SGAN		2	W11			CE10	80	1726	VÍZMENTES ALUMÍNIUM-KLORID
SGAN		2	W11			CE10	80	1727	SZILÁRD AMMÓNIUM-HIDROGÉN-DIFLUORID
L4BN		2				CE6	X80	1728	AMIL-TRIKLÓR-SZILÁN
L4BN SGAN		2	W11			CE10	80	1729	ANIZOIL-KLORID
L4BN		2				CE6	X80	1730	FOLYÉKONY ANTIMON-PENTAKLORID
L4BN		2				CE6	80	1731	ANTIMON-PENTAKLORID OLDAT
L4BN		3				CE8	80	1731	ANTIMON-PENTAKLORID OLDAT
L4BN		2			CW13 CW28	CE6	86	1732	ANTIMON-PENTAFLUORID
L4BN SGAN		2	W11			CE10	80	1733	ANTIMON-TRIKLORID
L4BN		2				CE6	80	1736	BENZOIL-KLORID
L4BH	TU15	2			CW13 CW28 CW31	CE5	68	1737	BENZIL-BROMID
L4BH	TU15	2			CW13 CW28 CW31	CE5	68	1738	BENZIL-KLORID
L10BH	TU38 TE22	1					88	1739	BENZIL-KLÓR-FORMIÁT
SGAN		2	W11			CE10	80	1740	SZILÁRD HIDROGÉN-DIFLUORIDOK, M.N.N.
SGAV		3		VW9		CE11	80	1740	SZILÁRD HIDROGÉN-DIFLUORIDOK, M.N.N.
		1			CW9 CW10 CW36		268	1741	BÓR-TRIKLORID
L4BN		2				CE6	80	1742	FOLYÉKONY BÓR-TRIFLUORID-ECETSAV KOMPLEX
L4BN		2				CE6	80	1743	FOLYÉKONY BÓR-TRIFLUORID-PROPIONSÁV KOMPLEX

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1744	BRÓM vagy BRÓM OLDAT	8	CT1	I	8 + 6.1		LQ0	E0	P804		MP2	T22	TP2 TP10
1745	BRÓM-PENTAFLUORID	5.1	OTC	I	5.1 + 6.1 + 8		LQ0	E0	P200		MP2	T22	TP2
1746	BRÓM-TRIFLUORID	5.1	OTC	I	5.1 + 6.1 + 8		LQ0	E0	P200		MP2	T22	TP2
1747	BUTIL-TRIKLÓR-SZILÁN	8	CF1	II	8 + 3		LQ22	E2	P010		MP15	T10	TP2 TP7
1748	SZÁRAZ KALCIUM-HIPOKLORIT vagy SZÁRAZ KALCIUM- HIPOKLORIT KEVERÉK 39%-nál több szabad klórtartalommal (8,8% szabad oxigénnel)	5.1	O2	II	5.1	313 314 589	LQ11	E2	P002 IBC08	B4 B13	MP10		
1748	SZÁRAZ KALCIUM-HIPOKLORIT vagy SZÁRAZ KALCIUM- HIPOKLORIT KEVERÉK 39%-nál több szabad klórtartalommal (8,8% szabad oxigénnel)	5.1	O2	III	5.1	316 589	LQ12	E1	P002 IBC08 R001	B4	MP10		
1749	KLÓR-TRIFLUORID	2	2TOC		2.3 + 5.1 + 8 (+13)		LQ0	E0	P200		MP9	(M)	
1750	KLÓR-ECETSAV OLDAT	6.1	TC1	II	6.1 + 8		LQ17	E4	P001 IBC02		MP15	T7	TP2
1751	SZILÁRD KLÓR-ECETSAV	6.1	TC2	II	6.1 + 8		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1752	KLÓR-ACETIL-KLORID	6.1	TC1	I	6.1 + 8		LQ0	E5	P001		MP8 MP17	T20	TP2 TP35
1753	KLÓR-FENIL-TRIKLÓR-SZILÁN	8	C3	II	8		LQ22	E2	P010		MP15	T10	TP2 TP7
1754	KLÓR-SZULFONSAV (kén-trioxiddal vagy anélkül)	8	C1	I	8		LQ0	E0	P001		MP8 MP17	T20	TP2
1755	KRÓMSAV OLDAT	8	C1	II	8	518	LQ22	E2	P001 IBC02		MP15	T8	TP2



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L21DH(+)	TU14 TU33 TU38 TC5 TE21 TE22 TE25 TT2 TM3 TM5	1			CW13 CW28		886	1744	BRÓM vagy BRÓM OLDAT
L10DH	TU3 TU38 TE16 TE22	1			CW24 CW28		568	1745	BRÓM-PENTAFLUORID
L10DH	TU3 TU38 TE16 TE22	1			CW24 CW28		568	1746	BRÓM-TRIFLUORID
L4BN		2				CE6	X83	1747	BUTIL-TRIKLÓR-SZILÁN
SGAN	TU3	2	W11		CW24 CW35	CE10	50	1748	SZÁRAZ KALCIUM-HIPOKLORIT vagy SZÁRAZ KALCIUM-HIPOKLORIT KEVERÉK 39%-nál több szabad klórtartalommal (8,8% szabad oxigénnel)
SGAV	TU3	3			CW24 CW35	CE11	50	1748	SZÁRAZ KALCIUM-HIPOKLORIT vagy SZÁRAZ KALCIUM-HIPOKLORIT KEVERÉK 39%-nál több szabad klórtartalommal (8,8% szabad oxigénnel)
P*BH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW16 CW36		265	1749	KLÓR-TRIFLUORID
L4BH	TU15	2			CW13 CW28 CW31	CE5	68	1750	KLÓR-ECETSAV OLDAT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	68	1751	SZILÁRD KLÓR-ECETSAV
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		668	1752	KLÓR-ACETIL-KLORID
L4BN		2				CE6	X80	1753	KLÓR-FENIL-TRIKLÓR-SZILÁN
L10BH	TU38 TE22	1					X88	1754	KLÓR-SZULFONSAV (kén-trioxiddal vagy anélkül)
L4BN		2				CE6	80	1755	KRÓMSAV OLDAT

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1755	KRÓMSAV OLDAT	8	C1	III	8	518	LQ7	E1	P001 IBC02 LP01 R001		MP19	T4	TP1
1756	SZILÁRD KRÓM-FLUORID	8	C2	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
1757	KRÓM-FLUORID OLDAT	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
1757	KRÓM-FLUORID OLDAT	8	C1	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
1758	KRÓM-OXIKLORID	8	C1	I	8		LQ0	E0	P001		MP8 MP17	T10	TP2
1759	MARÓ SZILÁRD ANYAG, M.N.N.	8	C10	I	8	274	LQ0	E0	P002 IBC07		MP18	T6	TP33
1759	MARÓ SZILÁRD ANYAG, M.N.N.	8	C10	II	8	274	LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
1759	MARÓ SZILÁRD ANYAG, M.N.N.	8	C10	III	8	274	LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1760	MARÓ FOLYADÉK, M.N.N.	8	C9	I	8	274	LQ0	E0	P001		MP8 MP17	T14	TP2 TP27
1760	MARÓ FOLYADÉK, M.N.N.	8	C9	II	8	274	LQ22	E2	P001 IBC02		MP15	T11	TP2 TP27
1760	MARÓ FOLYADÉK, M.N.N.	8	C9	III	8	274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28
1761	ETILÉN-DIAMIN-RÉZ OLDAT	8	CT1	II	8 + 6.1		LQ22	E2	P001 IBC02		MP15	T7	TP2
1761	ETILÉN-DIAMIN-RÉZ OLDAT	8	CT1	III	8 + 6.1		LQ7	E1	P001 IBC03 R001		MP19	T7	TP1 TP28
1762	CIKLOHEXENIL-TRIKLÓR-SZILÁN	8	C3	II	8		LQ22	E2	P010		MP15	T10	TP2 TP7
1763	CIKLOHEXIL-TRIKLÓR-SZILÁN	8	C3	II	8		LQ22	E2	P010		MP15	T10	TP2 TP7
1764	DIKLÓR-ECETSAV	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T8	TP2
1765	DIKLÓR-ACETIL-KLORID	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
1766	DIKLÓR-FENIL-TRIKLÓR-SZILÁN	8	C3	II	8		LQ22	E2	P010		MP15	T10	TP2 TP7
1767	DIETIL-DIKLÓR-SZILÁN	8	CF1	II	8 + 3		LQ22	E2	P010		MP15	T10	TP2 TP7
1768	VÍZMENTES DIFLUORO- FOSZFORSAV	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T8	TP2
1769	DIFENIL-DIKLÓR-SZILÁN	8	C3	II	8		LQ22	E2	P010		MP15	T10	TP2 TP7
1770	DIFENIL-BRÓM-METÁN	8	C10	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
1771	DODECIL-TRIKLÓR-SZILÁN	8	C3	II	8		LQ22	E2	P010		MP15	T10	TP2 TP7

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BN		3				CE8	80	1755	KRÓMSAV OLDAT
SGAN		2	W11			CE10	80	1756	SZILÁRD KRÓM-FLUORID
L4BN		2				CE6	80	1757	KRÓM-FLUORID OLDAT
L4BN		3				CE8	80	1757	KRÓM-FLUORID OLDAT
L10BH	TU38 TE22	1					X88	1758	KRÓM-OXIKLORID
L10BH S10AN	TU38 TE22	1	W10 W12				88	1759	MARÓ SZILÁRD ANYAG, M.N.N.
L4BN SGAN		2	W11			CE10	80	1759	MARÓ SZILÁRD ANYAG, M.N.N.
L4BN SGAV		3		VW9		CE11	80	1759	MARÓ SZILÁRD ANYAG, M.N.N.
L10BH	TU38 TE22	1					88	1760	MARÓ FOLYADÉK, M.N.N.
L4BN		2				CE6	80	1760	MARÓ FOLYADÉK, M.N.N.
L4BN		3				CE8	80	1760	MARÓ FOLYADÉK, M.N.N.
L4BN		2			CW13 CW28	CE6	86	1761	ETILÉN-DIAMIN-RÉZ OLDAT
L4BN		3			CW13 CW28	CE8	86	1761	ETILÉN-DIAMIN-RÉZ OLDAT
L4BN		2				CE6	X80	1762	CIKLOHEXENIL-TRIKLÓR-SZILÁN
L4BN		2				CE6	X80	1763	CIKLOHEXIL-TRIKLÓR-SZILÁN
L4BN		2				CE6	80	1764	DIKLÓR-ECETSAV
L4BN		2				CE6	X80	1765	DIKLÓR-ACETIL-KLORID
L4BN		2				CE6	X80	1766	DIKLÓR-FENIL-TRIKLÓR-SZILÁN
L4BN		2				CE6	X83	1767	DIETIL-DIKLÓR-SZILÁN
L4BN		2				CE6	80	1768	VÍZMENTES DIFLUORO-FOSZFORSAV
L4BN		2				CE6	X80	1769	DIFENIL-DIKLÓR-SZILÁN
L4BN SGAN		2	W11			CE10	80	1770	DIFENIL-BRÓM-METÁN
L4BN		2				CE6	X80	1771	DODECIL-TRIKLÓR-SZILÁN

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- mago- lási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1773	VÍZMENTES VAS(III)-KLORID	8	C2	III	8	590	LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1774	TŰZOLTÓKÉSZÜLÉK TÖLTETEK maró folyékony anyag tartalommal	8	C11	II	8		LQ22	E0	P001	PP4			
1775	FLUORO-BÓRSÁV	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
1776	VÍZMENTES FLUORO-FOSZFORSAV	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T8	TP2
1777	FLUOR-KÉNSÁV	8	C1	I	8		LQ0	E0	P001		MP8 MP17	T10	TP2
1778	FLUORO-KOVASÁV	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T8	TP2
1779	HANGYASÁV 85 tömeg%-nál több savtartalommal	8	CF1	II	8 + 3		LQ22	E2	P001 IBC02		MP15	T7	TP2
1780	FUMARIL-KLORID	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
1781	HEXADECIL-TRIKLÓR-SZILÁN	8	C3	II	8		LQ22	E2	P010		MP15	T10	TP2 TP7
1782	HEXAFLUORO-FOSZFORSAV	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T8	TP2
1783	HEXAMETILÉN-DIAMIN OLDAT	8	C7	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
1783	HEXAMETILÉN-DIAMIN OLDAT	8	C7	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
1784	HEXIL-TRIKLÓR-SZILÁN	8	C3	II	8		LQ22	E2	P010		MP15	T10	TP2 TP7
1786	FLUOR-HIDROGÉNSÁV ÉS KÉNSÁV KEVERÉK	8	CT1	I	8 + 6.1		LQ0	E0	P001		MP8 MP17	T10	TP2
1787	JÓD-HIDROGÉNSÁV	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
1787	JÓD-HIDROGÉNSÁV	8	C1	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
1788	BRÓM-HIDROGÉNSÁV	8	C1	II	8	519	LQ22	E2	P001 IBC02		MP15	T7	TP2
1788	BRÓM-HIDROGÉNSÁV	8	C1	III	8	519	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
1789	KLÓR-HIDROGÉNSÁV (SÓSAV)	8	C1	II	8	520	LQ22	E2	P001 IBC02		MP15	T8	TP2
1789	KLÓR-HIDROGÉNSÁV (SÓSAV)	8	C1	III	8	520	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAV		3		VW9		CE11	80	1773	VÍZMENTES VAS(III)-KLORID
		2				CE6	80	1774	TŰZOLTÓKÉSZÜLÉK TÖLTETEK maró folyékony anyag tartalommal
L4BN		2				CE6	80	1775	FLUORO-BÓRSAV
L4BN		2				CE6	80	1776	VÍZMENTES FLUORO-FOSZFORSAV
L10BH	TU38 TE22	1					88	1777	FLUOR-KÉNSAV
L4BN		2				CE6	80	1778	FLUORO-KOVASAV
L4BN		2				CE6	83	1779	HANGYASAV 85 tömeg%-nál több savtartalommal
L4BN		2				CE6	80	1780	FUMARIL-KLORID
L4BN		2				CE6	X80	1781	HEXADECIL-TRIKLÓR-SZILÁN
L4BN		2				CE6	80	1782	HEXAFLUORO-FOSZFORSAV
L4BN		2				CE6	80	1783	HEXAMETILÉN-DIAMIN OLDAT
L4BN		3				CE8	80	1783	HEXAMETILÉN-DIAMIN OLDAT
L4BN		2				CE6	X80	1784	HEXIL-TRIKLÓR-SZILÁN
L10DH	TU14 TU38 TE21 TE22 TT4	1			CW13 CW28		886	1786	FLUOR-HIDROGÉNSAV ÉS KÉNSAV KEVERÉK
L4BN		2				CE6	80	1787	JÓD-HIDROGÉNSAV
L4BN		3				CE8	80	1787	JÓD-HIDROGÉNSAV
L4BN		2				CE6	80	1788	BRÓM-HIDROGÉNSAV
L4BN		3				CE8	80	1788	BRÓM-HIDROGÉNSAV
L4BN		2				CE6	80	1789	KLÓR-HIDROGÉNSAV (SÓSAV)
L4BN		3				CE8	80	1789	KLÓR-HIDROGÉNSAV (SÓSAV)

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1790	FLUOR-HIDROGÉNSAV 85%-nál több hidrogén-fluorid tartalommal	8	CT1	I	8 + 6.1	640I	LQ0	E0	P802		MP2	T10	TP2
1790	FLUOR-HIDROGÉNSAV 60%-nál több, de legfeljebb 85% hidrogén-fluorid tartalommal	8	CT1	I	8 + 6.1	640I	LQ0	E0	P001	PP81	MP8 MP17	T10	TP2
1790	FLUOR-HIDROGÉNSAV legfeljebb 60% hidrogén-fluorid tartalommal	8	CT1	II	8 + 6.1		LQ22	E2	P001 IBC02		MP15	T8	TP2
1791	HIPOKLORIT OLDAT	8	C9	II	8	521	LQ22	E2	P001 IBC02	PP10 B5	MP15	T7	TP2 TP24
1791	HIPOKLORIT OLDAT	8	C9	III	8	521	LQ7	E1	P001 IBC02 LP01 R001	B5	MP19	T4	TP2 TP24
1792	JÓD-MONOKLORID	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
1793	FOSZFORSAV-MONOIZOPROPIL- ÉSZTER	8	C3	III	8		LQ7	E1	P001 IBC02 LP01 R001		MP19	T4	TP1
1794	ÓLOM-SZULFÁT 3%-nál több szabad savtartalommal	8	C2	II	8	591	LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
1796	NITRÁLÓSAV KEVERÉK 50%-nál több salétromsav-tartalommal	8	CO1	I	8 + 5.1		LQ0	E0	P001		MP8 MP17	T10	TP2
1796	NITRÁLÓSAV KEVERÉK legfeljebb 50% salétromsav-tartalommal	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T8	TP2
1798	KIRÁLYVÍZ (salétromsav és sósav keveréke)	8	COT	A fuvarozásból ki van zárva									
1799	NONIL-TRIKLÓR-SZILÁN	8	C3	II	8		LQ22	E2	P010		MP15	T10	TP2 TP7
1800	OKTADECIL-TRIKLÓR-SZILÁN	8	C3	II	8		LQ22	E2	P010		MP15	T10	TP2 TP7
1801	OKTIL-TRIKLÓR-SZILÁN	8	C3	II	8		LQ22	E2	P010		MP15	T10	TP2 TP7
1802	PERKLÓRSAV legfeljebb 50 tömeg% savtartalommal	8	CO1	II	8 + 5.1	522	LQ22	E2	P001 IBC02		MP3	T7	TP2
1803	FOLYÉKONY FENOLSZULFONSAV	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L21DH(+)	TU14 TU34 TU38 TC1 TE17 TE21 TE22 TE25 TA4 TT4 TT9 TM3	1			CW13 CW28		886	1790	FLUOR-HIDROGÉNSAV 85%-nál több hidrogén-fluorid tartalommal
L10DH	TU14 TU38 TE21 TE22 TT4	1			CW13 CW28		886	1790	FLUOR-HIDROGÉNSAV 60%-nál több, de legfeljebb 85% hidrogén-fluorid tartalommal
L4DH	TU14 TE17 TE21 TT4	2			CW13 CW28	CE6	86	1790	FLUOR-HIDROGÉNSAV legfeljebb 60% hidrogén-fluorid tartalommal
L4BV(+)	TE11	2				CE6	80	1791	HIPOKLORIT OLDAT
L4BV(+)	TE11	3				CE8	80	1791	HIPOKLORIT OLDAT
L4BN		2				CE10	80	1792	JÓD-MONOKLORID
L4BN		3				CE8	80	1793	FOSZFORSAV-MONOIZOPROPIL-ÉSZTER
SGAN		2	W11	VW9		CE10	80	1794	ÓLOM-SZULFÁT 3%-nál több szabad savtartalommal
L10BH	TU38 TC6 TE22 TT1	1			CW24		885	1796	NITRÁLÓSAV KEVERÉK 50%-nál több salétromsav-tartalommal
L4BN		2			CW24	CE6	80	1796	NITRÁLÓSAV KEVERÉK legfeljebb 50% salétromsav-tartalommal
A fuvarozásból ki van zárva								1798	KIRÁLYVÍZ (salétromsav és sósav keveréke)
L4BN		2				CE6	X80	1799	NONIL-TRIKLÓR-SZILÁN
L4BN		2				CE6	X80	1800	OKTADECIL-TRIKLÓR-SZILÁN
L4BN		2				CE6	X80	1801	OKTIL-TRIKLÓR-SZILÁN
L4BN		2			CW24	CE6	85	1802	PERKLÓRSAV legfeljebb 50 tömeg% savtartalommal
L4BN		2				CE6	80	1803	FOLYÉKONY FENOLSZULFONSAV

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1804	FENIL-TRIKLÓR-SZILÁN	8	C3	II	8		LQ22	E2	P010		MP15	T10	TP2 TP7
1805	FOSZFORSAV OLDAT	8	C1	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
1806	FOSZFOR-PENTAKLORID	8	C2	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
1807	FOSZFOR-PENTOXID (foszforsavanhidrid)	8	C2	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
1808	FOSZFOR-TRIBROMID	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
1809	FOSZFOR-TRIKLORID	6.1	TC3	I	6.1 + 8		LQ0	E5	P001		MP8 MP17	T20	TP2 TP35
1810	FOSZFOR-OXIKLORID	8	C1	II	8		LQ22	E2	P001		MP15	T7	TP2
1811	SZILÁRD KÁLIUM-HIDROGÉN- DIFLUORID (kálium-bifluorid)	8	CT2	II	8 + 6.1		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
1812	SZILÁRD KÁLIUM-FLUORID	6.1	T5	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1813	SZILÁRD KÁLIUM-HIDROXID (marókáli)	8	C6	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
1814	KÁLIUM-HIDROXID OLDAT (kálilúg)	8	C5	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
1814	KÁLIUM-HIDROXID OLDAT (kálilúg)	8	C5	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
1815	PROPIONIL-KLORID	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP1
1816	PROPIL-TRIKLÓR-SZILÁN	8	CF1	II	8 + 3		LQ22	E2	P010		MP15	T10	TP2 TP7
1817	PIROSZULFURIL-KLORID	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T8	TP2
1818	SZILÍCIUM-TETRAKLORID	8	C1	II	8		LQ0	E2	P010		MP15	T10	TP2 TP7
1819	NÁTRIUM-ALUMINÁT OLDAT	8	C5	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
1819	NÁTRIUM-ALUMINÁT OLDAT	8	C5	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
1823	SZILÁRD NÁTRIUM-HIDROXID (marónártron)	8	C6	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
1824	NÁTRIUM-HIDROXID OLDAT (nátronlúg)	8	C5	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
1824	NÁTRIUM-HIDROXID OLDAT (nátronlúg)	8	C5	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BN		2				CE6	X80	1804	FENIL-TRIKLÓR-SZILÁN
L4BN		3				CE8	80	1805	FOSZFORSAV OLDAT
SGAN		2	W11			CE10	80	1806	FOSZFOR-PENTAKLORID
SGAN		2	W11			CE10	80	1807	FOSZFOR-PENTOXID (foszforsavanhidrid)
L4BN		2				CE6	X80	1808	FOSZFOR-TRIBROMID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		668	1809	FOSZFOR-TRIKLORID
L4BN		2				CE6	X80	1810	FOSZFOR-OXIKLORID
SGAN		2	W11		CW13 CW28	CE10	86	1811	SZILÁRD KÁLIUM-HIDROGÉN-DIFLUORID (kálium-bifluorid)
SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	1812	SZILÁRD KÁLIUM-FLUORID
SGAN		2	W11			CE10	80	1813	SZILÁRD KÁLIUM-HIDROXID (marókáli)
L4BN		2				CE6	80	1814	KÁLIUM-HIDROXID OLDAT (káliilúg)
L4BN		3				CE8	80	1814	KÁLIUM-HIDROXID OLDAT (káliilúg)
L4BH		2				CE7	338	1815	PROPIONIL-KLORID
L4BN		2				CE6	X83	1816	PROPIL-TRIKLÓR-SZILÁN
L4BN		2				CE6	X80	1817	PIROSZULFURIL-KLORID
L4BN		2				CE6	X80	1818	SZILÍCIUM-TETRAKLORID
L4BN		2				CE6	80	1819	NÁTRIUM-ALUMINÁT OLDAT
L4BN		3				CE8	80	1819	NÁTRIUM-ALUMINÁT OLDAT
SGAN		2	W11			CE10	80	1823	SZILÁRD NÁTRIUM-HIDROXID (marónártron)
L4BN		2				CE6	80	1824	NÁTRIUM-HIDROXID OLDAT (nátronlúg)
L4BN		3				CE8	80	1824	NÁTRIUM-HIDROXID OLDAT (nátronlúg)

[illegible]

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAN		2	W11			CE10	80	1825	NÁTRIUM-MONOXID
L10BH	TU38 TE22	1			CW24		885	1826	ELHASZNÁLT NITRÁLÓSAV KEVERÉK 50%-nál több salétromsav-tartalommal
L4BN		2			CW24	CE6	80	1826	ELHASZNÁLT NITRÁLÓSAV KEVERÉK legfeljebb 50% salétromsav-tartalommal
L4BN		2				CE6	X80	1827	VÍZMENTES ÓN-TETRAKLORID
L10BH	TU38 TE22	1					X88	1828	KÉN-KLORIDOK
L10BH	TU32 TU38 TE13 TE22 TT5 TM3	1					X88	1829	KÉN-TRIOXID, STABILIZÁLT
L4BN		2				CE6	80	1830	KÉNSAV 51%-nál több savtartalommal
L10BH	TU38 TE22	1			CW13 CW28		X886	1831	FÜSTÖLGŐ KÉNSAV (óleum)
L4BN		2				CE6	80	1832	KIMERÜLT KÉNSAV
L4BN		2				CE6	80	1833	KÉNESSAV
L10BH	TU38 TE22	1					X88	1834	SZULFURIL-KLORID
L4BN		2				CE6	80	1835	TETRAMETIL-AMMÓNIUM-HIDROXID OLDAT
L4BN		3				CE8	80	1835	TETRAMETIL-AMMÓNIUM-HIDROXID OLDAT
L10BH	TU38 TE22	1					X88	1836	TIONIL-KLORID
L4BN		2				CE6	X80	1837	TIOFOSZFORIL-KLORID
L4BN		2				CE6	X80	1838	TITÁN-TETRAKLORID
L4BN SGAN		2	W11			CE10	80	1839	TRIKLÓR-ECETSAV
L4BN		3				CE8	80	1840	CINK-KLORID OLDAT
SGAV		3		VW9	CW31	CE11	90	1841	ACETALDEHID-AMMÓNIA
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1843	SZILÁRD AMMÓNIUM-DINITRO-o-KREZOLÁT
Nem tartozik a RID hatálya alá								1845	SZÉN-DIOXID, SZILÁRD (SZÁRAZJÉG)

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- mago- lási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1846	SZÉN-TETRAKLORID	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
1847	HIDRATÁLT KÁLIUM-SZULFID legalább 30% kristályvíz-tartalommal	8	C6	II	8	523	LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
1848	PROPIONSAV legalább 10 tömeg%, de 90 tömeg%-nál kevesebb savtartalommal	8	C3	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
1849	HIDRATÁLT NÁTRIUM-SZULFID legalább 30% kristályvíz-tartalommal	8	C6	II	8	523	LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
1851	FOLYÉKONY, MÉRGEZŐ GYÓGYSZER, M.N.N.	6.1	T1	II	6.1	221 274 601	LQ17	E4	P001		MP15		
1851	FOLYÉKONY, MÉRGEZŐ GYÓGYSZER, M.N.N.	6.1	T1	III	6.1	221 274 601	LQ7	E1	P001 LP01 R001		MP19		
1854	PIROFOROS BÁRIUM ÖTVÖZETEK	4.2	S4	I	4.2		LQ0	E0	P404		MP13	T21	TP7 TP33
1855	PIROFOROS KALCIUM vagy PIROFOROS KALCIUM ÖTVÖZETEK	4.2	S4	I	4.2		LQ0	E0	P404		MP13		
1856	OLAJOS RONGY	4.2	S2	Nem tartozik a RID hatálya alá									
1857	NEDVES TEXTILHULLADÉK	4.2	S2	Nem tartozik a RID hatálya alá									
1858	HEXAFLUOR-PROPILEN (R 1216 HÜTŐGÁZ)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
1859	SZILÍCIUM-TETRAFLUORID	2	2TC		2.3 + 8 (+13)		LQ0	E0	P200		MP9	(M)	
1860	VINIL-FLUORID, STABILIZÁLT	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	(M)	
1862	ETIL-KROTONÁT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP2
1863	TÜZELŐANYAG REPÜLŐGÉP TURBINAMOTORHOZ	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP1 TP8 TP28
1863	TÜZELŐANYAG REPÜLŐGÉP TURBINAMOTORHOZ (gőznyomás 50 °C-on nagyobb, mint 110 kPa)	3	F1	II	3	640C	LQ4	E2	P001		MP19	T4	TP1 TP8
1863	TÜZELŐANYAG REPÜLŐGÉP TURBINAMOTORHOZ (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	II	3	640D	LQ4	E2	P001 IBC02 R001		MP19	T4	TP1 TP8

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1846	SZÉN-TETRAKLORID
L4BN SGAN		2	W11			CE10	80	1847	HIDRATÁLT KÁLIUM-SZULFID legalább 30% kristályvíz-tartalommal
L4BN		3				CE8	80	1848	PROPIONSAV legalább 10 tömeg%, de 90 tömeg%-nál kevesebb savtartalommal
L4BN SGAN		2	W11			CE10	80	1849	HIDRATÁLT NÁTRIUM-SZULFID legalább 30% kristályvíz-tartalommal
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1851	FOLYÉKONY, MÉRGEZŐ GYÓGYSZER, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	1851	FOLYÉKONY, MÉRGEZŐ GYÓGYSZER, M.N.N.
		0	W1				43	1854	PIROFOROS BÁRIUM ÖTVÖZETEK
		0	W1				43	1855	PIROFOROS KALCIUM vagy PIROFOROS KALCIUM ÖTVÖZETEK
Nem tartozik a RID hatálya alá								1856	OLAJOS RONGY
Nem tartozik a RID hatálya alá								1857	NEDVES TEXTILHULLADÉK
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	1858	HEXAFLUOR-PROPILÉN (R 1216 HÜTŐGÁZ)
P*BH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		268	1859	SZILÍCIUM-TETRAFLUORID
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	239	1860	VINIL-FLUORID, STABILIZÁLT
LGBF		2				CE7	33	1862	ETIL-KROTONÁT
L4BN		1					33	1863	TÜZELŐANYAG REPÜLŐGÉP TURBINAMOTORHOZ
L1.5BN		2				CE7	33	1863	TÜZELŐANYAG REPÜLŐGÉP TURBINAMOTORHOZ (gőznyomás 50 °C-on nagyobb, mint 110 kPa)
LGBF		2				CE7	33	1863	TÜZELŐANYAG REPÜLŐGÉP TURBINAMOTORHOZ (gőznyomás 50 °C-on legfeljebb 110 kPa)

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- mago- lási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1863	TÜZELŐANYAG REPÜLŐGÉP TURBINAMOTORHOZ	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1865	n-PROPIL-NITRÁT	3	F1	II	3		LQ4	E2	P001 IBC02 R001	B7	MP19		
1866	GYANTA OLDAT, gyúlékony	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP1 TP8 TP28
1866	GYANTA OLDAT, gyúlékony (gőznyomás 50 °C-on nagyobb mint 110 kPa)	3	F1	II	3	640C	LQ6	E2	P001	PP1	MP19	T4	TP1 TP8
1866	GYANTA OLDAT, gyúlékony (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	II	3	640D	LQ6	E2	P001 IBC02 R001	PP1	MP19	T4	TP1 TP8
1866	GYANTA OLDAT, gyúlékony	3	F1	III	3	640E	LQ7	E1	P001 IBC03 LP01 R001	PP1	MP19	T2	TP1
1866	GYANTA OLDAT, gyúlékony (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)	3	F1	III	3	640F	LQ7	E1	P001 LP01 R001	PP1	MP19	T2	TP1
1866	GYANTA OLDAT, gyúlékony (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)	3	F1	III	3	640G	LQ7	E1	P001 LP01 R001	PP1	MP19	T2	TP1
1866	GYANTA OLDAT, gyúlékony (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	III	3	640H	LQ7	E1	P001 IBC02 LP01 R001	PP1	MP19	T2	TP1
1868	DEKABORÁN	4.1	FT2	II	4.1 + 6.1		LQ0	E2	P002 IBC06		MP10	T3	TP33
1869	MAGNÉZIUM vagy MAGNÉZIUM ÖTVÖZET 50%-nál több magnéziumtartalommal pellet, forgács vagy szalag formában	4.1	F3	III	4.1	59	LQ9	E1	P002 IBC08 LP02 R001	B3	MP11	T1	TP33
1870	KÁLIUM-BÓR-HIDRID	4.3	W2	I	4.3		LQ0	E0	P403		MP2		
1871	TITÁN-HIDRID	4.1	F3	II	4.1		LQ8	E2	P410 IBC04	PP40	MP11	T3	TP33
1872	ÓLOM-DIOXID	5.1	OT2	III	5.1 + 6.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP2	T1	TP33
1873	PERKLÓRSAV 50 tömeg%-nál több, de legfeljebb 72 tömeg% savtartalommal	5.1	OC1	I	5.1 + 8	60	LQ0	E0	P502	PP28	MP3	T10	TP1

RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
LGBF		3				CE4	30	1863	TÜZELŐANYAG REPÜLŐGÉP TURBINAMOTORHOZ
		2				CE7	33	1865	n-PROPIL-NITRÁT
L4BN		1					33	1866	GYANTA OLDAT, gyúlékony
L1.5BN		2				CE7	33	1866	GYANTA OLDAT, gyúlékony (gőznyomás 50 °C-on nagyobb mint 110 kPa)
LGBF		2				CE7	33	1866	GYANTA OLDAT, gyúlékony (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	1866	GYANTA OLDAT, gyúlékony
L4BN		3				CE4	33	1866	GYANTA OLDAT, gyúlékony (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)
L1.5BN		3				CE4	33	1866	GYANTA OLDAT, gyúlékony (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)
LGBF		3				CE4	33	1866	GYANTA OLDAT, gyúlékony (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)
SGAN		2	W1 W12		CW28	CE10	46	1868	DEKABORÁN
SGAV		3	W1	VW1		CE11	40	1869	MAGNÉZIUM vagy MAGNÉZIUM ÖTVÖZET 50%-nál több magnéziumtartalommal pellet, forgács vagy szalag formában
		1	W1		CW23		X423	1870	KÁLIUM-BÓR-HIDRID
SGAN		2	W1			CE10	40	1871	TITÁN-HIDRID
SGAN	TU3	3			CW24 CW28	CE11	56	1872	ÓLOM-DIOXID
L4DN(+)	TU3 TU28 TE16	1			CW24		558	1873	PERKLÓRSAV 50 tömeg%-nál több, de legfeljebb 72 tömeg% savtartalommal

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1884	BÁRIUM-OXID	6.1	T5	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1885	BENZIDIN	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1886	BENZILIDÉN-KLORID	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
1887	BRÓM-KLÓR-METÁN	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
1888	KLOROFORM	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2
1889	CÍÁN-BROMID	6.1	TC2	I	6.1 + 8		LQ0	E5	P002		MP18	T6	TP33
1891	ETIL-BROMID	6.1	T1	II	6.1		LQ17	E4	P001 IBC02	B8	MP15	T7	TP2
1892	ETIL-DIKLÓR-ARZIN	6.1	T3	I	6.1		LQ0	E5	P602		MP8 MP17	T14	TP2
1894	FENIL-HIGANY(II)-HIDROXID	6.1	T3	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1895	FENIL-HIGANY(II)-NITRÁT	6.1	T3	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
1897	TETRAKLÓR-ETILÉN	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
1898	ACETIL-JODID	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
1902	FOSZFORSAV-DIIZOOKTIL-ÉSZTER	8	C3	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
1903	FOLYÉKONY, MARÓ FERTŐTLENÍTŐSZER, M.N.N.	8	C9	I	8	274	LQ0	E0	P001		MP8 MP17		
1903	FOLYÉKONY, MARÓ FERTŐTLENÍTŐSZER, M.N.N.	8	C9	II	8	274	LQ22	E2	P001 IBC02		MP15		
1903	FOLYÉKONY, MARÓ FERTŐTLENÍTŐSZER, M.N.N.	8	C9	III	8	274	LQ7	E1	P001 IBC03 LP01 R001		MP19		



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	1884	BÁRIUM-OXID
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1885	BENZIDIN
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1886	BENZILIDÉN-KLORID
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	1887	BROM-KLÓR-METÁN
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	1888	KLOROFORM
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		668	1889	CIÁN-BROMID
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1891	ETIL-BROMID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	1892	ETIL-DIKLÓR-ARZIN
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1894	FENIL-HIGANY(II)-HIDROXID
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	1895	FENIL-HIGANY(II)-NITRÁT
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	1897	TETRAKLÓR-ETILÉN
L4BN		2				CE6	80	1898	ACETIL-JODID
L4BN		3				CE8	80	1902	FOSZFORSÁV-DIIZOOKTIL-ÉSZTER
L10BH	TU38 TE22	1					88	1903	FOLYÉKONY, MARÓ FERTŐTLENÍTŐSZER, M.N.N.
L4BN		2				CE6	80	1903	FOLYÉKONY, MARÓ FERTŐTLENÍTŐSZER, M.N.N.
L4BN		3				CE8	80	1903	FOLYÉKONY, MARÓ FERTŐTLENÍTŐSZER, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1905	SZELÉNSAV	8	C2	I	8		LQ0	E0	P002 IBC07		MP18	T6	TP33
1906	HULLADÉK KÉNSAV	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T8	TP2 TP28
1907	NÁTRONMÉSZ 4%-nál több nátrium- hidroxid tartalommal	8	C6	III	8	62	LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1908	KLORIT OLDAT	8	C9	II	8	521	LQ22	E2	P001 IBC02		MP15	T7	TP2 TP24
1908	KLORIT OLDAT	8	C9	III	8	521	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP2 TP24
1910	KALCIUM-OXID	8	C6	Nem tartozik a RID hatálya alá									
1911	DIBORÁN	2	2TF		2.3 + 2.1		LQ0	E0	P200		MP9		
1912	METIL-KLORID ÉS DIKLÓR-METÁN KEVERÉK	2	2F		2.1 (+13)	228	LQ0	E0	P200		MP9	T50 (M)	
1913	NEON, MÉLYHÜTÖTT, CSEPPFOLYÓSÍTOTT	2	3A		2.2 (+13)	593	LQ1	E1	P203		MP9	T75	TP5
1914	BUTIL-PROPIONÁTOK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1915	CIKLOHEXANON	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1916	2,2'-DIKLÓR-DIETIL-ÉTER	6.1	TF1	II	6.1 + 3		LQ17	E4	P001 IBC02		MP15	T7	TP2
1917	ETIL-AKRILÁT, STABILIZÁLT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1918	IZOPROPIL-BENZOL (kumol)	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
1919	METIL-AKRILÁT, STABILIZÁLT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
1920	NONÁNOK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
S10AN		1	W10 W12				88	1905	SZELÉNSAV
L4BN		2				CE6	80	1906	HULLADÉK KÉNSAV
SGAV		3		VW9		CE11	80	1907	NÁTRONMÉSZ 4%-nál több nátrium-hidroxid tartalommal
L4BV(+)	TE11	2				CE6	80	1908	KLORIT OLDAT
L4BV(+)	TE11	3				CE8	80	1908	KLORIT OLDAT
Nem tartozik a RID hatálya alá								1910	KALCIUM-OXID
		1			CW9 CW10 CW36		263	1911	DIBORÁN
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	1912	METIL-KLORID ÉS DIKLÓR-METÁN KEVERÉK
R*BN	TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	22	1913	NEON, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT
LGBF		3				CE4	30	1914	BUTIL-PROPIONÁTOK
LGBF		3				CE4	30	1915	CIKLOHEXANON
L4BH	TU15	2			CW13 CW28 CW31	CE5	63	1916	2,2'-DIKLÓR-DIETIL-ÉTER
LGBF		2				CE7	339	1917	ETIL-AKRILÁT, STABILIZÁLT
LGBF		3				CE4	30	1918	IZOPROPIL-BENZOL (kumol)
LGBF		2				CE7	339	1919	METIL-AKRILÁT, STABILIZÁLT
LGBF		3				CE4	30	1920	NONÁNOK

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1921	PROPILÉN-IMIN, STABILIZÁLT	3	FT1	I	3 + 6.1		LQ0	E0	P001		MP2	T14	TP2
1922	PIRROLIDIN	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP1
1923	KALCIUM-DITIONIT (KALCIUM- HIPODISZULFIT)	4.2	S4	II	4.2		LQ0	E2	P410 IBC06		MP14	T3	TP33
1928	METIL-MAGNÉZIUM-BROMID DIETIL-ÉTERBEN	4.3	WF1	I	4.3 + 3		LQ0	E0	P402	RR8	MP2		
1929	KÁLIUM-DITIONIT (KÁLIUM- HIPODISZULFIT)	4.2	S4	II	4.2		LQ0	E2	P410 IBC06		MP14	T3	TP33
1931	CINK-DITIONIT (CINK- HIPODISZULFIT)	9	M11	III	9		LQ27	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
1932	CIRKÓNIUM HULLADÉK	4.2	S4	III	4.2	524 592	LQ0	E1	P002 IBC08 LP02 R001	B3	MP14	T1	TP33
1935	CIANID OLDAT, M.N.N.	6.1	T4	I	6.1	274 525	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
1935	CIANID OLDAT, M.N.N.	6.1	T4	II	6.1	274 525	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
1935	CIANID OLDAT, M.N.N.	6.1	T4	III	6.1	274 525	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28
1938	BRÓM-ECETSAV OLDAT	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
1938	BRÓM-ECETSAV OLDAT	8	C3	III	8		LQ7	E1	P001 IBC02 LP01 R001		MP19	T7	TP2
1939	FOSZFOR-OXIBROMID	8	C2	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
1940	TIOGLIKOLSAV	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
1941	DIBRÓM-DIFLUOR-METÁN	9	M11	III	9		LQ28	E1	P001 LP01 R001		MP15	T11	TP2

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L15CH	TU14 TU15 TU38 TE21 TE22 TE25	1			CW13 CW28		336	1921	PROPILÉN-IMIN, STABILIZÁLT
L4BH		2				CE7	338	1922	PIRROLIDIN
SGAN		2	W1 W12			CE10	40	1923	KALCIUM-DITIONIT (KALCIUM-HIPODISZULFIT)
L10DH	TU4 TU14 TU22 TU38 TE21 TE22 TM2	0	W1		CW23		X323	1928	METIL-MAGNÉZIUM-BROMID DIETIL-ÉTERBEN
SGAN		2	W1 W12			CE10	40	1929	KÁLIUM-DITIONIT (KÁLIUM-HIPODISZULFIT)
SGAV		3		VW9	CW31	CE11	90	1931	CINK-DITIONIT (CINK-HIPODISZULFIT)
SGAN		3	W1	VW4		CE11	40	1932	CIRKÓNIUM HULLADÉK
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	1935	CIANID OLDAT, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	1935	CIANID OLDAT, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	1935	CIANID OLDAT, M.N.N.
L4BN		2				CE6	80	1938	BRÓM-ECETSAV OLDAT
L4BN		3				CE8	80	1938	BRÓM-ECETSAV OLDAT
SGAN		2	W11			CE10	80	1939	FOSZFOR-OXIBROMID
L4BN		2				CE6	80	1940	TIOGLIKOLSAV
L4BN		3			CW31	CE8	90	1941	DIBRÓM-DIFLUOR-METÁN

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1942	AMMÓNÍUM-NITRÁT legfeljebb 0,2% összes éghető anyaggal, beleértve bármely szerves anyagot szénegyenértékre számítva, bármilyen más hozzáadott anyagot kizárva	5.1	O2	III	5.1	306 611	LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1 BK1 BK2	TP33
1944	BIZTONSÁGI GYUFA (levél, kártya, doboz formában)	4.1	F1	III	4.1	293	LQ9	E1	P407 R001		MP11		
1945	VESTA-VIASZ GYUFA	4.1	F1	III	4.1	293	LQ9	E1	P407 R001		MP11		
1950	AEROSZOLOK, fojtó hatású	2	5A		2.2	190 327 625	LQ2	E0	P003  LP02	PP17 PP87 RR6 L2	MP9		
1950	AEROSZOLOK, maró	2	5C		2.2 + 8	190 327 625	LQ2	E0	P003  LP02	PP17 PP87 RR6 L2	MP9		
1950	AEROSZOLOK, maró, gyújtó hatású	2	5CO		2.2 + 5.1 + 8	190 327 625	LQ2	E0	P003  LP02	PP17 PP87 RR6 L2	MP9		
1950	AEROSZOLOK, gyúlékony	2	5F		2.1	190 327 625	LQ2	E0	P003  LP02	PP17 PP87 RR6 L2	MP9		
1950	AEROSZOLOK, gyúlékony, maró	2	5FC		2.1 + 8	190 327 625	LQ2	E0	P003  LP02	PP17 PP87 RR6 L2	MP9		
1950	AEROSZOLOK, gyújtó hatású	2	5O		2.2 + 5.1	190 327 625	LQ2	E0	P003  LP02	PP17 PP87 RR6 L2	MP9		
1950	AEROSZOLOK, mérgező	2	5T		2.2 + 6.1	190 327 625	LQ1	E0	P003  LP02	PP17 PP87 RR6 L2	MP9		
1950	AEROSZOLOK, mérgező, maró	2	5TC		2.2 + 6.1 + 8	190 327 625	LQ1	E0	P003  LP02	PP17 PP87 RR6 L2	MP9		
1950	AEROSZOLOK, mérgező, gyúlékony	2	5TF		2.1 + 6.1	190 327 625	LQ1	E0	P003  LP02	PP17 PP87 RR6 L2	MP9		
1950	AEROSZOLOK, mérgező, gyúlékony, maró	2	5TFC		2.1 + 6.1 + 8	190 327 625	LQ1	E0	P003  LP02	PP17 PP87 RR6 L2	MP9		
1950	AEROSZOLOK, mérgező, gyújtó hatású	2	5TO		2.2 + 5.1 + 6.1	190 327 625	LQ1	E0	P003  LP02	PP17 PP87 RR6 L2	MP9		

RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAV	TU3	3		VW8	CW24	CE11	50	1942	AMMÓNIUM-NITRÁT legfeljebb 0,2% összes éghető anyaggal, beleértve bármely szerves anyagot szénegyenértékre számítva, bármilyen más hozzáadott anyagot kizárva
		4	W1			CE11	40	1944	BIZTONSÁGI GYUFA (levél, kártya, doboz formában)
		4	W1			CE11	40	1945	VESTA-VIASZ GYUFA
		3	W14		CW9 CW12	CE2	20	1950	AEROSZOLOK, fojtó hatású
		1	W14		CW9 CW12	CE2	28	1950	AEROSZOLOK, maró
		1	W14		CW9 CW12	CE2	285	1950	AEROSZOLOK, maró, gyújtó hatású
		2	W14		CW9 CW12	CE2	23	1950	AEROSZOLOK, gyúlékony
		1	W14		CW9 CW12	CE2	238	1950	AEROSZOLOK, gyúlékony, maró
		3	W14		CW9 CW12	CE2	25	1950	AEROSZOLOK, gyújtó hatású
		1	W14		CW9 CW12 CW28		26	1950	AEROSZOLOK, mérgező
		1	W14		CW9 CW12 CW28		268	1950	AEROSZOLOK, mérgező, maró
		1	W14		CW9 CW12 CW28		263	1950	AEROSZOLOK, mérgező, gyúlékony
		1	W14		CW9 CW12 CW28		263	1950	AEROSZOLOK, mérgező, gyúlékony, maró
		1	W14		CW9 CW12 CW28		265	1950	AEROSZOLOK, mérgező, gyújtó hatású

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedélyes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1950	AEROSZOLOK, mérgező, gyújtó hatású, maró	2	5TOC		2.2 + 5.1 + 6.1 + 8	190 327 625	LQ1	E0	P003  LP02	PP17 PP87 RR6 L2	MP9		
1951	ARGON, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT	2	3A		2.2 (+13)	593	LQ1	E1	P203		MP9	T75	TP5
1952	ETILÉN-OXID ÉS SZÉN-DIOXID KEVERÉKE legfeljebb 9% etilén-oxid tartalommal	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	(M)	
1953	SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚLÉKONY, M.N.N.	2	1TF		2.3 + 2.1 (+13)	274	LQ0	E0	P200		MP9	(M)	
1954	SŰRÍTETT GÁZ, GYÚLÉKONY, M.N.N.	2	1F		2.1 (+13)	274	LQ0	E0	P200		MP9	(M)	
1955	SŰRÍTETT GÁZ, MÉRGEZŐ, M.N.N.	2	1T		2.3 (+13)	274	LQ0	E0	P200		MP9	(M)	
1956	SŰRÍTETT GÁZ, M.N.N.	2	1A		2.2 (+13)	274 292 567	LQ1	E1	P200		MP9	(M)	
1957	DEUTÉRIUM, SŰRÍTETT	2	1F		2.1 (+13)		LQ0	E0	P200		MP9	(M)	
1958	1,2-DIKLÓR-1,1,2,2-TETRAFLUOR- ETÁN (R 114 HŰTŐGÁZ)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
1959	1,1-DIFLUOR-ETILÉN (R 1132a HŰTŐGÁZ)	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	(M)	
1961	ETÁN, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT	2	3F		2.1 (+13)		LQ0	E0	P203		MP9	T75	TP5
1962	ETILÉN	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	(M)	



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		1	W14		CW9 CW12 CW28		265	1950	AEROSZOLOK, mérgező, gyújtó hatású, maró
R*BN	TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	22	1951	ARGON, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	1952	ETILÉN-OXID ÉS SZÉN-DIOXID KEVERÉKE legfeljebb 9% etilén-oxid tartalommal
C*BH(M)	TU6 TU38 TE22 TE25 TA4 TT9	1			CW9 CW10 CW36		263	1953	SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚLÉKONY, M.N.N.
C*BN(M)	TU38 TE22 TA4 TT9	2			CW9 CW10 CW36	CE3	23	1954	SŰRÍTETT GÁZ, GYÚLÉKONY, M.N.N.
C*BH(M)	TU6 TU38 TE22 TE25 TA4 TT9	1			CW9 CW10 CW36		26	1955	SŰRÍTETT GÁZ, MÉRGEZŐ, M.N.N.
C*BN(M)	TA4 TT9	3			CW9 CW10 CW36	CE3	20	1956	SŰRÍTETT GÁZ, M.N.N.
C*BN(M)	TU38 TE22 TA4 TT9	2			CW9 CW10 CW36	CE3	23	1957	DEUTÉRIUM, SŰRÍTETT
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	1958	1,2-DIKLÓR-1,1,2,2-TETRAFLUOR-ETÁN (R 114 HŰTŐGÁZ)
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	239	1959	1,1-DIFLUOR-ETILÉN (R 1132a HŰTŐGÁZ)
R*BN	TU18 TU38 TE22 TA4 TT9 TM6	2	W5		CW9 CW11 CW30 CW36	CE2	223	1961	ETÁN, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	1962	ETILÉN

UN szám	Megnevezés és leírás	Osztály	Osztályozási kód	Csomagolási csoport	Bárcák	Különleges előírások	Korlátozott és engedélyezett mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru-konténer	
									Csomagolási utasítások	Különleges csomagolási előírások	Egybe-csomagolási előírások	Utasítások	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1963	HÉLIUM, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT	2	3A		2.2 (+13)	593	LQ1	E1	P203		MP9	T75	TP5 TP34
1964	SZÉNHIDROGÉN-GÁZ KEVERÉK, SÚRÍTETT, M.N.N.	2	1F		2.1 (+13)	274	LQ0	E0	P200		MP9	(M)	
1965	SZÉNHIDROGÉN-GÁZ KEVERÉK, CSEPPFOLYÓSÍTOTT, M.N.N., mint A, A01, A02, A0, A1, B1, B2, B vagy C keverék	2	2F		2.1 (+13)	274 583	LQ0	E0	P200		MP9	T50 (M)	
1966	HIDROGÉN, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT	2	3F		2.1 (+13)		LQ0	E0	P203		MP9	T75	TP5 TP23 TP34
1967	ROVARIRTÓ GÁZ, MÉRGEZŐ, M.N.N.	2	2T		2.3 (+13)	274	LQ0	E0	P200		MP9	(M)	
1968	ROVARIRTÓ GÁZ, M.N.N.	2	2A		2.2 (+13)	274	LQ1	E1	P200		MP9	(M)	
1969	IZOBUTÁN	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	
1970	KRIPTON, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT	2	3A		2.2 (+13)	593	LQ1	E1	P203		MP9	T75	TP5
1971	METÁN, SÚRÍTETT vagy FÖLDGÁZ, SÚRÍTETT magas metántartalommal	2	1F		2.1 (+13)		LQ0	E0	P200		MP9	(M)	
1972	METÁN, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT vagy FÖLDGÁZ, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT magas metántartalommal	2	3F		2.1 (+13)		LQ0	E0	P203		MP9	T75	TP5
1973	KLÓR-DIFLUOR-METÁN ÉS KLÓR-PENTAFLUOR-ETÁN KEVERÉK állandó forrásponttal, kb. 49% klór-difluor-metán tartalommal (R 502 HÜTŐGÁZ)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
R*BN	TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	22	1963	HÉLIUM, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT
C*BN(M)	TU38 TE22 TA4 TT9	2			CW9 CW10 CW36	CE3	23	1964	SZÉNHDROGÉN-GÁZ KEVERÉK, SŰRÍTETT, M.N.N.
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	1965	SZÉNHDROGÉN-GÁZ KEVERÉK, CSEPPFOLYÓSÍTOTT, M.N.N., mint A, A01, A02, A0, A1, B1, B2, B vagy C keverék
R*BN	TU18 TU38 TE22 TA4 TT9 TM6	2	W5		CW9 CW11 CW30 CW36	CE2	223	1966	HDROGÉN, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT
P*BH(M)	TU6 TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		26	1967	ROVARIRTÓ GÁZ, MÉRGEZŐ, M.N.N.
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	1968	ROVARIRTÓ GÁZ, M.N.N.
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	1969	IZOBUTÁN
R*BN	TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	22	1970	KRIPTON, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT
C*BN(M)	TU38 TE22 TA4 TT9	2			CW9 CW10 CW36	CE3	23	1971	METÁN, SŰRÍTETT vagy FÖLDGÁZ, SŰRÍTETT magas metántartalommal
R*BN	TU18 TU38 TE22 TA4 TT9 TM6	2	W5		CW9 CW11 CW30 CW36	CE2	223	1972	METÁN, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT vagy FÖLDGÁZ, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT magas metántartalommal
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	1973	KLÓR-DIFLUOR-METÁN ÉS KLÓR-PENTAFLUOR-ETÁN KEVERÉK állandó forrásponttal, kb. 49% klór-difluor-metán tartalommal (R 502 HŰTŐGÁZ)

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1974	BRÓM-KLÓR-DIFLUOR-METÁN (R 12B1 HŰTŐGÁZ)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
1975	NITROGÉN-MONOXID ÉS DINITROGÉN-TETROXID KEVERÉKE (NITROGÉN-MONOXID ÉS NITROGÉN-DIOXID KEVERÉKE)	2	2TOC		2.3 + 5.1 + 8		LQ0	E0	P200		MP9		
1976	OKTAFLUOR-CIKLOBUTÁN (RC 318 HŰTŐGÁZ)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
1977	NITROGÉN, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT	2	3A		2.2 (+13)	593	LQ1	E1	P203		MP9	T75	TP5
1978	PROPÁN	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	
1982	TETRAFLUOR-METÁN (R 14 HŰTŐGÁZ)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	(M)	
1983	I-KLÓR-2,2,2-TRIFLUOR-ETÁN (R 133a HŰTŐGÁZ)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
1984	TRIFLUOR-METÁN (R 23 HŰTŐGÁZ)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	(M)	
1986	GYÚLÉKONY, MÉRGEZŐ ALKOHOLOK, M.N.N.	3	FT1	I	3 + 6.1	274	LQ0	E0	P001		MP7 MP17	T14	TP2 TP27
1986	GYÚLÉKONY, MÉRGEZŐ ALKOHOLOK, M.N.N.	3	FT1	II	3 + 6.1	274	LQ0	E2	P001 IBC02		MP19	T11	TP2 TP27
1986	GYÚLÉKONY, MÉRGEZŐ ALKOHOLOK, M.N.N.	3	FT1	III	3 + 6.1	274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP1 TP28
1987	ALKOHOLOK, M.N.N. (gőznyomás 50 °C-on nagyobb mint 110 kPa)	3	F1	II	3	274 601 640C	LQ4	E2	P001		MP19	T7	TP1 TP8 TP28
1987	ALKOHOLOK, M.N.N. (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	II	3	274 601 640D	LQ4	E2	P001 IBC02 R001		MP19	T7	TP1 TP8 TP28
1987	ALKOHOLOK, M.N.N.	3	F1	III	3	274 601	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1 TP29
1988	GYÚLÉKONY, MÉRGEZŐ ALDEHIDEK, M.N.N.	3	FT1	I	3 + 6.1	274	LQ0	E0	P001		MP7 MP17	T14	TP2 TP27

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	1974	BRÓM-KLÓR-DIFLUOR-METÁN (R 12B1 HŰTŐGÁZ)
		1			CW9 CW10 CW36		265	1975	NITROGÉN-MONOXID ÉS DINITROGÉN-TETROXID KEVERÉKE (NITROGÉN-MONOXID ÉS NITROGÉN-DIOXID KEVERÉKE)
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	1976	OKTAFLUOR-CIKLOBUTÁN (RC 318 HŰTŐGÁZ)
R*BN	TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	22	1977	NITROGÉN, MÉLYHÚTÓTT, CSEPPFOLYÓSÍTOTT
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	1978	PROPÁN
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	1982	TETRAFLUOR-METÁN (R 14 HŰTŐGÁZ)
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	1983	1-KLÓR-2,2,2-TRIFLUOR-ETÁN (R 133a HŰTŐGÁZ)
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	1984	TRIFLUOR-METÁN (R 23 HŰTŐGÁZ)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	1986	GYÚLÉKONY, MÉRGEZŐ ALKOHOLOK, M.N.N.
L4BH	TU15	2			CW13 CW28	CE7	336	1986	GYÚLÉKONY, MÉRGEZŐ ALKOHOLOK, M.N.N.
L4BH	TU15	3			CW13 CW28	CE4	36	1986	GYÚLÉKONY, MÉRGEZŐ ALKOHOLOK, M.N.N.
L1.5BN		2				CE7	33	1987	ALKOHOLOK, M.N.N. (gőznyomás 50 °C-on nagyobb mint 110 kPa)
LGBF		2				CE7	33	1987	ALKOHOLOK, M.N.N. (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	1987	ALKOHOLOK, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	1988	GYÚLÉKONY, MÉRGEZŐ ALDEHIDEK, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1988	GYÚLÉKONY, MÉRGEZŐ ALDEHIDEK, M.N.N.	3	FT1	II	3 + 6.1	274	LQ0	E2	P001 IBC02		MP19	T11	TP2 TP27
1988	GYÚLÉKONY, MÉRGEZŐ ALDEHIDEK, M.N.N.	3	FT1	III	3 + 6.1	274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP1 TP28
1989	ALDEHIDEK, M.N.N.	3	F1	I	3	274	LQ3	E3	P001		MP7 MP17	T11	TP1 TP27
1989	ALDEHIDEK, M.N.N. (gőznyomás 50 °C-on nagyobb mint 110 kPa)	3	F1	II	3	274 640C	LQ4	E2	P001		MP19	T7	TP1 TP8 TP28
1989	ALDEHIDEK, M.N.N. (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	II	3	274 640D	LQ4	E2	P001 IBC02 R001		MP19	T7	TP1 TP8 TP28
1989	ALDEHIDEK, M.N.N.	3	F1	III	3	274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1 TP29
1990	BENZALDEHID	9	M11	III	9		LQ28	E1	P001 IBC03 LP01 R001		MP15	T2	TP1
1991	KLOROPRÉN, STABILIZÁLT	3	FT1	I	3 + 6.1		LQ0	E0	P001		MP7 MP17	T14	TP2 TP6
1992	GYÚLÉKONY, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	3	FT1	I	3 + 6.1	274	LQ0	E0	P001		MP7 MP17	T14	TP2 TP27
1992	GYÚLÉKONY, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	3	FT1	II	3 + 6.1	274	LQ0	E2	P001 IBC02		MP19	T7	TP2
1992	GYÚLÉKONY, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	3	FT1	III	3 + 6.1	274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP1 TP28
1993	GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.	3	F1	I	3	274	LQ3	E3	P001		MP7 MP17	T11	TP1 TP27
1993	GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N. (gőznyomás 50 °C-on nagyobb mint 110 kPa)	3	F1	II	3	274 601 640C	LQ4	E2	P001		MP19	T7	TP1 TP8 TP28
1993	GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N. (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	II	3	274 601 640D	LQ4	E2	P001 IBC02 R001		MP19	T7	TP1 TP8 TP28
1993	GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.	3	F1	III	3	274 601 640E	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1 TP29
1993	GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N. (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)	3	F1	III	3	274 601 640F	LQ7	E1	P001 LP01 R001		MP19	T4	TP1 TP29

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28	CE7	336	1988	GYÚLÉKONY, MÉRGEZŐ ALDEHIDEK, M.N.N.
L4BH	TU15	3			CW13 CW28	CE4	36	1988	GYÚLÉKONY, MÉRGEZŐ ALDEHIDEK, M.N.N.
L4BN		1					33	1989	ALDEHIDEK, M.N.N.
L1.5BN		2				CE7	33	1989	ALDEHIDEK, M.N.N. (gőznyomás 50 °C-on nagyobb mint 110 kPa)
LGBF		2				CE7	33	1989	ALDEHIDEK, M.N.N. (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	1989	ALDEHIDEK, M.N.N.
LGBV		3			CW31	CE8	90	1990	BENZALDEHID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	1991	KLOROPRÉN, STABILIZÁLT
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	1992	GYÚLÉKONY, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
L4BH	TU15	2			CW13 CW28	CE7	336	1992	GYÚLÉKONY, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
L4BH	TU15	3			CW13 CW28	CE4	36	1992	GYÚLÉKONY, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
L4BN		1					33	1993	GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.
L1.5BN		2				CE7	33	1993	GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N. (gőznyomás 50 °C-on nagyobb mint 110 kPa)
LGBF		2				CE7	33	1993	GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N. (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	1993	GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.
L4BN		3				CE4	33	1993	GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N. (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
1993	GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N. (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)	3	F1	III	3	274 601 640G	LQ7	E1	P001 LP01 R001		MP19	T4	TP1 TP29
1993	GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N. (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	III	3	274 601 640H	LQ7	E1	P001 IBC02 LP01 R001		MP19	T4	TP1 TP29
1994	VAS-PENTAKARBONIL	6.1	TF1	I	6.1 + 3		LQ0	E5	P601		MP2	T22	TP2
1999	FOLYÉKONY KÁTRÁNYOK, beleértve az utépítésre használt kátrányolajokat, bitument és hígított bitumenekeket (gőznyomás 50 °C-on nagyobb mint 110 kPa)	3	F1	II	3	640C	LQ6	E2	P001		MP19	T3	TP3 TP29
1999	FOLYÉKONY KÁTRÁNYOK, beleértve az utépítésre használt kátrányolajokat, bitument és hígított bitumenekeket (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	II	3	640D	LQ6	E2	P001 IBC02 R001		MP19	T3	TP3 TP29
1999	FOLYÉKONY KÁTRÁNYOK, beleértve az utépítésre használt kátrányolajokat, bitument és hígított bitumenekeket	3	F1	III	3	640E	LQ7	E1	P001 IBC03 LP01 R001		MP19	T1	TP3
1999	FOLYÉKONY KÁTRÁNYOK, beleértve az utépítésre használt kátrányolajokat, bitument és hígított bitumenekeket (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (forráspont legfeljebb 35 °C)	3	F1	III	3	640F	LQ7	E1	P001 LP01 R001		MP19	T1	TP3
1999	FOLYÉKONY KÁTRÁNYOK, beleértve az utépítésre használt kátrányolajokat, bitument és hígított bitumenekeket (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)	3	F1	III	3	640G	LQ7	E1	P001 LP01 R001		MP19	T1	TP3
1999	FOLYÉKONY KÁTRÁNYOK, beleértve az utépítésre használt kátrányolajokat, bitument és hígított bitumenekeket (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkózus) (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	III	3	640H	LQ7	E1	P001 IBC02 LP01 R001		MP19	T1	TP3



RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L1.5BN		3				CE4	33	1993	GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N. (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)
LGBF		3				CE4	33	1993	GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N. (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus) (gőznyomás 50 °C-on legfeljebb 110 kPa)
L15CH	TU14 TU15 TU31 TU38 TE21 TE22 TE25 TM3	1			CW13 CW28 CW31		663	1994	VAS-PENTAKARBONIL
L1.5BN		2				CE7	33	1999	FOLYÉKONY KÁTRÁNYOK, beleértve az útépitésre használt kátrányolajokat, bitument és hígított bitumeneket (gőznyomás 50 °C-on nagyobb mint 110 kPa)
LGBF		2				CE7	33	1999	FOLYÉKONY KÁTRÁNYOK, beleértve az útépitésre használt kátrányolajokat, bitument és hígított bitumeneket (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	1999	FOLYÉKONY KÁTRÁNYOK, beleértve az útépitésre használt kátrányolajokat, bitument és hígított bitumeneket
L4BN		3				CE4	33	1999	FOLYÉKONY KÁTRÁNYOK, beleértve az útépitésre használt kátrányolajokat, bitument és hígított bitumeneket (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus) (forráspont legfeljebb 35 °C)
L1.5BN		3				CE4	33	1999	FOLYÉKONY KÁTRÁNYOK, beleértve az útépitésre használt kátrányolajokat, bitument és hígított bitumeneket (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus) (gőznyomás 50 °C-on nagyobb mint 110 kPa, forráspont nagyobb mint 35 °C)
LGBF		3				CE4	33	1999	FOLYÉKONY KÁTRÁNYOK, beleértve az útépitésre használt kátrányolajokat, bitument és hígított bitumeneket (lobbanáspont 23 °C alatt és a 2.2.3.1.4 pont szerint viszkozus) (gőznyomás 50 °C-on legfeljebb 110 kPa)

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2000	CELLULOID, blokk, rúd, tekercs, lemez, cső, stb. formában, a hulladékok kivételével	4.1	F1	III	4.1	502	LQ9	E1	P002 LP02 R001	PP7	MP11		
2001	KOBALT-NAFTENÁT POR	4.1	F3	III	4.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP11	T1	TP33
2002	CELLULOID HULLADÉK	4.2	S2	III	4.2	526 592	LQ0	E1	P002 IBC08 LP02 R001	PP8 B3	MP14		
2004	MAGNÉZIUM-DIAMID	4.2	S4	II	4.2		LQ0	E2	P410 IBC06		MP14	T3	TP33
2006	NITROCELLULÓZ ALAPÚ, ÖNMELEGEDŐ MŰANYAGOK, M.N.N.	4.2	S2	III	4.2	274 528	LQ0	E1	P002 R001		MP14		
2008	SZÁRAZ CIRKÓNIUMPOR	4.2	S4	I	4.2	524 540	LQ0	E0	P404		MP13	T21	TP7 TP33
2008	SZÁRAZ CIRKÓNIUMPOR	4.2	S4	II	4.2	524 540	LQ0	E2	P410 IBC06		MP14	T3	TP33
2008	SZÁRAZ CIRKÓNIUMPOR	4.2	S4	III	4.2	524 540	LQ0	E1	P002 IBC08 LP02 R001	B3	MP14	T1	TP33
2009	SZÁRAZ CIRKÓNIUM lemez, szalag vagy huzal formában	4.2	S4	III	4.2	524 592	LQ0	E1	P002 LP02 R001		MP14		
2010	MAGNÉZIUM-HIDRID	4.3	W2	I	4.3		LQ0	E0	P403		MP2		
2011	MAGNÉZIUM-FOSZFID	4.3	WT2	I	4.3 + 6.1		LQ0	E0	P403		MP2		
2012	KÁLIUM-FOSZFID	4.3	WT2	I	4.3 + 6.1		LQ0	E0	P403		MP2		
2013	STRONCIUM-FOSZFID	4.3	WT2	I	4.3 + 6.1		LQ0	E0	P403		MP2		
2014	HIDROGÉN-PEROXID VIZES OLDAT legalább 20%, de legfeljebb 60% hidrogén-peroxid tartalommal (szükség szerint stabilizálva)	5.1	OC1	II	5.1 + 8		LQ10	E2	P504 IBC02	PP10 B5	MP15	T7	TP2 TP6 TP24
2015	HIDROGÉN-PEROXID VIZES OLDAT STABILIZÁLT, 70%-nál több hidrogén- peroxid tartalommal	5.1	OC1	I	5.1 + 8	640N	LQ0	E0	P501		MP2	T9	TP2 TP6 TP24
2015	HIDROGÉN-PEROXID VIZES OLDAT STABILIZÁLT, 60%-nál több, de legfeljebb 70% hidrogén-peroxid tartalommal	5.1	OC1	I	5.1 + 8	640O	LQ0	E0	P501		MP2	T9	TP2 TP6 TP24

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		3	W1			CE11	40	2000	CELLULOID, blokk, rúd, tekercs, lemez, cső, stb. formában, a hulladékok kivételével
SGAV		3	W1	VW1		CE11	40	2001	KOBALT-NAFTENÁT POR
		3	W1			CE11	40	2002	CELLULOID HULLADÉK
SGAN		2	W1 W12			CE10	40	2004	MAGNÉZIUM-DIAMID
		3	W1			CE11	40	2006	NITROCELLULÓZ ALAPÚ, ÖNMELEGEDŐ MŰANYAGOK, M.N.N.
		0	W1				43	2008	SZÁRAZ CIRKÓNIUMPOR
SGAN		2	W1 W12			CE10	40	2008	SZÁRAZ CIRKÓNIUMPOR
SGAN		3	W1	VW4		CE11	40	2008	SZÁRAZ CIRKÓNIUMPOR
		3	W1	VW4		CE11	40	2009	SZÁRAZ CIRKÓNIUM lemez, szalag vagy huzal formában
		1	W1		CW23		X423	2010	MAGNÉZIUM-HIDRID
		1	W1		CW23 CW28		X462	2011	MAGNÉZIUM-FOSZFID
		1	W1		CW23 CW28		X462	2012	KÁLIUM-FOSZFID
		1	W1		CW23 CW28		X462	2013	STRONCIUM-FOSZFID
L4BV(+)	TU3 TC2 TE8 TE11 TT1	2			CW24	CE6	58	2014	HIDROGÉN-PEROXID VIZES OLDAT legalább 20%, de legfeljebb 60% hidrogén-peroxid tartalommal (szükség szerint stabilizálva)
L4DV(+)	TU3 TU28 TC2 TE8 TE9 TE16 TT1	1	W5		CW24		559	2015	HIDROGÉN-PEROXID VIZES OLDAT STABILIZÁLT, 70%-nál több hidrogén-peroxid tartalommal
L4BV(+)	TU3 TU28 TC2 TE7 TE8 TE9 TE16 TT1	1	W5		CW24		559	2015	HIDROGÉN-PEROXID VIZES OLDAT STABILIZÁLT, 60%-nál több, de legfeljebb 70% hidrogén-peroxid tartalommal

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2016	MÉRGEZŐ, NEM ROBBANÓ LŐSZER robbanó- vagy hajtótöltet nélkül, gyújtószerkezet nélkül	6.1	T2	II	6.1		LQ0	E0	P600		MP10		
2017	KÖNNYŰGÁZFEJLESZTŐ, NEM ROBBANÓ LŐSZER robbanó- vagy kidobótöltet nélkül, gyújtószerkezet nélkül	6.1	TC2	II	6.1 + 8		LQ0	E0	P600				
2018	SZILÁRD KLÓR-ANILINEK	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2019	FOLYÉKONY KLÓR-ANILINEK	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2020	SZILÁRD KLÓR-FENOLOK	6.1	T2	III	6.1	205	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2021	FOLYÉKONY KLÓR-FENOLOK	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2022	KREZILSAV	6.1	TC1	II	6.1 + 8		LQ17	E4	P001 IBC02		MP15	T7	TP2
2023	EPIKLÓRHIDRIN	6.1	TF1	II	6.1 + 3	279	LQ17	E4	P001 IBC02		MP15	T7	TP2
2024	FOLYÉKONY HIGANYVEGYÜLET, M.N.N.	6.1	T4	I	6.1	43 274	LQ0	E5	P001		MP8 MP17		
2024	FOLYÉKONY HIGANYVEGYÜLET, M.N.N.	6.1	T4	II	6.1	43 274	LQ17	E4	P001 IBC02		MP15		
2024	FOLYÉKONY HIGANYVEGYÜLET, M.N.N.	6.1	T4	III	6.1	43 274	LQ7	E1	P001 IBC03 LP01 R001		MP19		
2025	SZILÁRD HIGANYVEGYÜLET, M.N.N.	6.1	T5	I	6.1	43 274 529 585	LQ0	E5	P002 IBC07		MP18	T6	TP33
2025	SZILÁRD HIGANYVEGYÜLET, M.N.N.	6.1	T5	II	6.1	43 274 529 585	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2025	SZILÁRD HIGANYVEGYÜLET, M.N.N.	6.1	T5	III	6.1	43 274 529 585	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		2			CW13 CW28 CW31	CE9	60	2016	MÉRGEZŐ, NEM ROBBANÓ LŐSZER robbanó- vagy hajtótöltet nélkül, gyújtószerkezet nélkül
		2			CW13 CW28 CW31		68	2017	KÖNNYGÁZFEJLESZTŐ, NEM ROBBANÓ LŐSZER robbanó- vagy kidobótöltet nélkül, gyújtószerkezet nélkül
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	2018	SZILÁRD KLÓR-ANILINEK
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2019	FOLYÉKONY KLÓR-ANILINEK
SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2020	SZILÁRD KLÓR-FENOLOK
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2021	FOLYÉKONY KLÓR-FENOLOK
L4BH	TU15	2			CW13 CW28 CW31	CE5	68	2022	KREZILSAV
L4BH	TU15	2			CW13 CW28 CW31	CE5	63	2023	EPIKLÓRHIDRIN
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	2024	FOLYÉKONY HIGANYVEGYÜLET, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2024	FOLYÉKONY HIGANYVEGYÜLET, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2024	FOLYÉKONY HIGANYVEGYÜLET, M.N.N.
S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66	2025	SZILÁRD HIGANYVEGYÜLET, M.N.N.
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	2025	SZILÁRD HIGANYVEGYÜLET, M.N.N.
SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2025	SZILÁRD HIGANYVEGYÜLET, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Osztályozási kód	Csomagolási csoport	Bárcák	Különleges előírások	Korlátozott és engedélyezett mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru-konténer	
									Csomagolási utasítások	Különleges csomagolási előírások	Egybe-csomagolási előírások	Utasítások	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2026	FENIL-HIGANY VEGYÜLET, M.N.N.	6.1	T3	I	6.1	43 274	LQ0	E5	P002 IBC07		MP18	T6	TP33
2026	FENIL-HIGANY VEGYÜLET, M.N.N.	6.1	T3	II	6.1	43 274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2026	FENIL-HIGANY VEGYÜLET, M.N.N.	6.1	T3	III	6.1	43 274	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2027	SZILÁRD NÁTRIUM-ARZENIT	6.1	T5	II	6.1	43	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2028	FÜSTFEJLESZTŐ BOMBAK, NEM ROBBANÓ, maró folyadékkal, gyújtószerkezet nélkül	8	C11	II	8		LQ0	E0	P803				
2029	VÍZMENTES HIDRAZIN	8	CFT	I	8 + 3 + 6.1		LQ0	E0	P001		MP8 MP17		
2030	HIDRAZIN VIZES OLDAT 37 tömeg%-nál több hidrazin-tartalommal és 60 °C feletti lobbanásponttal	8	CT1	I	8 + 6.1	530	LQ0	E0	P001		MP8 MP17	T10	TP2
2030	HIDRAZIN VIZES OLDAT 37 tömeg%-nál több hidrazin-tartalommal és legfeljebb 60 °C lobbanásponttal	8	CFT	I	8 + 3 + 6.1	530	LQ0	E0	P001		MP8 MP17	T10	TP2
2030	HIDRAZIN VIZES OLDAT 37 tömeg%-nál több hidrazin-tartalommal	8	CT1	II	8 + 6.1	530	LQ22	E2	P001 IBC02		MP15	T7	TP2
2030	HIDRAZIN VIZES OLDAT 37 tömeg%-nál több hidrazin-tartalommal	8	CT1	III	8 + 6.1	530	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2031	SALÉTROMSAV, a vörösen füstölő salétromsav kivételével, 70%-nál több salétromsav-tartalommal	8	CO1	I	8 + 5.1		LQ0	E0	P001	PP81	MP8 MP17	T10	TP2
2031	SALÉTROMSAV, a vörösen füstölő salétromsav kivételével, legalább 65%, de legfeljebb 70% savtartalommal	8	CO1	II	8 + 5.1		LQ22	E2	P001 IBC02	PP81 B15	MP15	T8	TP2
2031	SALÉTROMSAV, a vörösen füstölő salétromsav kivételével, 65% nál kevesebb savtartalommal	8	C1	II	8		LQ22	E2	P001 IBC02	PP81 B15	MP15	T8	TP2
2032	VÖRÖSEN FÜSTÖLGŐ SALÉTROMSAV	8	COT	I	8 + 5.1 + 6.1		LQ0	E0	P602		MP8 MP17	T20	TP2
2033	KÁLIUM-MONOXID	8	C6	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66	2026	FENIL-HIGANY VEGYÜLET, M.N.N.
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	2026	FENIL-HIGANY VEGYÜLET, M.N.N.
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2026	FENIL-HIGANY VEGYÜLET, M.N.N.
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	2027	SZILÁRD NÁTRIUM-ARZENIT
		2					80	2028	FÜSTFEJLESZTŐ BOMBÁK, NEM ROBBANÓ, maró folyadékkal, gyújtószerkezet nélkül
		1			CW13 CW28		886	2029	VÍZMENTES HIDRAZIN
L10BH	TU38 TE22	1			CW13 CW28		886	2030	HIDRAZIN VIZES OLDAT 37 tömeg%-nál több hidrazin-tartalommal és 60 °C feletti lobbanásponttal
L10BH	TU38 TE22	1			CW13 CW28		886	2030	HIDRAZIN VIZES OLDAT 37 tömeg%-nál több hidrazin-tartalommal és legfeljebb 60 °C lobbanásponttal
L4BN		2			CW13 CW28	CE6	86	2030	HIDRAZIN VIZES OLDAT 37 tömeg%-nál több hidrazin-tartalommal
L4BN		3			CW13 CW28	CE6	86	2030	HIDRAZIN VIZES OLDAT 37 tömeg%-nál több hidrazin-tartalommal
L10BH	TU38 TC6 TE22 TT1	1			CW24		885	2031	SALÉTRÓMSAV, a vörösen füstölő salétromsav kivételével, 70%-nál több salétromsav-tartalommal
L4BN		2				CE6	85	2031	SALÉTRÓMSAV, a vörösen füstölő salétromsav kivételével, legalább 65%, de legfeljebb 70% savtartalommal
L4BN		2				CE6	80	2031	SALÉTRÓMSAV, a vörösen füstölő salétromsav kivételével, 65% nál kevesebb savtartalommal
L10BH	TU38 TC6 TE22 TT1	1			CW13 CW24 CW28		856	2032	VÖRÖSEN FÜSTÖLGŐ SALÉTRÓMSAV
SGAN		2	W11			CE10	80	2033	KÁLIUM-MONOXID

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2034	HIDROGÉN ÉS METÁN KEVERÉKE, SŰRÍTETT	2	1F		2.1 (+13)		LQ0	E0	P200		MP9	(M)	
2035	1,1,1-TRIFLUOR-ETÁN (R 143a HŰTŐGÁZ)	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	
2036	XENON	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	(M)	
2037	GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők	2	5A		2.2	191 303	LQ2	E0	P003	PP17 RR6	MP9		
2037	GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők	2	5F		2.1	191 303	LQ2	E0	P003	PP17 RR6	MP9		
2037	GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők	2	5O		2.2 + 5.1	191 303	LQ2	E0	P003	PP17 RR6	MP9		
2037	GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők	2	5T		2.3	303	LQ1	E0	P003	PP17 RR6	MP9		
2037	GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők	2	5TC		2.3 + 8	303	LQ1	E0	P003	PP17 RR6	MP9		
2037	GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők	2	5TF		2.3 + 2.1	303	LQ1	E0	P003	PP17 RR6	MP9		
2037	GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők	2	5TFC		2.3 + 2.1 + 8	303	LQ1	E0	P003	PP17 RR6	MP9		
2037	GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők	2	5TO		2.3 + 5.1	303	LQ1	E0	P003	PP17 RR6	MP9		



RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
C*BN(M)	TU38 TE22 TA4 TT9	2			CW9 CW10 CW36	CE3	23	2034	HIDROGÉN ÉS METÁN KEVERÉKE, SŰRÍTETT
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	2035	1,1,1-TRIFLUOR-ETÁN (R 143a HÜTŐGÁZ)
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	2036	XENON
		3			CW9 CW12	CE2	20	2037	GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők
		2			CW9 CW12	CE2	23	2037	GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők
		3			CW9 CW12	CE2	25	2037	GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők
		1			CW9 CW12		26	2037	GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők
		1			CW9 CW12		268	2037	GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők
		1			CW9 CW12		263	2037	GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők
		1			CW9 CW12		263	2037	GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők
		1			CW9 CW12		265	2037	GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2037	GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerszék nélkül, nem utántölthetők	2	5TOC		2.3 + 5.1 + 8	303	LQ1	E0	P003	PP17 RR6	MP9		
2038	FOLYÉKONY DINITRO-TOLUOLOK	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2044	2,2-DIMETIL-PROPÁN	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	(M)	
2045	IZOBUTIRALDEHID (IZOBUTILALDEHID)	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2046	CIMOLOK (metil-izopropil-benzolok)	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2047	DIKLÓR-PROPÉNEK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2047	DIKLÓR-PROPÉNEK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2048	DICIKLOPENTADIÉN	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2049	DIETIL-BENZOLOK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2050	DIIZOBUTILÉN IZOMEREK KEVERÉKE	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2051	2-DIMETIL-AMINO-ETANOL	8	CF1	II	8 + 3		LQ22	E2	P001 IBC02		MP15	T7	TP2
2052	DIPENTÉN (limonén)	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2053	METIL-IZOBUTIL-KARBINOL (metil- amil-alkohol)	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2054	MORFOLIN	8	CF1	I	8 + 3		LQ0	E0	P001		MP8 MP17	T10	TP2
2055	SZTIROL MONOMER, STABILIZÁLT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		1			CW9 CW12		265	2037	GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószerkezet nélkül, nem utántölthetők
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2038	FOLYÉKONY DINITRO-TOLUOLOK
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	2044	2,2-DIMETIL-PROPÁN
LGBF		2				CE7	33	2045	IZOBUTIRALDEHID (IZOBUTILALDEHID)
LGBF		3				CE4	30	2046	CIMOLOK (metil-izopropil-benzolok)
LGBF		2				CE7	33	2047	DIKLÓR-PROPÉNEK
LGBF		3				CE4	30	2047	DIKLÓR-PROPÉNEK
LGBF		3				CE4	30	2048	DICIKLOPENTADIÉN
LGBF		3				CE4	30	2049	DIETIL-BENZOLOK
LGBF		2				CE7	33	2050	DIIZOBUTILÉN IZOMEREK KEVERÉKE
L4BN		2				CE6	83	2051	2-DIMETIL-AMINO-ETANOL
LGBF		3				CE4	30	2052	DIPENTÉN (limonén)
LGBF		3				CE4	30	2053	METIL-IZOBUTIL-KARBINOL (metil-amil-alkohol)
L10BH	TU38 TE22	1					883	2054	MORFOLIN
LGBF		3				CE4	39	2055	SZTIROL MONOMER, STABILIZÁLT

[illegible]

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
LGBF		2				CE7	33	2056	TETRAHIDRO-FURÁN
LGBF		2				CE7	33	2057	TRIPROPILÉN (PROPILÉN-TRIMER)
LGBF		3				CE4	30	2057	TRIPROPILÉN (PROPILÉN-TRIMER)
LGBF		2				CE7	33	2058	VALERALDEHID
L4BN		1					33	2059	GYÚLÉKONY NITROCELLULÓZ OLDAT a száraz tömegre vetítve legfeljebb 12,6% nitrogéntartalommal és legfeljebb 55% nitrocellulóz-tartalommal
L1.5BN		2				CE7	33	2059	GYÚLÉKONY NITROCELLULÓZ OLDAT a száraz tömegre vetítve legfeljebb 12,6% nitrogéntartalommal és legfeljebb 55% nitrocellulóz-tartalommal (gőznyomás 50 °C-on nagyobb mint 110 kPa)
LGBF		2				CE7	33	2059	GYÚLÉKONY NITROCELLULÓZ OLDAT a száraz tömegre vetítve legfeljebb 12,6% nitrogéntartalommal és legfeljebb 55% nitrocellulóz-tartalommal (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	2059	GYÚLÉKONY NITROCELLULÓZ OLDAT a száraz tömegre vetítve legfeljebb 12,6% nitrogéntartalommal és legfeljebb 55% nitrocellulóz-tartalommal
SGAV	TU3	3		VW8	CW24	CE11	50	2067	AMMÓNIUM-NITRÁT ALAPÚ MŰTRÁGYA
Nem tartozik a RID hatálya alá								2071	AMMÓNIUM-NITRÁT ALAPÚ MŰTRÁGYA, amely nitrogén/ foszfát, nitrogén/kálsó vagy nitrogén/ foszfát/kálsó típusú műtrágya egynemű keveréke legfeljebb 70% ammónium-nitrát tartalommal és legfeljebb 0,4% összes éghető anyag tartalommal (beleértve bármilyen szerves anyagot szénegyenértékre átszámítva) vagy legfeljebb 45% ammónium-nitrát tartalommal és korlátlan éghető anyag tartalommal

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2073	AMMÓNIA OLDAT, vizes, relatív sűrűség 15 °C-on kisebb, mint 0,880, 35%-nál több, de legfeljebb 50% ammóniatartalommal	2	4A		2.2 (+13)	532	LQ1	E1	P200		MP9	(M)	
2074	SZILÁRD AKRILAMID	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2075	VÍZMENTES KLORÁL, STABILIZÁLT	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2076	FOLYÉKONY KREZOLOK	6.1	TC1	II	6.1 + 8		LQ17	E4	P001 IBC02		MP15	T7	TP2
2077	alfa-NAFTIL-AMIN	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2078	TOLUILÉN-DIIZOCIANÁT	6.1	T1	II	6.1	279	LQ17	E4	P001 IBC02		MP15	T7	TP2
2079	DIETILÉN-TRIAMIN	8	C7	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
2186	HIDROGÉN-KLORID, MÉLYHÚTOTT CSEPPFOLYÓSÍTOTT	2	3TC	A fuvarozásból ki van zárva									
2187	SZÉN-DIOXID, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT	2	3A		2.2 (+13)	593	LQ1	E1	P203		MP9	T75	TP5
2188	ARZIN	2	2TF		2.3 + 2.1		LQ0	E0	P200		MP9		
2189	DIKLÓR-SZILÁN	2	2TFC		2.3 + 2.1 + 8 (+13)		LQ0	E0	P200		MP9	(M)	
2190	OXIGÉN-DIFLUORID, SŰRÍTETT	2	1TOC		2.3 + 5.1 + 8		LQ0	E0	P200		MP9		
2191	SZULFURIL-FLUORID	2	2T		2.3 (+13)		LQ0	E0	P200		MP9	(M)	
2192	GERMÁN	2	2TF		2.3 + 2.1	632	LQ0	E0	P200		MP9	(M)	
2193	HEXAFLUOR-ETÁN (R 116 HÚTÓGÁZ)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	(M)	

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10	CE2	20	2073	AMMÓNIA OLDAT, vizes, relatív sűrűség 15 °C-on kisebb, mint 0,880, 35%-nál több, de legfeljebb 50% ammóniatartalommal
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2074	SZILÁRD AKRILAMID
L4BH	TU15	2			CW13 CW28 CW31	CE5	69	2075	VÍZMENTES KLORÁL, STABILIZÁLT
L4BH	TU15	2			CW13 CW28 CW31	CE5	68	2076	FOLYÉKONY KREZOLOK
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2077	alfa-NAFTIL-AMIN
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2078	TOLUILÉN-DIIZOCIANÁT
L4BN		2				CE6	80	2079	DIETILÉN-TRIAMIN
A fuvarozásból ki van zárva								2186	HIDROGÉN-KLORID, MÉLYHŰTÖTT CSEPPFOLYÓSÍTOTT
R*BN	TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	22	2187	SZÉN-DIOXID, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT
		1			CW9 CW10 CW36		263	2188	ARZIN
P*BH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		263	2189	DIKLÓR-SZILÁN
		1			CW9 CW10 CW36		265	2190	OXIGÉN-DIFLUORID, SŰRÍTETT
P*BH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		26	2191	SZULFURIL-FLUORID
		1			CW9 CW10 CW36		263	2192	GERMÁN
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	2193	HEXAFLUOR-ETÁN (R 116 HŰTŐGÁZ)

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2194	SZELÉN-HEXAFLUORID	2	2TC		2.3 + 8		LQ0	E0	P200		MP9		
2195	TELLUR-HEXAFLUORID	2	2TC		2.3 + 8		LQ0	E0	P200		MP9		
2196	VOLFRAM-HEXAFLUORID	2	2TC		2.3 + 8		LQ0	E0	P200		MP9		
2197	HIDROGÉN-JODID, VÍZMENTES	2	2TC		2.3 + 8 (+13)		LQ0	E0	P200		MP9	(M)	
2198	FOSZFOR-PENTAFLUORID	2	2TC		2.3 + 8		LQ0	E0	P200		MP9		
2199	FOSZFIN	2	2TF		2.3 + 2.1	632	LQ0	E0	P200		MP9		
2200	PROPADIÉN, STABILIZÁLT	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	(M)	
2201	DINITROGÉN-OKSID, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT	2	3O		2.2 + 5.1 (+13)		LQ0	E0	P203		MP9	T75	TP5 TP22
2202	HIDROGÉN-SZELENID, VÍZMENTES	2	2TF		2.3 + 2.1		LQ0	E0	P200		MP9		
2203	SZILÍCIUM-HIDROGÉN (SZILÁN)	2	2F		2.1 (+13)	632	LQ0	E0	P200		MP9	(M)	
2204	KARBONIL-SZULFID	2	2TF		2.3 + 2.1 (+13)		LQ0	E0	P200		MP9	(M)	
2205	ADIPONITRIL	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T3	TP1
2206	MÉRGEZŐ IZOCIANÁTOK, M.N.N. vagy MÉRGEZŐ IZOCIANÁT OLDAT, M.N.N.	6.1	T1	II	6.1	274 551	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		1			CW9 CW10 CW36		268	2194	SZELÉN-HEXAFLUORID
		1			CW9 CW10 CW36		268	2195	TELLUR-HEXAFLUORID
		1			CW9 CW10 CW36		268	2196	VOLFRAM-HEXAFLUORID
P*BH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		268	2197	HIDROGÉN-JODID, VÍZMENTES
		1			CW9 CW10 CW36		268	2198	FOSZFOR-PENTAFLUORID
		1			CW9 CW10 CW36		263	2199	FOSZFIN
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	239	2200	PROPADIÉN, STABILIZÁLT
R*BN	TU7 TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	225	2201	DINITROGÉN-OXID, MÉLYHÜTÖTT, CSEPPFOLYÓSÍTOTT
		1			CW9 CW10 CW36		263	2202	HIDROGÉN-SZELENID, VÍZMENTES
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36		23	2203	SZILÍCIUM-HIDROGÉN (SZILÁN)
P*BH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		263	2204	KARBONIL-SZULFID
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2205	ADIPONITRIL
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2206	MÉRGEZŐ IZOCIANÁTOK, M.N.N. vagy MÉRGEZŐ IZOCIANÁT OLDAT, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Osztályozási kód	Csomagolási csoport	Bárcák	Különleges előírások	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru-konténer	
									Csomagolási utasítások	Különleges csomagolási előírások	Egybe-csomagolási előírások	Utasítások	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2206	MÉRGEZŐ IZOCIANÁTOK, M.N.N. vagy MÉRGEZŐ IZOCIANÁT OLDAT, M.N.N.	6.1	T1	III	6.1	274 551	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28
2208	SZÁRAZ KALCIUM-HIPOKLORIT KEVERÉK 10%-nál több, de legfeljebb 39% szabad klórtartalommal	5.1	O2	III	5.1	313 314	LQ12	E1	P002 IBC08 LP02 R001	B3 B13	MP10		
2209	FORMALDEHID OLDAT legalább 25% formaldehidtartalommal	8	C9	III	8	533	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2210	MANEB vagy MANEB KÉSZÍTMÉNY legalább 60% manebtartalommal	4.2	SW	III	4.2 + 4.3	273	LQ0	E1	P002 IBC06 R001		MP14	T1	TP33
2211	HABOSÍTHATÓ POLIMER GYÖNGYÖK, amelyek gyúlékony gőzöket fejlesztenek	9	M3	III	-	207 633	LQ27	E1	P002 IBC08 R001	PP14 B3 B6	MP10	T1	TP33
2212	KÉK AZBESZT (krokidolit) vagy BARNA AZBESZT (amozit)	9	M1	II	9	168	LQ25	E2	P002 IBC08	PP37 B4	MP10	T3	TP33
2213	PARAFORMALDEHID	4.1	F1	III	4.1		LQ9	E1	P002 IBC08 LP02 R001	PP12 B3	MP10	T1 BK1 BK2	TP33
2214	FTÁLSAVANHIDRID 0,05%-nál több maleinsavanhidrid- tartalommal	8	C4	III	8	169	LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2215	MALEINSAVANHIDRID, OLVASZTOTT	8	C3	III	8		LQ0	E0				T4	TP3
2215	MALEINSAVANHIDRID	8	C4	III	8		LQ24	E1	P002 IBC08 R001	B3	MP10	T1	TP33
2216	HALLISZT (HALHULLADÉK), STABILIZÁLT	9	M11	Nem tartozik a RID hatálya alá									
2217	OLAJPOGÁCSA legfeljebb 1,5 tömeg% olaj- és legfeljebb 11 tömeg% nedvességtartalommal	4.2	S2	III	4.2	142	LQ0	E1	P002 IBC08 LP02 R001	PP20 B3 B6	MP14		
2218	AKRILSAV, STABILIZÁLT	8	CF1	II	8 + 3		LQ22	E2	P001 IBC02		MP15	T7	TP2
2219	ALLIL-GLICIDIL-ÉTER	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2222	ANIZOL (fenil-metil-éter)	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2224	BENZONITRIL	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2206	MÉRGEZŐ IZOCIANÁTOK, M.N.N. vagy MÉRGEZŐ IZOCIANÁT OLDAT, M.N.N.
SGAN	TU3	3			CW24 CW35	CE11	50	2208	SZÁRAZ KALCIUM-HIPOKLORIT KEVERÉK 10%-nál több, de legfeljebb 39% szabad klórtartalommal
L4BN		3				CE8	80	2209	FORMALDEHID OLDAT legalább 25% formaldehidtartalommal
SGAN		3	W1 W12	VW4		CE11	40	2210	MANEB vagy MANEB KÉSZÍTMÉNY legalább 60% manebtartalommal
SGAN	TE20	3		VW3	CW31	CE11	90	2211	HABOSÍTHATÓ POLIMER GYÖNGYÖK, amelyek gyúlékony gőzöket fejlesztenek
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	90	2212	KÉK AZBESZT (krokidolit) vagy BARNA AZBESZT (amozit)
SGAV		3	W1 W13	VW1		CE11	40	2213	PARAFORMALDEHID
L4BN SGAV		3		VW9		CE11	80	2214	FTÁLSAVANHIDRID 0,05%-nál több maleinsavanhidrid- tartalommal
L4BN		0				CE8	80	2215	MALEINSAVANHIDRID, OLVASZTOTT
SGAV		3		VW9		CE11	80	2215	MALEINSAVANHIDRID
Nem tartozik a RID hatálya alá								2216	HALLISZT (HALHULLADÉK), STABILIZÁLT
		3	W1	VW4		CE11	40	2217	OLAJPOGÁCSA legfeljebb 1,5 tömeg% olaj- és legfeljebb 11 tömeg% nedvességtartalommal
L4BN		2				CE6	839	2218	AKRILSAV, STABILIZÁLT
LGBF		3				CE4	30	2219	ALLIL-GLICIDIL-ÉTER
LGBF		3				CE4	30	2222	ANIZOL (fenil-metil-éter)
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2224	BENZONITRIL

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2225	BENZOL-SZULFONIL-KLORID	8	C3	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2226	BENZO-TRIKLORID ((triklór-metil)- benzol)	8	C9	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
2227	n-BUTIL-METAKRILÁT, STABILIZÁLT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2232	2-KLÓR-ACETALDEHID	6.1	T1	I	6.1		LQ0	E5	P001		MP8 MP17	T14	TP2
2233	KLÓR-ANIZIDINEK	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2234	KLÓR-BENZO-TRIFLUORIDOK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2235	FOLYÉKONY KLÓR-BENZIL- KLORIDOK	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2236	FOLYÉKONY 3-KLÓR-4-METIL- FENIL-IZOCIANÁT	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15		
2237	KLÓR-NITRO-ANILINEK	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2238	KLÓR-TOLUOLOK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2239	SZILÁRD KLÓR-TOLUIDINEK	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2240	KRÓMKÉNSAV	8	C1	I	8		LQ0	E0	P001		MP8 MP17	T10	TP2
2241	CIKLOHEPTÁN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2242	CIKLOHEPTÉN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2243	CIKLOHEXIL-ACETÁT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BN		3				CE8	80	2225	BENZOL-SZULFONIL-KLORID
L4BN		2				CE6	80	2226	BENZO-TRIKLORID ((triklór-metil)-benzol)
LGBF		3				CE4	39	2227	n-BUTIL-METAKRILÁT, STABILIZÁLT
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	2232	2-KLÓR-ACETALDEHID
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2233	KLÓR-ANIZIDINEK
LGBF		3				CE4	30	2234	KLÓR-BENZO-TRIFLUORIDOK
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2235	FOLYÉKONY KLÓR-BENZIL-KLORIDOK
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2236	FOLYÉKONY 3-KLÓR-4-METIL-FENIL-IZOCIANÁT
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2237	KLÓR-NITRO-ANILINEK
LGBF		3				CE4	30	2238	KLÓR-TOLUOLOK
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2239	SZILÁRD KLÓR-TOLUIDINEK
L10BH	TU38 TE22	1					88	2240	KRÓMKÉNSAV
LGBF		2				CE7	33	2241	CIKLOHEPTÁN
LGBF		2				CE7	33	2242	CIKLOHEPTÉN
LGBF		3				CE4	30	2243	CIKLOHEXIL-ACETÁT

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2244	CIKLOPENTANOL	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2245	CIKLOPENTANON	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2246	CIKLOPENTÉN	3	F1	II	3		LQ4	E2	P001 IBC02	B8	MP19	T7	TP2
2247	n-DEKÁN	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2248	DI-n-BUTIL-AMIN	8	CF1	II	8 + 3		LQ22	E2	P001 IBC02		MP15	T7	TP2
2249	DIKLÓR-DIMETIL-ÉTER, SZIMMETRIKUS	6.1	TF1	A fuvarozásból ki van zárva									
2250	DIKLÓR-FENIL-IZOCIANÁTOK	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2251	BICIKLO-[2.2.1]- -HEPTA-2,5-DIÉN, STABILIZÁLT (2,5-NORBORNADIÉN, STABILIZÁLT )	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T7	TP2
2252	1,2-DIMETOXI-ETÁN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2253	N,N-DIMETIL-ANILIN	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2254	VIHARGYUFA	4.1	F1	III	4.1	293	LQ9	E1	P407 R001		MP11		
2256	CIKLOHEXÉN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2257	KÁLIUM	4.3	W2	I	4.3		LQ0	E0	P403 IBC04		MP2	T9	TP7 TP33
2258	1,2-PROPILÉN-DIAMIN	8	CF1	II	8 + 3		LQ22	E2	P001 IBC02		MP15	T7	TP2
2259	TRIETILÉN-TETRAMIN	8	C7	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
2260	TRIPROPIL-AMIN	3	FC	III	3 + 8		LQ7	E1	P001 IBC03 R001		MP19	T4	TP1
2261	SZILÁRD XILENOLOK	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2262	N,N-DIMETIL-KARBAMOIL-KLORID	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
2263	DIMETIL-CIKLOHEXÁNOK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1

RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
LGBF		3				CE4	30	2244	CIKLOPENTANOL
LGBF		3				CE4	30	2245	CIKLOPENTANON
L1.5BN		2				CE7	33	2246	CIKLOPENTÉN
LGBF		3				CE4	30	2247	n-DEKÁN
L4BN		2				CE6	83	2248	DI-n-BUTIL-AMIN
A fuvarozásból ki van zárva								2249	DIKLÓR-DIMETIL-ÉTER, SZIMMETRIKUS
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	2250	DIKLÓR-FENIL-IZOCIANÁTOK
LGBF		2				CE7	339	2251	BICIKLO-[2.2.1]- -HEPTA-2,5-DIÉN, STABILIZÁLT (2,5-NORBORNADIÉN, STABILIZÁLT )
LGBF		2				CE7	33	2252	1,2-DIMETOXI-ETÁN
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2253	N,N-DIMETIL-ANILIN
		4	W1			CE11	40	2254	VIHARGYUFA
LGBF		2				CE7	33	2256	CIKLOHEXÉN
L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X423	2257	KÁLIUM
L4BN		2				CE6	83	2258	1,2-PROPILÉN-DIAMIN
L4BN		2				CE6	80	2259	TRIETILÉN-TETRAMIN
L4BN		3				CE4	38	2260	TRIPROPIL-AMIN
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	2261	SZILÁRD XILENOLOK
L4BN		2				CE6	80	2262	N,N-DIMETIL-KARBAMOIL-KLORID
LGBF		2				CE7	33	2263	DIMETIL-CIKLOHEXÁNOK

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2264	N,N-DIMETIL-CIKLOHEXIL-AMIN	8	CF1	II	8 + 3		LQ22	E2	P001 IBC02		MP15	T7	TP2
2265	N,N-DIMETIL-FORMAMID	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP2
2266	N,N-DIMETIL-PROPIL-AMIN	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP2
2267	DIMETIL-TIOFOSZFORIL-KLORID	6.1	TC1	II	6.1 + 8		LQ17	E4	P001 IBC02		MP15	T7	TP2
2269	3,3'-IMINO-BISZPROPIL-AMIN	8	C7	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP2
2270	ETIL-AMIN VIZES OLDAT legalább 50 tömeg%, de legfeljebb 70 tömeg% etil-amin tartalommal	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP1
2271	ETIL-AMIL-KETON	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2272	N-ETIL-ANILIN	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2273	2-ETIL-ANILIN	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2274	N-ETIL-N-BENZIL-ANILIN	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2275	2-ETIL-BUTANOL	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2276	2-ETIL-HEXIL-AMIN	3	FC	III	3 + 8		LQ7	E1	P001 IBC03 R001		MP19	T4	TP1
2277	ETIL-METAKRILÁT, STABILIZÁLT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2278	n-HEPTÉN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2279	HEXAKLÓR-BUTADIÉN	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BN		2				CE6	83	2264	N,N-DIMETIL-CIKLOHEXIL-AMIN
LGBF		3				CE4	30	2265	N,N-DIMETIL-FORMAMID
L4BH		2				CE7	338	2266	N,N-DIMETIL-PROPIL-AMIN
L4BH	TU15	2			CW13 CW28 CW31	CE5	68	2267	DIMETIL-TIOFOSZFORIL-KLORID
L4BN		3				CE8	80	2269	3,3'-IMINO-BISZPROPIL-AMIN
L4BH		2				CE7	338	2270	ETIL-AMIN VIZES OLDAT legalább 50 tömeg%, de legfeljebb 70 tömeg% etil-amin tartalommal
LGBF		3				CE4	30	2271	ETIL-AMIL-KETON
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2272	N-ETIL-ANILIN
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2273	2-ETIL-ANILIN
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2274	N-ETIL-N-BENZIL-ANILIN
LGBF		3				CE4	30	2275	2-ETIL-BUTANOL
L4BN		3				CE4	38	2276	2-ETIL-HEXIL-AMIN
LGBF		2				CE7	339	2277	ETIL-METAKRILÁT, STABILIZÁLT
LGBF		2				CE7	33	2278	n-HEPTÉN
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2279	HEXAKLÓR-BUTADIÉN

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2280	SZILÁRD HEXAMETILÉN-DIAMIN	8	C8	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2281	HEXAMETILÉN-DIIZOCIANÁT	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2282	HEXANOLOK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2283	IZOBUTIL-METAKRILÁT, STABILIZÁLT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2284	IZOBUTIRONITRIL	3	FT1	II	3 + 6.1		LQ0	E2	P001 IBC02		MP19	T7	TP2
2285	IZOCIANÁTO-BENZO- TRIFLUORIDOK	6.1	TF1	II	6.1 + 3		LQ17	E4	P001 IBC02		MP15	T7	TP2
2286	PENTAMETIL-HEPTÁN (izododekán)	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2287	IZOHEPTÉNEK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2288	IZOHEXÉNEK	3	F1	II	3		LQ4	E2	P001 IBC02 R001	B8	MP19	T11	TP1
2289	IZOFORON-DIAMIN	8	C7	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2290	IZOFORON-DIIZOCIANÁT	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP2
2291	OLDHATÓ ÓLOMVEGYÜLET, M.N.N.	6.1	T5	III	6.1	199 274 535	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2293	4-METOXI-4-METIL-2-PENTANON	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2294	N-METIL-ANILIN	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2295	METIL-KLÓR-ACETÁT	6.1	TF1	I	6.1 + 3		LQ0	E5	P001		MP8 MP17	T14	TP2

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BN SGAV		3		VW9		CE11	80	2280	SZILÁRD HEXAMETILÉN-DIAMIN
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2281	HEXAMETILÉN-DIIZOCIANÁT
LGBF		3				CE4	30	2282	HEXANOLOK
LGBF		3				CE4	39	2283	IZOBUTIL-METAKRILÁT, STABILIZÁLT
L4BH	TU15	2			CW13 CW28	CE7	336	2284	IZOBUTIRONITRIL
L4BH	TU15	2			CW13 CW28 CW31	CE5	63	2285	IZOCIANÁTO-BENZO- TRIFLUORIDOK
LGBF		3				CE4	30	2286	PENTAMETIL-HEPTÁN (izododekán)
LGBF		2				CE7	33	2287	IZOHEPTÉNEK
LGBF		2				CE7	33	2288	IZOHEXÉNEK
L4BN		3				CE8	80	2289	IZOFORON-DIAMIN
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2290	IZOFORON-DIIZOCIANÁT
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2291	OLDHATÓ ÓLOMVEGYÜLET, M.N.N.
LGBF		3				CE4	30	2293	4-METOXI-4-METIL-2-PENTANON
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2294	N-METIL-ANILIN
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	2295	METIL-KLÓR-ACETÁT

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2296	METIL-CIKLOHEXÁN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2297	METIL-CIKLOHEXANON	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2298	METIL-CIKLOPENTÁN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2299	METIL-DIKLÓR-ACETÁT	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2300	2-METIL-5-ETIL-PIRIDIN	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2301	2-METIL-FURÁN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2302	5-METIL-2-HEXANON	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2303	IZOPROPENIL-BENZOL	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2304	OLVASZTOTT NAFTALIN	4.1	F2	III	4.1	536	LQ0	E0				T1	TP3
2305	NITRO-BENZOLSZULFONSAV	8	C4	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
2306	FOLYÉKONY NITRO-BENZO- TRIFLUORIDOK	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2307	3-NITRO-4-KLÓR-BENZO- TRIFLUORID	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP10	T7	TP2
2308	FOLYÉKONY NITROZILKÉNSAV	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T8	TP2
2309	OKTADIÉNEK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2310	2,4-PENTÁNDION (acetyl-aceton)	3	FT1	III	3 + 6.1		LQ7	E1	P001 IBC03 R001		MP19	T4	TP1
2311	FENETIDINEK	6.1	T1	III	6.1	279	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2312	OLVASZTOTT FENOL	6.1	T1	II	6.1		LQ0	E0				T7	TP3

RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
LGBF		2				CE7	33	2296	METIL-CIKLOHEXÁN
LGBF		3				CE4	30	2297	METIL-CIKLOHEXANON
LGBF		2				CE7	33	2298	METIL-CIKLOPENTÁN
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2299	METIL-DIKLÓR-ACETÁT
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2300	2-METIL-5-ETIL-PIRIDIN
LGBF		2				CE7	33	2301	2-METIL-FURÁN
LGBF		3				CE4	30	2302	5-METIL-2-HEXANON
LGBF		3				CE4	30	2303	IZOPROPENIL-BENZOL
LGBV	TU27 TE4 TE6	3					44	2304	OLVASZTOTT NAFTALIN
L4BN SGAN		2	W11			CE10	80	2305	NITRO-BENZOLSZULFONSAV
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2306	FOLYÉKONY NITRO-BENZO-TRIFLUORIDOK
L4BH	TU15	2			CW13 CW28 CW31	CE9	60	2307	3-NITRO-4-KLÓR-BENZO-TRIFLUORID
L4BN		2				CE6	X80	2308	FOLYÉKONY NITROZILKÉNSAV
LGBF		2				CE7	33	2309	OKTADIÉNEK
L4BH	TU15	3			CW13 CW28	CE4	36	2310	2,4-PENTÁNDION (acetyl-aceton)
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2311	FENETIDINEK
L4BH	TU15	0			CW13 CW31		60	2312	OLVASZTOTT FENOL

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2313	PIKOLINOK (metil-piridinek)	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2315	FOLYÉKONY POLIKLÓROZOTT BIFENILEK	9	M2	II	9	305	LQ26	E2	P906 IBC02		MP15	T4	TP1
2316	SZILÁRD NÁTRIUM-RÉZ(I)-CIANID	6.1	T5	I	6.1		LQ0	E5	P002 IBC07		MP18	T6	TP33
2317	NÁTRIUM-RÉZ(I)- -CIANID OLDAT	6.1	T4	I	6.1		LQ0	E5	P001		MP8 MP17	T14	TP2
2318	NÁTRIUM-HIDROGÉN-SZULFID 25% nál kevesebb kristályvíz-tartalommal	4.2	S4	II	4.2	504	LQ0	E2	P410 IBC06		MP14	T3	TP33
2319	TERPÉN SZÉNHYDROGÉNEK, M.N.N.	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1 TP29
2320	TETRAETILÉN-PENTAMIN	8	C7	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2321	FOLYÉKONY TRIKLÓR-BENZOLOK	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2322	TRIKLÓR-BUTÉN	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2323	TRIETIL-FOSZFIT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2324	TRIIZOBUTILÉN	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2325	1,3,5-TRIMETIL-BENZOL (mezitilén)	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2326	TRIMETIL-CIKLOHEXIL-AMIN	8	C7	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2327	TRIMETIL-HEXAMETILÉN- DIAMINOK	8	C7	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
LGBF		3				CE4	30	2313	PIKOLINOK (metil-piridinek)
L4BH	TU15	0		VW15	CW13 CW28 CW31	CE5	90	2315	FOLYÉKONY POLIKLÓROZOTT BIFENILEK
S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66	2316	SZILÁRD NÁTRIUM-RÉZ(I)-CIANID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	2317	NÁTRIUM-RÉZ(I)-CIANID OLDAT
SGAN		2	W1 W12			CE10	40	2318	NÁTRIUM-HIDROGÉN-SZULFID 25% nál kevesebb kristályvíz-tartalommal
LGBF		3				CE4	30	2319	TERPÉN SZÉNHYDROGÉNEK, M.N.N.
L4BN		3				CE8	80	2320	TETRAETILÉN-PENTAMIN
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2321	FOLYÉKONY TRIKLÓR-BENZOLOK
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2322	TRIKLÓR-BUTÉN
LGBF		3				CE4	30	2323	TRIETIL-FOSZFIT
LGBF		3				CE4	30	2324	TRIIZOBUTILÉN
LGBF		3				CE4	30	2325	1,3,5-TRIMETIL-BENZOL (mezitilén)
L4BN		3				CE8	80	2326	TRIMETIL-CIKLOHEXIL-AMIN
L4BN		3				CE8	80	2327	TRIMETIL-HEXAMETILÉN-DIAMINOK

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- mago- lási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2328	TRIMETIL-HEXAMETILÉN- DIIZOCIANÁT	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP2
2329	TRIMETIL-FOSZFIT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2330	UNDEKÁN	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2331	VÍZMENTES CINK-KLORID	8	C2	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2332	ACETALDEHID-OXIM	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2333	ALLIL-ACETÁT	3	FT1	II	3 + 6.1		LQ0	E2	P001 IBC02		MP19	T7	TP1
2334	ALLIL-AMIN	6.1	TF1	I	6.1 + 3		LQ0	E5	P602		MP8 MP17	T20	TP2 TP35
2335	ALLIL-ETIL-ÉTER	3	FT1	II	3 + 6.1		LQ0	E2	P001 IBC02		MP19	T7	TP1
2336	ALLIL-FORMIÁT	3	FT1	I	3 + 6.1		LQ0	E0	P001		MP7 MP17	T14	TP2
2337	FENIL-MERKAPTÁN (tiofenol)	6.1	TF1	I	6.1 + 3		LQ0	E5	P001		MP8 MP17	T20	TP2 TP35
2338	BENZO-TRIFLUORID	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2339	2-BRÓM-BUTÁN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2340	2-BRÓM-ETIL-ETIL-ÉTER	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2341	1-BRÓM-3-METIL-BUTÁN	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2342	BRÓM-METIL-PROPÁNOK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2328	TRIMETIL-HEXAMETILÉN-DIIZOCIANÁT
LGBF		3				CE4	30	2329	TRIMETIL-FOSZFIT
LGBF		3				CE4	30	2330	UNDEKÁN
SGAV		3		VW9		CE11	80	2331	VÍZMENTES CINK-KLORID
LGBF		3				CE4	30	2332	ACETALDEHID-OXIM
L4BH	TU15	2			CW13 CW28	CE7	336	2333	ALLIL-ACETÁT
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	2334	ALLIL-AMIN
L4BH	TU15	2			CW13 CW28	CE7	336	2335	ALLIL-ETIL-ÉTER
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	2336	ALLIL-FORMIÁT
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	2337	FENIL-MERKAPTÁN (tiofenol)
LGBF		2				CE7	33	2338	BENZO-TRIFLUORID
LGBF		2				CE7	33	2339	2-BRÓM-BUTÁN
LGBF		2				CE7	33	2340	2-BRÓM-ETIL-ETIL-ÉTER
LGBF		3				CE4	30	2341	1-BRÓM-3-METIL-BUTÁN
LGBF		2				CE7	33	2342	BRÓM-METIL-PROPÁNOK

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2343	2-BRÓM-PENTÁN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2344	BRÓM-PROPÁNOK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2344	BRÓM-PROPÁNOK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2345	3-BRÓM-PROPIN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2346	BUTÁNDION (diacetil)	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2347	BUTIL-MERKAPTÁN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2348	BUTIL-AKRILÁTOK, STABILIZÁLT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2350	BUTIL-METIL-ÉTER	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2351	BUTIL-NITRITEK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2351	BUTIL-NITRITEK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2352	BUTIL-VINIL-ÉTER, STABILIZÁLT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2353	BUTIRIL-KLORID	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T8	TP2
2354	KLÓR-METIL-ETIL-ÉTER	3	FT1	II	3 + 6.1		LQ0	E2	P001 IBC02		MP19	T7	TP1
2356	2-KLÓR-PROPÁN (izopropil-klorid)	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP2
2357	CIKLOHEXIL-AMIN	8	CF1	II	8 + 3		LQ22	E2	P001 IBC02		MP15	T7	TP2
2358	CIKLOOKTATETRAÉN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2359	DIALLIL-AMIN	3	FTC	II	3 + 6.1 + 8		LQ0	E2	P001 IBC02		MP19	T7	TP1
2360	DIALLIL-ÉTER	3	FT1	II	3 + 6.1		LQ0	E2	P001 IBC02		MP19	T7	TP1
2361	DIIZOBUTIL-AMIN	3	FC	III	3 + 8		LQ7	E1	P001 IBC03 R001		MP19	T4	TP1

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
LGBF		2				CE7	33	2343	2-BRÓM-PENTÁN
LGBF		2				CE7	33	2344	BRÓM-PROPÁNOK
LGBF		3				CE4	30	2344	BRÓM-PROPÁNOK
LGBF		2				CE7	33	2345	3-BRÓM-PROPIN
LGBF		2				CE7	33	2346	BUTÁNDION (diacetil)
LGBF		2				CE7	33	2347	BUTIL-MERKAPTÁN
LGBF		3				CE4	39	2348	BUTIL-AKRILÁTOK, STABILIZÁLT
LGBF		2				CE7	33	2350	BUTIL-METIL-ÉTER
LGBF		2				CE7	33	2351	BUTIL-NITRITEK
LGBF		3				CE4	30	2351	BUTIL-NITRITEK
LGBF		2				CE7	339	2352	BUTIL-VINIL-ÉTER, STABILIZÁLT
L4BH		2				CE7	338	2353	BUTIRIL-KLORID
L4BH	TU15	2			CW13 CW28	CE7	336	2354	KLÓR-METIL-ETIL-ÉTER
L4BN		1					33	2356	2-KLÓR-PROPÁN (izopropil-klorid)
L4BN		2				CE6	83	2357	CIKLOHEXIL-AMIN
LGBF		2				CE7	33	2358	CIKLOOKTATETRAÉN
L4BH	TU15	2			CW13 CW28	CE7	338	2359	DIALLIL-AMIN
L4BH	TU15	2			CW13 CW28	CE7	336	2360	DIALLIL-ÉTER
L4BN		3				CE4	38	2361	DIIZOBUTIL-AMIN

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2362	1,1-DIKLÓR-ETÁN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2363	ETIL-MERKAPTÁN	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP2
2364	n-PROPIL-BENZOL	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2366	DIETIL-KARBONÁT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2367	alfa-METIL-VALERALDEHID	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2368	alfa-PINÉN	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2370	1-HEXÉN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2371	IZOPENTÉNEK	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP2
2372	1,2-DI(DIMETIL-AMINO)-ETÁN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2373	DIETOXI-METÁN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2374	3,3-DIETOXI-PROPÉN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2375	DIETIL-SZULFID	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T7	TP1
2376	2,3-DIHIDRO-PIRÁN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2377	1,1-DIMETOXI-ETÁN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T7	TP1
2378	2-DIMETIL-AMINO-ACETONITRIL	3	FT1	II	3 + 6.1		LQ0	E2	P001 IBC02		MP19	T7	TP1
2379	1,3-DIMETIL-BUTIL-AMIN	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP1
2380	DIMETIL-DIETOXI-SZILÁN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2381	DIMETIL-DISZULFID	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1

RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
LGBF		2				CE7	33	2362	1,1-DIKLÓR-ETÁN
L4BN		1					33	2363	ETIL-MERKAPTÁN
LGBF		3				CE4	30	2364	n-PROPIL-BENZOL
LGBF		3				CE4	30	2366	DIETIL-KARBONÁT
LGBF		2				CE7	33	2367	alfa-METIL-VALERALDEHID
LGBF		3				CE4	30	2368	alfa-PINÉN
LGBF		2				CE7	33	2370	1-HEXÉN
L4BN		1					33	2371	IZOPENTÉNEK
LGBF		2				CE7	33	2372	1,2-DI(DIMETIL-AMINO)-ETÁN
LGBF		2				CE7	33	2373	DIETOXI-METÁN
LGBF		2				CE7	33	2374	3,3-DIETOXI-PROPÉN
LGBF		2				CE7	33	2375	DIETIL-SZULFID
LGBF		2				CE7	33	2376	2,3-DIHIDRO-PIRÁN
LGBF		2				CE7	33	2377	1,1-DIMETOXI-ETÁN
L4BH	TU15	2			CW13 CW28	CE7	336	2378	2-DIMETIL-AMINO-ACETONITRIL
L4BH		2				CE7	338	2379	1,3-DIMETIL-BUTIL-AMIN
LGBF		2				CE7	33	2380	DIMETIL-DIETOXI-SZILÁN
LGBF		2				CE7	33	2381	DIMETIL-DISZULFID

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2382	DIMETIL-HIDRAZIN, SZIMMETRIKUS	6.1	TF1	I	6.1 + 3		LQ0	E5	P001		MP8 MP17	T14	TP2
2383	DIPROPIL-AMIN	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP1
2384	DI-n-PROPIL-ÉTER	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2385	ETIL-IZOBUTIRÁT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2386	1-ETIL-PIPERIDIN	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP1
2387	FLUOR-BENZOL	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2388	FLUOR-TOLUOLOK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2389	FURÁN	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T12	TP2
2390	2-JÓD-BUTÁN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2391	JÓD-METIL-PROPÁNOK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2392	JÓD-PROPÁNOK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2393	IZOBUTIL-FORMIÁT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2394	IZOBUTIL-PROPIONÁT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2395	IZOBUTIRIL-KLORID	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP2
2396	METAKRILALDEHID, STABILIZÁLT	3	FT1	II	3 + 6.1		LQ0	E2	P001 IBC02		MP19	T7	TP1
2397	3-METIL-2-BUTANON	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2398	METIL-terc-BUTIL-ÉTER	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T7	TP1
2399	1-METIL-PIPERIDIN	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP1
2400	METIL-IZOVALERÁT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	2382	DIMETIL-HIDRAZIN, SZIMMETRIKUS
L4BH		2				CE7	338	2383	DIPROPIL-AMIN
LGBF		2				CE7	33	2384	DI-n-PROPIL-ÉTER
LGBF		2				CE7	33	2385	ETIL-IZOBUTIRÁT
L4BH		2				CE7	338	2386	1-ETIL-PIPERIDIN
LGBF		2				CE7	33	2387	FLUOR-BENZOL
LGBF		2				CE7	33	2388	FLUOR-TOLUOLOK
L4BN		1					33	2389	FURÁN
LGBF		2				CE7	33	2390	2-JÓD-BUTÁN
LGBF		2				CE7	33	2391	JÓD-METIL-PROPÁNOK
LGBF		3				CE4	30	2392	JÓD-PROPÁNOK
LGBF		2				CE7	33	2393	IZOBUTIL-FORMIÁT
LGBF		3				CE4	30	2394	IZOBUTIL-PROPIONÁT
L4BH		2				CE7	338	2395	IZOBUTIRIL-KLORID
L4BH	TU15	2			CW13 CW28	CE7	336	2396	METAKRILALDEHID, STABILIZÁLT
LGBF		2				CE7	33	2397	3-METIL-2-BUTANON
LGBF		2				CE7	33	2398	METIL-terc-BUTIL-ÉTER
L4BH		2				CE7	338	2399	1-METIL-PIPERIDIN
LGBF		2				CE7	33	2400	METIL-IZOVALERÁT

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2401	PIPERIDIN	8	CF1	I	8 + 3		LQ0	E0	P001		MP8 MP17	T10	TP2
2402	PROPÁN-TIOLOK (propil- merkaptánok)	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2403	IZOPROPENIL-ACETÁT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2404	PROPIONITRIL	3	FT1	II	3 + 6.1		LQ0	E2	P001 IBC02		MP19	T7	TP1
2405	IZOPROPIL-BUTIRÁT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2406	IZOPROPIL-IZOBUTIRÁT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2407	IZOPROPIL-KLÓR-FORMIÁT	6.1	TFC	I	6.1 + 3 + 8		LQ0	E5	P602		MP8 MP17		
2409	IZOPROPIL-PROPIONÁT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2410	1,2,3,6-TETRAHIDRO-PIRIDIN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2411	BUTIRONITRIL	3	FT1	II	3 + 6.1		LQ0	E2	P001 IBC02		MP19	T7	TP1
2412	TETRAHIDRO-TIOFÉN (tetrametilén- szulfid)	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2413	TETRAPROPIL-ORTOTITANÁT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2414	TIOFÉN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2416	TRIMETIL-BORÁT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T7	TP1
2417	KARBONIL-FLUORID	2	2TC		2.3 + 8 (+13)		LQ0	E0	P200		MP9	(M)	
2418	KÉN-TETRAFLUORID	2	2TC		2.3 + 8		LQ0	E0	P200		MP9		
2419	BRÓM-TRIFLUOR-ETILÉN	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	(M)	



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10BH	TU38 TE22	1					883	2401	PIPERIDIN
LGBF		2				CE7	33	2402	PROPÁN-TIOLOK (propilmerkaptánok)
LGBF		2				CE7	33	2403	IZOPROPENIL-ACETÁT
L4BH	TU15	2			CW13 CW28	CE7	336	2404	PROPIONITRIL
LGBF		3				CE4	30	2405	IZOPROPIL-BUTIRÁT
LGBF		2				CE7	33	2406	IZOPROPIL-IZOBUTIRÁT
		1			CW13 CW28 CW31		663	2407	IZOPROPIL-KLÓR-FORMIÁT
LGBF		2				CE7	33	2409	IZOPROPIL-PROPIONÁT
LGBF		2				CE7	33	2410	1,2,3,6-TETRAHIDRO-PIRIDIN
L4BH	TU15	2			CW13 CW28	CE7	336	2411	BUTIRONITRIL
LGBF		2				CE7	33	2412	TETRAHIDRO-TIOFÉN (tetrametilén-szulfid)
LGBF		3				CE4	30	2413	TETRAPROPIL-ORTOTITANÁT
LGBF		2				CE7	33	2414	TIOFÉN
LGBF		2				CE7	33	2416	TRIMETIL-BORÁT
P*BH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		268	2417	KARBONIL-FLUORID
		1			CW9 CW10 CW36		268	2418	KÉN-TETRAFLUORID
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	2419	BRÓM-TRIFLUOR-ETILÉN

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2420	HEXAFLUOR-ACETON	2	2TC		2.3 + 8 (+13)		LQ0	E0	P200		MP9	(M)	
2421	NITROGÉN-TRIOXID	2	2TOC	A fuvarozásból ki van zárva									
2422	OKTAFLUOR-2-BUTÉN (R 1318 HŰTŐGÁZ)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	(M)	
2424	OKTAFLUOR-PROPÁN (R 218 HŰTŐGÁZ)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
2426	FOLYÉKONY AMMÓNIUM-NITRÁT (forró, tömény oldat, 80%-nál nagyobb, de legfeljebb 93% koncentrációval)	5.1	O1		5.1	252 644	LQ0	E0				T7	TP1 TP16 TP17
2427	KÁLIUM-KLORÁT VIZES OLDAT	5.1	O1	II	5.1		LQ10	E2	P504 IBC02		MP2	T4	TP1
2427	KÁLIUM-KLORÁT VIZES OLDAT	5.1	O1	III	5.1		LQ13	E1	P504 IBC02 R001		MP2	T4	TP1
2428	NÁTRIUM-KLORÁT VIZES OLDAT	5.1	O1	II	5.1		LQ10	E2	P504 IBC02		MP2	T4	TP1
2428	NÁTRIUM-KLORÁT VIZES OLDAT	5.1	O1	III	5.1		LQ13	E1	P504 IBC02 R001		MP2	T4	TP1
2429	KALCIUM-KLORÁT VIZES OLDAT	5.1	O1	II	5.1		LQ10	E2	P504 IBC02		MP2	T4	TP1
2429	KALCIUM-KLORÁT VIZES OLDAT	5.1	O1	III	5.1		LQ13	E1	P504 IBC02 R001		MP2	T4	TP1
2430	SZILÁRD ALKIL-FENOLOK, M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve)	8	C4	I	8	274	LQ0	E0	P002 IBC07		MP18	T6	TP33
2430	SZILÁRD ALKIL-FENOLOK, M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve)	8	C4	II	8	274	LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
2430	SZILÁRD ALKIL-FENOLOK, M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve)	8	C4	III	8	274	LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2431	ANIZIDINEK	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2432	N,N-DIETIL-ANILIN	6.1	T1	III	6.1	279	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
P*BH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		268	2420	HEXAFLUOR-ACETON
A fuvarozásból ki van zárva								2421	NITROGÉN-TRIOXID
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	2422	OKTAFLUOR-2-BUTÉN (R 1318 HŰTŐGÁZ)
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	2424	OKTAFLUOR-PROPÁN (R 218 HŰTŐGÁZ)
L4BV(+)	TU3 TU12 TU29 TC3 TE9 TE10 TA1	0					59	2426	FOLYÉKONY AMMÓNIUM-NITRÁT (forró, tömény oldat, 80%-nál nagyobb, de legfeljebb 93% koncentrációval)
L4BN	TU3	2			CW24	CE6	50	2427	KÁLIUM-KLORÁT VIZES OLDAT
LGBV	TU3	3			CW24	CE8	50	2427	KÁLIUM-KLORÁT VIZES OLDAT
L4BN	TU3	2			CW24	CE6	50	2428	NÁTRIUM-KLORÁT VIZES OLDAT
LGBV	TU3	3			CW24	CE8	50	2428	NÁTRIUM-KLORÁT VIZES OLDAT
L4BN	TU3	2			CW24	CE6	50	2429	KALCIUM-KLORÁT VIZES OLDAT
LGBV	TU3	3			CW24	CE8	50	2429	KALCIUM-KLORÁT VIZES OLDAT
L10BH S10AN	TU38 TE22	1	W10 W12				88	2430	SZILÁRD ALKIL-FENOLOK, M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve)
L4BN SGAN		2	W11			CE10	80	2430	SZILÁRD ALKIL-FENOLOK, M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve)
L4BN SGAV		3		VW9		CE11	80	2430	SZILÁRD ALKIL-FENOLOK, M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve)
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2431	ANIZIDINEK
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2432	N,N-DIETIL-ANILIN

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2433	FOLYÉKONY KLÓR-NITRO- TOLUOLOK	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2434	DIBENZIL-DIKLÓR-SZILÁN	8	C3	II	8		LQ22	E2	P010		MP15	T10	TP2 TP7
2435	ETIL-FENIL-DIKLÓR-SZILÁN	8	C3	II	8		LQ22	E2	P010		MP15	T10	TP2 TP7
2436	TIOECETSAV	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2437	METIL-FENIL-DIKLÓR-SZILÁN	8	C3	II	8		LQ22	E2	P010		MP15	T10	TP2 TP7
2438	TRIMETIL-ACETIL-KLORID	6.1	TFC	I	6.1 + 3 + 8		LQ0	E5	P001		MP8 MP17	T14	TP2
2439	NÁTRIUM-HIDROGÉN-DIFLUORID (nátrium-bifluorid)	8	C2	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
2440	ÓN-TETRAKLORID-PENTAHIDRÁT	8	C2	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2441	PIROFOROS TITÁN-TRIKLORID vagy PIROFOROS TITÁN-TRIKLORID KEVERÉK	4.2	SC4	I	4.2 + 8	537	LQ0	E0	P404		MP13		
2442	TRIKLÓR-ACETIL-KLORID	8	C3	II	8		LQ22	E2	P001		MP15	T7	TP2
2443	VANÁDIUM-OXITRIKLORID	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
2444	VANÁDIUM-TETRAKLORID	8	C1	I	8		LQ0	E0	P802		MP8 MP17	T10	TP2
2446	SZILÁRD NITRO-KREZOLOK	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2447	OLVASZTOTT FEHÉR- vagy SÁRGAFOSZFOR	4.2	ST3	I	4.2 + 6.1		LQ0	E0				T21	TP3 TP7 TP26
2448	OLVASZTOTT KÉN	4.1	F3	III	4.1	538	LQ0	E0				T1	TP3
2451	NITROGÉN-TRIFLUORID	2	2O		2.2 + 5.1 (+13)		LQ0	E0	P200		MP9	(M)	
2452	ETIL-ACETILÉN, STABILIZÁLT	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	(M)	

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2433	FOLYÉKONY KLÓR-NITRO-TOLUOLOK
L4BN		2				CE6	X80	2434	DIBENZIL-DIKLÓR-SZILÁN
L4BN		2				CE6	X80	2435	ETIL-FENIL-DIKLÓR-SZILÁN
LGBF		2				CE7	33	2436	TIOECETSAV
L4BN		2				CE6	X80	2437	METIL-FENIL-DIKLÓR-SZILÁN
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	2438	TRIMETIL-ACETIL-KLORID
SGAN		2	W11			CE10	80	2439	NÁTRIUM-HIDROGÉN-DIFLUORID (nátrium-bifluorid)
SGAV		3		VW9		CE11	80	2440	ÓN-TETRAKLORID-PENTAHIDRÁT
		0	W1				48	2441	PIROFOROS TITÁN-TRIKLORID vagy PIROFOROS TITÁN-TRIKLORID KEVERÉK
L4BN		2				CE6	X80	2442	TRIKLÓR-ACETIL-KLORID
L4BN		2				CE6	80	2443	VANÁDIUM-OXITRIKLORID
L10BH	TU38 TE22	1					X88	2444	VANÁDIUM-TETRAKLORID
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2446	SZILÁRD NITRO-KREZOLOK
L10DH(+)	TU14 TU16 TU21 TU38 TE3 TE21 TE22	0					446	2447	OLVASZTOTT FEHÉR- vagy SÁRGAFOSZFOR
LGBV(+)	TU27 TE4 TE6	3					44	2448	OLVASZTOTT KÉN
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	25	2451	NITROGÉN-TRIFLUORID
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	239	2452	ETIL-ACETILÉN, STABILIZÁLT

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2453	ETIL-FLUORID (R 161 HŰTŐGÁZ)	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	(M)	
2454	METIL-FLUORID (R 41 HŰTŐGÁZ)	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	(M)	
2455	METIL-NITRIT	2	2A	A fuvarozásból ki van zárva									
2456	2-KLÓR-PROPÉN	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP2
2457	2,3-DIMETIL-BUTÁN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T7	TP1
2458	HEXADIÉNEK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2459	2-METIL-1-BUTÉN	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP2
2460	2-METIL-2-BUTÉN	3	F1	II	3		LQ4	E2	P001 IBC02	B8	MP19	T7	TP1
2461	METIL-PENTADIÉN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2463	ALUMÍNIUM-HIDRID	4.3	W2	I	4.3		LQ0	E0	P403		MP2		
2464	BERILLIUM-NITRÁT	5.1	OT2	II	5.1 + 6.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33
2465	SZÁRAZ DIKLÓR-IZOCIANURSAV vagy DIKLÓR-IZOCIANURSAV SÓK	5.1	O2	II	5.1	135	LQ11	E2	P002 IBC08	B4	MP10	T3	TP33
2466	KÁLIUM-HIPEOXID	5.1	O2	I	5.1		LQ0	E0	P503 IBC06		MP2		
2468	SZÁRAZ TRIKLÓR-IZOCIANURSAV	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP10	T3	TP33
2469	CINK-BROMÁT	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2470	FOLYÉKONY FENIL-ACETONITRIL	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2471	OZMIUM-TETROXID	6.1	T5	I	6.1		LQ0	E5	P002 IBC07	PP30	MP18	T6	TP33
2473	NÁTRIUM-ARZANILÁT	6.1	T3	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2474	TIOFOSZGÉN	6.1	T1	II	6.1	279	LQ17	E4	P001		MP15	T7	TP2

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	2453	ETIL-FLUORID (R 161 HŰTŐGÁZ)
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	2454	METIL-FLUORID (R 41 HŰTŐGÁZ)
A fuvarozásból ki van zárva								2455	METIL-NITRIT
L4BN		1					33	2456	2-KLÓR-PROPÉN
LGBF		2				CE7	33	2457	2,3-DIMETIL-BUTÁN
LGBF		2				CE7	33	2458	HEXADIÉNEK
L4BN		1					33	2459	2-METIL-1-BUTÉN
L1.5BN		2				CE7	33	2460	2-METIL-2-BUTÉN
LGBF		2				CE7	33	2461	METIL-PENTADIÉN
		1	W1		CW23		X423	2463	ALUMÍNIUM-HIDRID
SGAN	TU3	2	W11		CW24 CW28	CE10	56	2464	BERILLIUM-NITRÁT
SGAN	TU3	2	W11		CW24	CE10	50	2465	SZÁRAZ DIKLÓR-IZOCIANURSAV vagy DIKLÓR-IZOCIANURSAV SÓK
		1	W10 W12		CW24		55	2466	KÁLIUM-HIPEOXID
SGAN	TU3	2	W11		CW24	CE10	50	2468	SZÁRAZ TRIKLÓR-IZOCIANURSAV
SGAV	TU3	3		VW8	CW24	CE11	50	2469	CINK-BROMÁT
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2470	FOLYÉKONY FENIL-ACETONITRIL
S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66	2471	OZMIUM-TETROXID
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2473	NÁTRIUM-ARZANILÁT
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2474	TIOFOSZGÉN

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2475	VANÁDIUM-TRIKLORID	8	C2	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2477	METIL-IZOTIOCIANÁT	6.1	TF1	I	6.1 + 3		LQ0	E5	P001		MP8 MP17	T14	TP2
2478	GYÚLÉKONY, MÉRGEZŐ IZOCIANÁTOK, M.N.N. vagy GYÚLÉKONY, MÉRGEZŐ IZOCIANÁT OLDAT, M.N.N.	3	FT1	II	3 + 6.1	274 539	LQ0	E2	P001 IBC02		MP19	T11	TP2 TP27
2478	GYÚLÉKONY, MÉRGEZŐ IZOCIANÁTOK, M.N.N. vagy GYÚLÉKONY, MÉRGEZŐ IZOCIANÁT OLDAT, M.N.N.	3	FT1	III	3 + 6.1	274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP1 TP28
2480	METIL-IZOCIANÁT	6.1	TF1	I	6.1 + 3		LQ0	E5	P601		MP2	T22	TP2
2481	ETIL-IZOCIANÁT	3	FT1	I	3 + 6.1		LQ0	E0	P601		MP2	T14	TP2
2482	n-PROPIL-IZOCIANÁT	6.1	TF1	I	6.1 + 3		LQ0	E5	P001		MP8 MP17	T14	TP2
2483	IZOPROPIL-IZOCIANÁT	3	FT1	I	3 + 6.1		LQ0	E0	P001		MP7 MP17	T14	TP2
2484	terc-BUTIL-IZOCIANÁT	6.1	TF1	I	6.1 + 3		LQ0	E5	P001		MP8 MP17	T14	TP2
2485	n-BUTIL-IZOCIANÁT	6.1	TF1	I	6.1 + 3		LQ0	E5	P001		MP8 MP17	T14	TP2
2486	IZOBUTIL-IZOCIANÁT	3	FT1	II	3 + 6.1		LQ0	E2	P001		MP19	T8	TP2



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAV		3		VW9		CE11	80	2475	VANÁDIUM-TRIKLORID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	2477	METIL-IZOTIOCIÁNÁT
L4BH	TU15	2			CW13 CW28	CE7	336	2478	GYŰLÉKONY, MÉRGEZŐ IZOCIÁNÁTOK, M.N.N. vagy GYŰLÉKONY, MÉRGEZŐ IZOCIÁNÁT OLDAT, M.N.N.
L4BH	TU15	3			CW13 CW28	CE4	36	2478	GYŰLÉKONY, MÉRGEZŐ IZOCIÁNÁTOK, M.N.N. vagy GYŰLÉKONY, MÉRGEZŐ IZOCIÁNÁT OLDAT, M.N.N.
L15CH	TU14 TU15 TU38 TE21 TE22 TE25	1			CW13 CW28 CW31		663	2480	METIL-IZOCIÁNÁT
L15CH	TU14 TU15 TU38 TE21 TE22 TE25	1			CW13 CW28		336	2481	ETIL-IZOCIÁNÁT
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	2482	n-PROPIL-IZOCIÁNÁT
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	2483	IZOPROPIL-IZOCIÁNÁT
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	2484	terc-BUTIL-IZOCIÁNÁT
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	2485	n-BUTIL-IZOCIÁNÁT
L4BH	TU15	2			CW13 CW28	CE7	336	2486	IZOBUTIL-IZOCIÁNÁT

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2487	FENIL-IZOCIANÁT	6.1	TF1	I	6.1 + 3		LQ0	E5	P001		MP8 MP17	T14	TP2
2488	CIKLOHEXIL-IZOCIANÁT	6.1	TF1	I	6.1 + 3		LQ0	E5	P001		MP8 MP17	T14	TP2
2490	DIKLÓR-IZOPROPIL-ÉTER	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2491	ETANOL-AMIN vagy ETANOL-AMIN OLDAT	8	C7	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2493	HEXAMETILÉN-IMIN	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP1
2495	JÓD-PENTAFLUORID	5.1	OTC	I	5.1 + 6.1 + 8		LQ0	E0	P200		MP2		
2496	PROPIONSAVANHIDRID	8	C3	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2498	1,2,3,6-TETRAHIDRO-BENZALDEHID	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2501	TRISZ-(1-AZIRIDINIL)-FOSZFIN- OXID OLDAT	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2501	TRISZ-(1-AZIRIDINIL)-FOSZFIN- OXID OLDAT	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2502	VALERIL-KLORID	8	CF1	II	8 + 3		LQ22	E2	P001 IBC02		MP15	T7	TP2
2503	CIRKÓNIUM-TETRAKLORID	8	C2	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2504	TETRABRÓM-ETÁN	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2505	AMMÓNIUM-FLUORID	6.1	T5	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2506	AMMÓNIUM-HIDROGÉN-SZULFÁT (ammónium-biszulfát)	8	C2	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	2487	FENIL-IZOCIANÁT
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	2488	CIKLOHEXIL-IZOCIANÁT
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2490	DIKLÓR-IZOPROPIL-ÉTER
L4BN		3				CE8	80	2491	ETANOL-AMIN vagy ETANOL-AMIN OLDAT
L4BH		2				CE7	338	2493	HEXAMETILÉN-IMIN
L10DH	TU3 TU38 TE16 TE22	1			CW24 CW28		568	2495	JÓD-PENTAFLUORID
L4BN		3				CE8	80	2496	PROPIONSAVANHIDRID
LGBF		3				CE4	30	2498	1,2,3,6-TETRAHIDRO-BENZALDEHID
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2501	TRISZ-(1-AZIRIDINIL)-FOSZFIN- OXID OLDAT
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2501	TRISZ-(1-AZIRIDINIL)-FOSZFIN- OXID OLDAT
L4BN		2				CE6	83	2502	VALERIL-KLORID
SGAV		3		VW9		CE11	80	2503	CIRKÓNIUM-TETRAKLORID
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2504	TETRABRÓM-ETÁN
SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2505	AMMÓNIUM-FLUORID
SGAV		2	W11	VW9		CE10	80	2506	AMMÓNIUM-HIDROGÉN-SZULFÁT (ammónium-biszulfát)

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- mago- lási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2507	SZILÁRD HEXAKLÓR-PLATINASAV	8	C2	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2508	MOLIBDÉN-PENTAKLORID	8	C2	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2509	KÁLIUM-HIDROGÉN-SZULFÁT (kálium-biszulfát)	8	C2	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
2511	2-KLÓR-PROPIONSAV	8	C3	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP2
2512	AMINO-FENOLOK (o-, m-, p-)	6.1	T2	III	6.1	279	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2513	BRÓM-ACETIL-BROMID	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T8	TP2
2514	BRÓM-BENZOL	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2515	BROMOFORM	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2516	SZÉN-TETRABROMID	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2517	1-KLÓR-1,1-DIFLUOR-ETÁN (R 142b HŰTŐGÁZ)	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	
2518	1,5,9-CIKLODODEKATRIÉN	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2520	CIKLOOKTADIÉNEK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2521	DIKETÉN, STABILIZÁLT	6.1	TF1	I	6.1 + 3		LQ0	E5	P001		MP8 MP17	T14	TP2
2522	2-DIMETIL-AMINO-ETIL- METAKRILÁT	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2

RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAV		3		VW9		CE11	80	2507	SZILÁRD HEXAKLÓR-PLATINASAV
SGAV		3		VW9		CE11	80	2508	MOLIBDÉN-PENTAKLORID
SGAV		2	W11	VW9		CE10	80	2509	KÁLIUM-HIDROGÉN-SZULFÁT (kálium-biszulfát)
L4BN		3				CE8	80	2511	2-KLÓR-PROPIONSÁV
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2512	AMINO-FENOLOK (o-, m-, p-)
L4BN		2				CE6	X80	2513	BRÓM-ACETIL-BROMID
LGBF		3				CE4	30	2514	BRÓM-BENZOL
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2515	BROMOFORM
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2516	SZÉN-TETRABROMID
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	2517	1-KLÓR-1,1-DIFLUOR-ETÁN (R 142b HŰTŐGÁZ)
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2518	1,5,9-CIKLODODEKATRIÉN
LGBF		3				CE4	30	2520	CIKLOOKTADIÉNEK
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	2521	DIKETÉN, STABILIZÁLT
L4BH	TU15	2			CW13 CW28 CW31	CE5	69	2522	2-DIMETIL-AMINO-ETIL-METAKRILÁT

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2524	ETIL-ORTOFORMIÁT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2525	ETIL-OXALÁT	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2526	FURFURIL-AMIN	3	FC	III	3 + 8		LQ7	E1	P001 IBC03 R001		MP19	T4	TP1
2527	IZOBUTIL-AKRILÁT, STABILIZÁLT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2528	IZOBUTIL-IZOBUTIRÁT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2529	IZOVAJSAV	3	FC	III	3 + 8		LQ7	E1	P001 IBC03 R001		MP19	T4	TP1
2531	METAKRILSAV, STABILIZÁLT	8	C3	II	8		LQ22	E2	P001 IBC02 LP01		MP15	T7 TP18 TP30	TP2
2533	METIL-TRIKLÓR-ACETÁT	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2534	METIL-KLÓR-SZILÁN	2	2TFC		2.3 + 2.1 + 8		LQ0	E0	P200		MP9	(M)	
2535	4-METIL-MORFOLIN (N-METIL- MORFOLIN)	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP1
2536	METIL-TETRAHIDRO-FURÁN	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2538	NITRO-NAFTALIN	4.1	F1	III	4.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2541	TERPINOLÉN	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2542	TRIBUTIL-AMIN	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2545	SZÁRAZ HAFNIUMPOR	4.2	S4	I	4.2	540	LQ0	E0	P404		MP13		
2545	SZÁRAZ HAFNIUMPOR	4.2	S4	II	4.2	540	LQ0	E2	P410 IBC06		MP14	T3	TP33
2545	SZÁRAZ HAFNIUMPOR	4.2	S4	III	4.2	540	LQ0	E1	P002 IBC08 LP02 R001	B3	MP14	T1	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
LGBF		3				CE4	30	2524	ETIL-ORTOFORMIÁT
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2525	ETIL-OXALÁT
L4BN		3				CE4	38	2526	FURFURIL-AMIN
LGBF		3				CE4	39	2527	IZOBUTIL-AKRILÁT, STABILIZÁLT
LGBF		3				CE4	30	2528	IZOBUTIL-IZOBUTIRÁT
L4BN		3				CE4	38	2529	IZOVAJSAV
L4BN		2				CE8	89	2531	METAKRILSAV, STABILIZÁLT
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2533	METIL-TRIKLÓR-ACETÁT
		1			CW9 CW10 CW36		263	2534	METIL-KLÓR-SZILÁN
L4BH		2				CE7	338	2535	4-METIL-MORFOLIN (N-METIL-MORFOLIN)
LGBF		2				CE7	33	2536	METIL-TETRAHIDRO-FURÁN
SGAV		3	W1	VW1		CE11	40	2538	NITRO-NAFTALIN
LGBF		3				CE4	30	2541	TERPINOLÉN
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2542	TRIBUTIL-AMIN
		0	W1				43	2545	SZÁRAZ HAFNIUMPOR
SGAN		2	W1 W12			CE10	40	2545	SZÁRAZ HAFNIUMPOR
SGAN		3	W1	VW4		CE11	40	2545	SZÁRAZ HAFNIUMPOR

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2546	SZÁRAZ TITÁNPOR	4.2	S4	I	4.2	540	LQ0	E0	P404		MP13		
2546	SZÁRAZ TITÁNPOR	4.2	S4	II	4.2	540	LQ0	E2	P410 IBC06		MP14	T3	TP33
2546	SZÁRAZ TITÁNPOR	4.2	S4	III	4.2	540	LQ0	E1	P002 IBC08 LP02 R001	B3	MP14	T1	TP33
2547	NÁTRIUM-HIPEROXID	5.1	O2	I	5.1		LQ0	E0	P503 IBC06		MP2		
2548	KLÓR-PENTAFLUORID	2	2TOC		2.3 + 5.1 + 8		LQ0	E0	P200		MP9		
2552	FOLYÉKONY HEXAFLUOR-ACETON HIDRÁT	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2554	METIL-ALLIL-KLORID	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2555	NITROCELLULÓZ VÍZZEL (legalább 25 tömeg% vízzel)	4.1	D	II	4.1	541	LQ0	E0	P406		MP2		
2556	NITROCELLULÓZ ALKOHOLLAL (legalább 25 tömeg% alkohollal és a szárazanyagra vetítve legfeljebb 12,6% nitrogéntartalommal)	4.1	D	II	4.1	541	LQ0	E0	P406		MP2		
2557	NITROCELLULÓZ KEVERÉK a szárazanyagra vetítve legfeljebb 12,6% nitrogéntartalommal, LÁGYÍTÓVAL vagy LÁGYÍTÓ NÉLKÜL, PIGMENTTEL vagy PIGMENT NÉLKÜL	4.1	D	II	4.1	241 541	LQ0	E0	P406		MP2		
2558	EPIBRÓMHIDRIN	6.1	TF1	I	6.1 + 3		LQ0	E5	P001		MP8 MP17	T14	TP2
2560	2-METIL-2-PENTANOL	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2561	3-METIL-1-BUTÉN	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T11	TP2
2564	TRIKLÓR-ECETSAV OLDAT	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
2564	TRIKLÓR-ECETSAV OLDAT	8	C3	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2565	DICIKLOHEXIL-AMIN	8	C7	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2567	NÁTRIUM-PENTAKLÓR-FENOLÁT	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		0	W1				43	2546	SZÁRAZ TITÁNPOR
SGAN		2	W1 W12			CE10	40	2546	SZÁRAZ TITÁNPOR
SGAN		3	W1	VW4		CE11	40	2546	SZÁRAZ TITÁNPOR
		1	W10 W12		CW24		55	2547	NÁTRIUM-HIPEROXID
		1			CW9 CW10 CW36		265	2548	KLÓR-PENTAFLUORID
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2552	FOLYÉKONY HEXAFLUOR-ACETON HIDRÁT
LGBF		2				CE7	33	2554	METIL-ALLIL-KLORID
		2	W1			CE10	40	2555	NITROCELLULÓZ VÍZZEL (legalább 25 tömeg% vízzel)
		2	W1			CE10	40	2556	NITROCELLULÓZ ALKOHOLLAL (legalább 25 tömeg% alkohollal és a szárazanyagra vetítve legfeljebb 12,6% nitrogéntartalommal)
		2	W1			CE10	40	2557	NITROCELLULÓZ KEVERÉK a szárazanyagra vetítve legfeljebb 12,6% nitrogéntartalommal, LÁGYÍTÓVAL vagy LÁGYÍTÓ NÉLKÜL, PIGMENTTEL vagy PIGMENT NÉLKÜL
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	2558	EPIBROMHIDRIN
LGBF		3				CE4	30	2560	2-METIL-2-PENTANOL
L4BN		1					33	2561	3-METIL-1-BUTÉN
L4BN		2				CE6	80	2564	TRIKLÓR-ECETSAV OLDAT
L4BN		3				CE8	80	2564	TRIKLÓR-ECETSAV OLDAT
L4BN		3				CE8	80	2565	DICIKLOHEXIL-AMIN
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	2567	NÁTRIUM-PENTAKLÓR-FENOLÁT

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2570	KADMIUMVEGYÜLET	6.1	T5	I	6.1	274 596	LQ0	E5	P002 IBC07		MP18	T6	TP33
2570	KADMIUMVEGYÜLET	6.1	T5	II	6.1	274 596	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2570	KADMIUMVEGYÜLET	6.1	T5	III	6.1	274 596	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2571	ALKIL-KÉNSAVAK	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T8	TP2 TP28
2572	FENIL-HIDRAZIN	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2573	TALLIUM-KLORÁT	5.1	OT2	II	5.1 + 6.1		LQ11	E2	P002 IBC06		MP2	T3	TP33
2574	TRIKREZIL-FOSZFÁT 3%-nál több ortoizomer-tartalommal	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2576	OLVASZTOTT FOSZFOR- OXIBROMID	8	C1	II	8		LQ0	E0				T7	TP3
2577	FENIL-ACETIL-KLORID	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
2578	FOSZFOR-TRIOXID	8	C2	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2579	PIPERAZIN	8	C8	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2580	ALUMÍNIUM-BROMID OLDAT	8	C1	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2581	ALUMÍNIUM-KLORID OLDAT	8	C1	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2582	VAS(III)-KLORID OLDAT	8	C1	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2583	SZILÁRD ALKIL-SZULFONSAVAK vagy SZILÁRD ARIL- SZULFONSAVAK 5%-nál több szabad kénsav-tartalommal	8	C2	II	8	274	LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
2584	FOLYÉKONY ALKIL- SZULFONSAVAK vagy FOLYÉKONY ARIL-SZULFONSAVAK 5%-nál több szabad kénsav-tartalommal	8	C1	II	8	274	LQ22	E2	P001 IBC02		MP15	T8	TP2

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66	2570	KADMIUMVEGYÜLET
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	2570	KADMIUMVEGYÜLET
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2570	KADMIUMVEGYÜLET
L4BN		2				CE6	80	2571	ALKIL-KÉNSAVAK
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2572	FENIL-HIDRAZIN
SGAN	TU3	2	W11 W12		CW24 CW28	CE10	56	2573	TALLIUM-KLORÁT
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2574	TRIKREZIL-FOSZFÁT 3%-nál több ortoizomer-tartalommal
L4BN		2					80	2576	OLVASZTOTT FOSZFOR- OXIBROMID
L4BN		2				CE6	80	2577	FENIL-ACETIL-KLORID
SGAV		3		VW9		CE11	80	2578	FOSZFOR-TRIOXID
L4BN SGAV		3		VW9		CE11	80	2579	PIPERAZIN
L4BN		3				CE8	80	2580	ALUMÍNIUM-BROMID OLDAT
L4BN		3				CE8	80	2581	ALUMÍNIUM-KLORID OLDAT
L4BN		3				CE8	80	2582	VAS(III)-KLORID OLDAT
L4BN SGAN		2	W11			CE10	80	2583	SZILÁRD ALKIL-SZULFONSAVAK vagy SZILÁRD ARIL- SZULFONSAVAK 5%-nál több szabad kénsav-tartalommal
L4BN		2				CE6	80	2584	FOLYÉKONY ALKIL- SZULFONSAVAK vagy FOLYÉKONY ARIL-SZULFONSAVAK 5%-nál több szabad kénsav-tartalommal

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2585	SZILÁRD ALKIL-SZULFONSAVAK vagy SZILÁRD ARIL- SZULFONSAVAK legfeljebb 5% szabad kénsav-tartalommal	8	C4	III	8	274	LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2586	FOLYÉKONY ALKIL- SZULFONSAVAK vagy FOLYÉKONY ARIL-SZULFONSAVAK legfeljebb 5% szabad kénsav-tartalommal	8	C3	III	8	274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2587	BENZOKINON	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2588	SZILÁRD, MÉRGEZŐ PESZTICID, M.N.N.	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC02		MP18	T6	TP33
2588	SZILÁRD, MÉRGEZŐ PESZTICID, M.N.N.	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2588	SZILÁRD, MÉRGEZŐ PESZTICID, M.N.N.	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2589	VINIL-KLÓR-ACETÁT	6.1	TF1	II	6.1 + 3		LQ17	E4	P001 IBC02		MP15	T7	TP2
2590	FEHÉR AZBESZT (krizotil, aktinolit, antofillit, tremolit)	9	M1	III	9	168 542	LQ27	E1	P002 IBC08 R001	PP37 B4	MP10	T1	TP33
2591	XENON, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT	2	3A		2.2 (+13)	593	LQ1	E1	P203		MP9	T75	TP5
2599	KLÓR-TRIFLUOR-METÁN ÉS TRIFLUOR-METÁN AZEOTRÓP KEVERÉK kb. 60% klór-trifluor-metán tartalommal (R 503 HŰTŐGÁZ)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	(M)	
2601	CIKLOBUTÁN	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	(M)	
2602	DIKLÓR-DIFLUOR-METÁN ÉS 1,1- DIFLUOR-ETÁN AZEOTRÓP KEVERÉK kb. 74% diklór-difluor- metán tartalommal (R 500 HŰTŐGÁZ)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
2603	CIKLOHEPTATRIÉN	3	FT1	II	3 + 6.1		LQ0	E2	P001 IBC02		MP19	T7	TP1
2604	BÓR-TRIFLUORID-DIETIL-ÉTERÁT	8	CF1	I	8 + 3		LQ0	E0	P001		MP8 MP17	T10	TP2

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAV		3		VW9		CE11	80	2585	SZILÁRD ALKIL-SZULFONSAVAK vagy SZILÁRD ARIL-SZULFONSAVAK legfeljebb 5% szabad kénsav-tartalommal
L4BN		3				CE8	80	2586	FOLYÉKONY ALKIL-SZULFONSAVAK vagy FOLYÉKONY ARIL-SZULFONSAVAK legfeljebb 5% szabad kénsav-tartalommal
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	2587	BENZOKINON
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66	2588	SZILÁRD, MÉRGEZŐ PESZTICID, M.N.N.
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60	2588	SZILÁRD, MÉRGEZŐ PESZTICID, M.N.N.
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60	2588	SZILÁRD, MÉRGEZŐ PESZTICID, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	63	2589	VINIL-KLÓR-ACETÁT
SGAH	TU15	3	W11		CW13 CW28 CW31	CE11	90	2590	FEHÉR AZBESZT (krizotil, aktinolit, antofillit, tremolit)
R*BN	TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	22	2591	XENON, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	2599	KLÓR-TRIFLUOR-METÁN ÉS TRIFLUOR-METÁN AZEOTRÓP KEVERÉK kb. 60% klór-trifluor-metán tartalommal (R 503 HŰTŐGÁZ)
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	2601	CIKLOBUTÁN
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	2602	DIKLÓR-DIFLUOR-METÁN ÉS 1,1-DIFLUOR-ETÁN AZEOTRÓP KEVERÉK kb. 74% diklór-difluor-metán tartalommal (R 500 HŰTŐGÁZ)
L4BH	TU15	2			CW13 CW28	CE7	336	2603	CIKLOHEPTATRIÉN
L10BH	TU38 TE22	1					883	2604	BÓR-TRIFLUORID-DIETIL-ÉTERÁT

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2605	METOXI-METIL-IZOCIANÁT	3	FT1	I	3 + 6.1		LQ0	E0	P001		MP7 MP17	T14	TP2
2606	METIL-ORTOSZILIKÁT	6.1	TF1	I	6.1 + 3		LQ0	E5	P001		MP8 MP17	T14	TP2
2607	AKROLEIN DIMER, STABILIZÁLT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2608	NITRO-PROPÁNOK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2609	TRIALLIL-BORÁT	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19		
2610	TRIALLIL-AMIN	3	FC	III	3 + 8		LQ7	E1	P001 IBC03 R001		MP19	T4	TP1
2611	PROPILÉN-KLÓRHIDRIN	6.1	TF1	II	6.1 + 3		LQ17	E4	P001 IBC02		MP15	T7	TP2
2612	METIL-PROPIL-ÉTER	3	F1	II	3		LQ4	E2	P001 IBC02	B8	MP19	T7	TP2
2614	METIL-ALLIL-ALKOHOL	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2615	ETIL-PROPIL-ÉTER	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2616	TRIIZOPROPIL-BORÁT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2616	TRIIZOPROPIL-BORÁT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2617	METIL-CIKLOHEXANOLOK, gyúlékony	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2618	VINIL-TOLUOLOK, STABILIZÁLT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2619	BENZIL-DIMETIL-AMIN	8	CF1	II	8 + 3		LQ22	E2	P001 IBC02		MP15	T7	TP2

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	2605	METOXI-METIL-IZOCIANÁT
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	2606	METIL-ORTOSZILIKÁT
LGBF		3				CE4	39	2607	AKROLEIN DIMER, STABILIZÁLT
LGBF		3				CE4	30	2608	NITRO-PROPÁNOK
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2609	TRIALLIL-BORÁT
L4BN		3				CE4	38	2610	TRIALLIL-AMIN
L4BH	TU15	2			CW13 CW28 CW31	CE5	63	2611	PROPILÉN-KLÓRHIDRIN
L1.5BN		2				CE7	33	2612	METIL-PROPIL-ÉTER
LGBF		3				CE4	30	2614	METIL-ALLIL-ALKOHOL
LGBF		2				CE7	33	2615	ETIL-PROPIL-ÉTER
LGBF		2				CE7	33	2616	TRIIZOPROPIL-BORÁT
LGBF		3				CE4	30	2616	TRIIZOPROPIL-BORÁT
LGBF		3				CE4	30	2617	METIL-CIKLOHEXANOLOK, gyúlékony
LGBF		3				CE4	39	2618	VINIL-TOLUOLOK, STABILIZÁLT
L4BN		2				CE6	83	2619	BENZIL-DIMETIL-AMIN

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- mago- lási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2620	AMIL-BUTIRÁTOK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2621	ACETIL-METIL-KARBINOL	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2622	GLICIDALDEHID	3	FT1	II	3 + 6.1		LQ0	E2	P001 IBC02	B8	MP19	T7	TP1
2623	SZILÁRD ALÁGYÚJTÓS gyúlékony folyadékkal impregnálva	4.1	F1	III	4.1		LQ9	E1	P002 LP02 R001	PP15	MP11		
2624	MAGNÉZIUM-SZILICID	4.3	W2	II	4.3		LQ11	E2	P410 IBC07		MP14	T3	TP33
2626	KLÓRSAV VIZES OLDAT legfeljebb 10% klórsav-tartalommal	5.1	O1	II	5.1	613	LQ10	E2	P504 IBC02		MP2	T4	TP1
2627	SZERVETLEN NITRITEK, M.N.N.	5.1	O2	II	5.1	103 274	LQ11	E2	P002 IBC08	B4	MP10	T3	TP33
2628	KÁLIUM-FLUOR-ACETÁT	6.1	T2	I	6.1		LQ0	E5	P002 IBC07		MP18	T6	TP33
2629	NÁTRIUM-FLUOR-ACETÁT	6.1	T2	I	6.1		LQ0	E5	P002 IBC07		MP18	T6	TP33
2630	SZELENÁTOK vagy SZELENITEK	6.1	T5	I	6.1	274	LQ0	E5	P002 IBC07		MP18	T6	TP33
2642	FLUOR-ECETSAV	6.1	T2	I	6.1		LQ0	E5	P002 IBC07		MP18	T6	TP33
2643	METIL-BRÓM-ACETÁT	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2644	METIL-JODID	6.1	T1	I	6.1		LQ0	E5	P001		MP8 MP17	T14	TP2
2645	FENACIL-BROMID	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2646	HEXAKLÓR-CIKLOPENTADIÉN	6.1	T1	I	6.1		LQ0	E5	P001		MP8 MP17	T20	TP2 TP35
2647	MALONITRIL	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
LGBF		3				CE4	30	2620	AMIL-BUTIRÁTOK
LGBF		3				CE4	30	2621	ACETIL-METIL-KARBINOL
L4BH	TU15	2			CW13 CW28	CE7	336	2622	GLICIDALDEHID
		4	W1			CE11	40	2623	SZILÁRD ALÁGYÚJTÓS gyűlékony folyadékkal impregnálva
SGAN		2	W1 W12		CW23	CE10	423	2624	MAGNÉZIUM-SZILICID
L4BN	TU3	2			CW24	CE6	50	2626	KLÓRSAV VIZES OLDAT legfeljebb 10% klórsav-tartalommal
SGAN	TU3	2	W11		CW24	CE10	50	2627	SZERVETLEN NITRITEK, M.N.N.
S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66	2628	KÁLIUM-FLUOR-ACETÁT
S10AH	TU15	1	W10 W12		CW13 CW28 CW31		66	2629	NÁTRIUM-FLUOR-ACETÁT
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66	2630	SZELENÁTOK vagy SZELENITEK
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66	2642	FLUOR-ECETSAV
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2643	METIL-BRÓM-ACETÁT
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	2644	METIL-JODID
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	2645	FENACIL-BROMID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	2646	HEXAKLÓR-CIKLOPENTADIÉN
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	2647	MALONITRIL

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2648	1,2-DIBRÓM-3-BUTANON	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15		
2649	1,3-DIKLÓR-ACETON	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2650	1,1-DIKLÓR-1-NITRO-ETÁN	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2651	4,4'-DIAMINO-DIFENIL-METÁN	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2653	BENZIL-JODID	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2655	KÁLIUM-FLUORO-SZILIKÁT	6.1	T5	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2656	KINOLIN	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2657	SZELÉN-DISZULFID	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2659	NÁTRIUM-KLÓR-ACETÁT	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2660	NITRO-TOLUIDINEK (MONO)	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2661	HEXAKLÓR-ACETON	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2664	DIBRÓM-METÁN	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2667	BUTIL-TOLUOLOK	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2668	KLÓR-ACETONITRIL	6.1	TF1	II	6.1 + 3		LQ17	E4	P001 IBC02		MP15	T7	TP2
2669	KLÓR-KREZOL OLDATOK	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldeménydarabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2648	1,2-DIBRÓM-3-BUTANON
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	2649	1,3-DIKLÓR-ACETON
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2650	1,1-DIKLÓR-1-NITRO-ETÁN
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2651	4,4'-DIAMINO-DIFENIL-METÁN
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2653	BENZIL-JODID
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2655	KÁLIUM-FLUORO-SZILIKÁT
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2656	KINOLIN
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	2657	SZELÉN-DISZULFID
SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2659	NÁTRIUM-KLÓR-ACETÁT
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2660	NITRO-TOLUIDINEK (MONO)
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2661	HEXAKLÓR-ACETON
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2664	DIBRÓM-METÁN
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2667	BUTIL-TOLUOLOK
L4BH	TU15	2			CW13 CW28 CW31	CE5	63	2668	KLÓR-ACETONITRIL
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2669	KLÓR-KREZOL OLDATOK

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2669	KLÓR-KREZOL OLDATOK	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2
2670	CIANUR-KLORID	8	C4	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
2671	AMINO-PIRIDINEK (o-, m-, p-)	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2672	AMMÓNIA OLDAT, vizes, relatív sűrűség 15 °C-on 0,880 és 0,957 között, 10%-nál több, de legfeljebb 35% ammónia tartalommal	8	C5	III	8	543	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1
2673	2-AMINO-4-KLÓR-FENOL	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2674	NÁTRIUM-FLUORO-SZILIKÁT	6.1	T5	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2676	SZTIBIN	2	2TF		2.3 + 2.1		LQ0	E0	P200		MP9		
2677	RUBÍDIUM-HIDROXID OLDAT	8	C5	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
2677	RUBÍDIUM-HIDROXID OLDAT	8	C5	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2678	RUBÍDIUM-HIDROXID	8	C6	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
2679	LÍTIUM-HIDROXID OLDAT	8	C5	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
2679	LÍTIUM-HIDROXID OLDAT	8	C5	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP2
2680	LÍTIUM-HIDROXID	8	C6	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
2681	CÉZIUM-HIDROXID OLDAT	8	C5	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
2681	CÉZIUM-HIDROXID OLDAT	8	C5	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2682	CÉZIUM-HIDROXID	8	C6	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
2683	AMMÓNÍUM-SZULFID OLDAT	8	CFT	II	8 + 3 + 6.1		LQ22	E2	P001 IBC01		MP15	T7	TP2
2684	3-DIETIL-AMINO-PROPIL-AMIN	3	FC	III	3 + 8		LQ7	E1	P001 IBC03 R001		MP19	T4	TP1
2685	N,N-DIETIL-ETILÉN-DIAMIN	8	CF1	II	8 + 3		LQ22	E2	P001 IBC02		MP15	T7	TP2

RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2669	KLÓR-KREZOL OLDATOK
L4BN SGAN		2	W11			CE10	80	2670	CIANUR-KLORID
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	2671	AMINO-PIRIDINEK (o-, m-, p-)
L4BN		3				CE8	80	2672	AMMÓNIA OLDAT, vizes, relatív sűrűség 15 °C-on 0,880 és 0,957 között, 10%-nál több, de legfeljebb 35% ammónia tartalommal
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	2673	2-AMINO-4-KLÓR-FENOL
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2674	NÁTRIUM-FLUORO-SZILIKÁT
		1			CW9 CW10 CW36		263	2676	SZTIBIN
L4BN		2				CE6	80	2677	RUBÍDIUM-HIDROXID OLDAT
L4BN		3				CE8	80	2677	RUBÍDIUM-HIDROXID OLDAT
SGAN		2	W11			CE10	80	2678	RUBÍDIUM-HIDROXID
L4BN		2				CE6	80	2679	LÍTIUM-HIDROXID OLDAT
L4BN		3				CE8	80	2679	LÍTIUM-HIDROXID OLDAT
SGAN		2	W11			CE10	80	2680	LÍTIUM-HIDROXID
L4BN		2				CE6	80	2681	CÉZIUM-HIDROXID OLDAT
L4BN		3				CE8	80	2681	CÉZIUM-HIDROXID OLDAT
SGAN		2	W11			CE10	80	2682	CÉZIUM-HIDROXID
L4BN		2			CW13 CW28	CE6	86	2683	AMMÓNIUM-SZULFID OLDAT
L4BN		3				CE4	38	2684	3-DIETIL-AMINO-PROPIL-AMIN
L4BN		2				CE6	83	2685	N,N-DIETIL-ETILÉN-DIAMIN

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- mago- lási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2686	2-DIETIL-AMINO-ETANOL	8	CF1	II	8 + 3		LQ22	E2	P001 IBC02		MP15	T7	TP2
2687	DICIKLOHEXIL-AMMÓNIUM-NITRIT	4.1	F3	III	4.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP11	T1	TP33
2688	1-BRÓM-3-KLÓR-PROPÁN	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2689	GLICERIN-alfa-MONOKLÓRHIDRIN	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2690	N,n-BUTIL-IMIDAZOL	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2691	FOSZFOR-PENTABROMID	8	C2	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
2692	BÓR-TRIBROMID	8	C1	I	8		LQ0	E0	P602		MP8 MP17	T20	TP2
2693	BISZULFITOK, VIZES OLDAT, M.N.N.	8	C1	III	8	274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28
2698	TETRAHIDRO- FTÁLSAVANHIDRIDEK 0,05%-nál több maleinsavanhidriddel	8	C4	III	8	169	LQ24	E1	P002 IBC08 LP02 R001	PP14 B3	MP10	T1	TP33
2699	TRIFLUOR-ECETSAV	8	C3	I	8		LQ0	E0	P001		MP8 MP17	T10	TP2
2705	1-PENTOL	8	C9	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
2707	DIMETIL-DIOXÁNOK	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2707	DIMETIL-DIOXÁNOK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2709	BUTIL-BENZOLOK	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2710	DIPROPIL-KETON	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2713	AKRIDIN	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2714	CINK-REZINÁT	4.1	F3	III	4.1		LQ9	E1	P002 IBC06 R001		MP11	T1	TP33

RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BN		2				CE6	83	2686	2-DIETIL-AMINO-ETANOL
SGAV		3	W1	VW1		CE11	40	2687	DICIKLOHEXIL-AMMÓNIUM-NITRIT
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2688	1-BRÓM-3-KLÓR-PROPÁN
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2689	GLICERIN-alfa-MONOKLÓRHIDRIN
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2690	N,n-BUTIL-IMIDAZOL
SGAN		2	W11			CE10	80	2691	FOSZFOR-PENTABROMID
L10BH	TU38 TE22	1					X88	2692	BÓR-TRIBROMID
L4BN		3				CE8	80	2693	BISZULFITOK, VIZES OLDAT, M.N.N.
L4BN SGAV		3		VW9		CE11	80	2698	TETRAHIDRO-FTÁLSAVANHIDRIDEK 0,05%-nál több maleinsavanhidriddel
L10BH	TU38 TE22	1					88	2699	TRIFLUOR-ECETSAV
L4BN		2				CE6	80	2705	1-PENTOL
LGBF		2				CE7	33	2707	DIMETIL-DIOXÁNOK
LGBF		3				CE4	30	2707	DIMETIL-DIOXÁNOK
LGBF		3				CE4	30	2709	BUTIL-BENZOLOK
LGBF		3				CE4	30	2710	DIPROPIL-KETON
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2713	AKRIDIN
SGAV		3	W1 W12	VW1		CE11	40	2714	CINK-REZINÁT

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- mago- lási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2715	ALUMÍNIUM-REZINÁT	4.1	F3	III	4.1		LQ9	E1	P002 IBC06 R001		MP11	T1	TP33
2716	BUTIN-1,4-DIOL	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2717	KÁMPFOR, szintetikus	4.1	F1	III	4.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2719	BÁRIUM-BROMÁT	5.1	OT2	II	5.1 + 6.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33
2720	KRÓM-NITRÁT	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2721	RÉZ-KLORÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33
2722	LÍTIUM-NITRÁT	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2723	MAGNÉZIUM-KLORÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33
2724	MANGÁN-NITRÁT	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2725	NIKKEL-NITRÁT	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2726	NIKKEL-NITRIT	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2727	TALLIUM-NITRÁT	6.1	TO2	II	6.1 + 5.1		LQ18	E4	P002 IBC06		MP10	T3	TP33
2728	CIRKÓNIUM-NITRÁT	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2729	HEXAKLÓR-BENZOL	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2730	FOLYÉKONY NITRO-ANIZOLOK	6.1	T1	III	6.1	279	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1



RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAV		3	W1 W12	VW1		CE11	40	2715	ALUMÍNIUM-REZINÁT
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2716	BUTIN-1,4-DIOL
SGAV		3	W1	VW1		CE11	40	2717	KÁMFOR, szintetikus
SGAN	TU3	2	W11		CW24 CW28	CE10	56	2719	BÁRIUM-BROMÁT
SGAV	TU3	3		VW8	CW24	CE11	50	2720	KRÓM-NITRÁT
SGAV	TU3	2	W11	VW8	CW24	CE10	50	2721	RÉZ-KLORÁT
SGAV	TU3	3		VW8	CW24	CE11	50	2722	LÍTIUM-NITRÁT
SGAV	TU3	2	W11	VW8	CW24	CE10	50	2723	MAGNÉZIUM-KLORÁT
SGAV	TU3	3		VW8	CW24	CE11	50	2724	MANGÁN-NITRÁT
SGAV	TU3	3		VW8	CW24	CE11	50	2725	NIKKEL-NITRÁT
SGAV	TU3	3		VW8	CW24	CE11	50	2726	NIKKEL-NITRIT
SGAH	TU15	2	W11 W12		CW13 CW28 CW31	CE9	65	2727	TALLIUM-NITRÁT
SGAV	TU3	3		VW8	CW24	CE11	50	2728	CIRKÓNIUM-NITRÁT
SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2729	HEXAKLÓR-BENZOL
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2730	FOLYÉKONY NITRO-ANIZOLOK

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2732	FOLYÉKONY NITRO-BRÓM- BENZOLOK	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2733	GYÚLÉKONY, MARÓ AMINOK, M.N.N. vagy GYÚLÉKONY, MARÓ POLIAMINOK, M.N.N.	3	FC	I	3 + 8	274 544	LQ3	E0	P001		MP7 MP17	T14	TP1 TP27
2733	GYÚLÉKONY, MARÓ AMINOK, M.N.N. vagy GYÚLÉKONY, MARÓ POLIAMINOK, M.N.N.	3	FC	II	3 + 8	274 544	LQ4	E2	P001 IBC02		MP19	T11	TP1 TP27
2733	GYÚLÉKONY, MARÓ AMINOK, M.N.N. vagy GYÚLÉKONY, MARÓ POLIAMINOK, M.N.N.	3	FC	III	3 + 8	274 544	LQ7	E1	P001 IBC03 R001		MP19	T7	TP1 TP28
2734	FOLYÉKONY, MARÓ, GYÚLÉKONY AMINOK, M.N.N. vagy FOLYÉKONY, MARÓ, GYÚLÉKONY POLIAMINOK, M.N.N.	8	CF1	I	8 + 3	274	LQ0	E0	P001		MP8 MP17	T14	TP2 TP27
2734	FOLYÉKONY, MARÓ, GYÚLÉKONY AMINOK, M.N.N. vagy FOLYÉKONY, MARÓ, GYÚLÉKONY POLIAMINOK, M.N.N.	8	CF1	II	8 + 3	274	LQ22	E2	P001 IBC02		MP15	T11	TP2 TP27
2735	FOLYÉKONY, MARÓ AMINOK, M.N.N. vagy FOLYÉKONY, MARÓ POLIAMINOK, M.N.N.	8	C7	I	8	274	LQ0	E0	P001		MP8 MP17	T14	TP2 TP27
2735	FOLYÉKONY, MARÓ AMINOK, M.N.N. vagy FOLYÉKONY, MARÓ POLIAMINOK, M.N.N.	8	C7	II	8	274	LQ22	E2	P001 IBC02		MP15	T11	TP1 TP27
2735	FOLYÉKONY, MARÓ AMINOK, M.N.N. vagy FOLYÉKONY, MARÓ POLIAMINOK, M.N.N.	8	C7	III	8	274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28
2738	N-BUTIL-ANILIN	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2739	VAJSAVANHIDRID	8	C3	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2740	n-PROPIL-KLÓR-FORMIÁT	6.1	TFC	I	6.1 + 3 + 8		LQ0	E5	P602		MP8 MP17	T20	TP2
2741	BÁRIUM-HIPOKLORIT 22%-nál több szabad klórtartalommal	5.1	OT2	II	5.1 + 6.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33
2742	MÉRGEZŐ, MARÓ, GYÚLÉKONY KLÓR-FORMIÁTOK, M.N.N.	6.1	TFC	II	6.1 + 3 + 8	274 561	LQ17	E4	P001 IBC01		MP15		
2743	n-BUTIL-KLÓR-FORMIÁT	6.1	TFC	II	6.1 + 3 + 8		LQ17	E4	P001		MP15	T20	TP2

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2732	FOLYÉKONY NITRO-BRÓM-BENZOLOK
L10CH	TU14 TU38 TE21 TE22	1					338	2733	GYÚLÉKONY, MARÓ AMINOK, M.N.N. vagy GYÚLÉKONY, MARÓ POLIAMINOK, M.N.N.
L4BH		2				CE7	338	2733	GYÚLÉKONY, MARÓ AMINOK, M.N.N. vagy GYÚLÉKONY, MARÓ POLIAMINOK, M.N.N.
L4BN		3				CE4	38	2733	GYÚLÉKONY, MARÓ AMINOK, M.N.N. vagy GYÚLÉKONY, MARÓ POLIAMINOK, M.N.N.
L10BH	TU38 TE22	1					883	2734	FOLYÉKONY, MARÓ, GYÚLÉKONY AMINOK, M.N.N. vagy FOLYÉKONY, MARÓ, GYÚLÉKONY POLIAMINOK, M.N.N.
L4BN		2				CE6	83	2734	FOLYÉKONY, MARÓ, GYÚLÉKONY AMINOK, M.N.N. vagy FOLYÉKONY, MARÓ, GYÚLÉKONY POLIAMINOK, M.N.N.
L10BH	TU38 TE22	1					88	2735	FOLYÉKONY, MARÓ AMINOK, M.N.N. vagy FOLYÉKONY, MARÓ POLIAMINOK, M.N.N.
L4BN		2				CE6	80	2735	FOLYÉKONY, MARÓ AMINOK, M.N.N. vagy FOLYÉKONY, MARÓ POLIAMINOK, M.N.N.
L4BN		3				CE8	80	2735	FOLYÉKONY, MARÓ AMINOK, M.N.N. vagy FOLYÉKONY, MARÓ POLIAMINOK, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2738	N-BUTIL-ANILIN
L4BN		3				CE8	80	2739	VAJSAVANHIDRID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		668	2740	n-PROPIL-KLÓR-FORMIÁT
SGAN	TU3	2	W11		CW24 CW28	CE10	56	2741	BÁRIUM-HIPOKLORIT 22%-nál több szabad klórtartalommal
L4BH	TU15	2			CW13 CW28 CW31	CE5	638	2742	MÉRGEZŐ, MARÓ, GYÚLÉKONY KLÓR-FORMIÁTOK, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	638	2743	n-BUTIL-KLÓR-FORMIÁT

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- mago- lási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2744	CIKLOBUTIL-KLÓR-FORMIÁT	6.1	TFC	II	6.1 + 3 + 8		LQ17	E4	P001 IBC01		MP15	T7	TP2
2745	KLÓR-METIL-KLÓR-FORMIÁT	6.1	TC1	II	6.1 + 8		LQ17	E4	P001 IBC02		MP15	T7	TP2
2746	FENIL-KLÓR-FORMIÁT	6.1	TC1	II	6.1 + 8		LQ17	E4	P001 IBC02		MP15	T7	TP2
2747	terc-BUTIL-CIKLOHEXIL-KLÓR- FORMIÁT	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2748	2-ETIL-HEXIL-KLÓR-FORMIÁT	6.1	TC1	II	6.1 + 8		LQ17	E4	P001 IBC02		MP15	T7	TP2
2749	TETRAMETIL-SZILÁN	3	F1	I	3		LQ3	E3	P001		MP7 MP17	T14	TP2
2750	1,3-DIKLÓR-2-PROPANOL	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2751	DIETIL-TIOFOSZFORIL-KLORID	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
2752	1,2-EPOXI-3-ETOXI-PROPÁN	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2753	FOLYÉKONY N-ETIL-BENZIL- TOLUIDINEK	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1
2754	N-ETIL-TOLUIDINEK	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2757	SZILÁRD, MÉRGEZŐ KARBAMÁT PESZTICID	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33
2757	SZILÁRD, MÉRGEZŐ KARBAMÁT PESZTICID	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2757	SZILÁRD, MÉRGEZŐ KARBAMÁT PESZTICID	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2758	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ KARBAMÁT PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	I	3 + 6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27
2758	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ KARBAMÁT PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	II	3 + 6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28 CW31	CE5	638	2744	CIKLOBUTIL-KLÓR-FORMIÁT
L4BH	TU15	2			CW13 CW28 CW31	CE5	68	2745	KLÓR-METIL-KLÓR-FORMIÁT
L4BH	TU15	2			CW13 CW28 CW31	CE5	68	2746	FENIL-KLÓR-FORMIÁT
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2747	terc-BUTIL-CIKLOHEXIL-KLÓR-FORMIÁT
L4BH	TU15	2			CW13 CW28 CW31	CE5	68	2748	2-ETIL-HEXIL-KLÓR-FORMIÁT
L4BN		1					33	2749	TETRAMETIL-SZILÁN
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2750	1,3-DIKLÓR-2-PROPANOL
L4BN		2				CE6	80	2751	DIETIL-TIOFOSZFORIL-KLORID
LGBF		3				CE4	30	2752	1,2-EPOXI-3-ETOXI-PROPÁN
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2753	FOLYÉKONY N-ETIL-BENZIL-TOLUIDINEK
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2754	N-ETIL-TOLUIDINEK
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66	2757	SZILÁRD, MÉRGEZŐ KARBAMÁT PESZTICID
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60	2757	SZILÁRD, MÉRGEZŐ KARBAMÁT PESZTICID
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60	2757	SZILÁRD, MÉRGEZŐ KARBAMÁT PESZTICID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	2758	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ KARBAMÁT PESZTICID (lobbanáspont 23 °C alatt)
L4BH	TU15	2			CW13 CW28	CE7	336	2758	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ KARBAMÁT PESZTICID (lobbanáspont 23 °C alatt)

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2759	SZILÁRD, MÉRGEZŐ ARZÉN PESZTICID	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33
2759	SZILÁRD, MÉRGEZŐ ARZÉN PESZTICID	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2759	SZILÁRD, MÉRGEZŐ ARZÉN PESZTICID	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2760	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ ARZÉN PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	I	3 + 6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27
2760	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ ARZÉN PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	II	3 + 6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27
2761	SZILÁRD, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33
2761	SZILÁRD, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2761	SZILÁRD, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2762	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	I	3 + 6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27
2762	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	II	3 + 6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27
2763	SZILÁRD, MÉRGEZŐ TRIAZIN PESZTICID	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33
2763	SZILÁRD, MÉRGEZŐ TRIAZIN PESZTICID	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2763	SZILÁRD, MÉRGEZŐ TRIAZIN PESZTICID	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 R001	B3	MP10	T1	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66	2759	SZILÁRD, MÉRGEZŐ ARZÉN PESZTICID
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60	2759	SZILÁRD, MÉRGEZŐ ARZÉN PESZTICID
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60	2759	SZILÁRD, MÉRGEZŐ ARZÉN PESZTICID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	2760	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ ARZÉN PESZTICID (lobbanáspont 23 °C alatt)
L4BH	TU15	2			CW13 CW28	CE7	336	2760	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ ARZÉN PESZTICID (lobbanáspont 23 °C alatt)
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66	2761	SZILÁRD, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60	2761	SZILÁRD, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60	2761	SZILÁRD, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	2762	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID (lobbanáspont 23 °C alatt)
L4BH	TU15	2			CW13 CW28	CE7	336	2762	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID (lobbanáspont 23 °C alatt)
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66	2763	SZILÁRD, MÉRGEZŐ TRIAZIN PESZTICID
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60	2763	SZILÁRD, MÉRGEZŐ TRIAZIN PESZTICID
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60	2763	SZILÁRD, MÉRGEZŐ TRIAZIN PESZTICID

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2764	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ TRIAZIN PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	I	3 + 6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27
2764	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ TRIAZIN PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	II	3 + 6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27
2771	SZILÁRD, MÉRGEZŐ TIOKARBAMÁT PESZTICID	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33
2771	SZILÁRD, MÉRGEZŐ TIOKARBAMÁT PESZTICID	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2771	SZILÁRD, MÉRGEZŐ TIOKARBAMÁT PESZTICID	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2772	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ TIOKARBAMÁT PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	I	3 + 6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27
2772	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ TIOKARBAMÁT PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	II	3 + 6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27
2775	SZILÁRD, MÉRGEZŐ RÉZ ALAPÚ PESZTICID	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33
2775	SZILÁRD, MÉRGEZŐ RÉZ ALAPÚ PESZTICID	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2775	SZILÁRD, MÉRGEZŐ RÉZ ALAPÚ PESZTICID	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2776	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ RÉZ ALAPÚ PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	I	3 + 6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27
2776	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ RÉZ ALAPÚ PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	II	3 + 6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27
2777	SZILÁRD, MÉRGEZŐ HIGANY ALAPÚ PESZTICID	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	2764	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ TRIAZIN PESZTICID (lobbanáspont 23 °C alatt)
L4BH	TU15	2			CW13 CW28	CE7	336	2764	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ TRIAZIN PESZTICID (lobbanáspont 23 °C alatt)
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66	2771	SZILÁRD, MÉRGEZŐ TIOKARBAMÁT PESZTICID
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60	2771	SZILÁRD, MÉRGEZŐ TIOKARBAMÁT PESZTICID
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60	2771	SZILÁRD, MÉRGEZŐ TIOKARBAMÁT PESZTICID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	2772	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ TIOKARBAMÁT PESZTICID (lobbanáspont 23 °C alatt)
L4BH	TU15	2			CW13 CW28	CE7	336	2772	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ TIOKARBAMÁT PESZTICID (lobbanáspont 23 °C alatt)
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66	2775	SZILÁRD, MÉRGEZŐ RÉZ ALAPÚ PESZTICID
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60	2775	SZILÁRD, MÉRGEZŐ RÉZ ALAPÚ PESZTICID
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60	2775	SZILÁRD, MÉRGEZŐ RÉZ ALAPÚ PESZTICID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	2776	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ RÉZ ALAPÚ PESZTICID (lobbanáspont 23 °C alatt)
L4BH	TU15	2			CW13 CW28	CE7	336	2776	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ RÉZ ALAPÚ PESZTICID (lobbanáspont 23 °C alatt)
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66	2777	SZILÁRD, MÉRGEZŐ HIGANY ALAPÚ PESZTICID

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2777	SZILÁRD, MÉRGEZŐ HIGANY ALAPÚ PESZTICID	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2777	SZILÁRD, MÉRGEZŐ HIGANY ALAPÚ PESZTICID	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2778	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ HIGANY ALAPÚ PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	I	3 + 6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27
2778	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ HIGANY ALAPÚ PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	II	3 + 6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27
2779	SZILÁRD, MÉRGEZŐ HELYETTESÍTETT NITRO-FENOL PESZTICID	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33
2779	SZILÁRD, MÉRGEZŐ HELYETTESÍTETT NITRO-FENOL PESZTICID	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2779	SZILÁRD, MÉRGEZŐ HELYETTESÍTETT NITRO-FENOL PESZTICID	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2780	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ HELYETTESÍTETT NITRO FENOL PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	I	3 + 6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27
2780	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ HELYETTESÍTETT NITRO FENOL PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	II	3 + 6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27
2781	SZILÁRD, MÉRGEZŐ BIPIRIDILIUM PESZTICID	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33
2781	SZILÁRD, MÉRGEZŐ BIPIRIDILIUM PESZTICID	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2781	SZILÁRD, MÉRGEZŐ BIPIRIDILIUM PESZTICID	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2782	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ BIPIRIDILIUM PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	I	3 + 6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldeménydarabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60	2777	SZILÁRD, MÉRGEZŐ HIGANY ALAPÚ PESZTICID
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60	2777	SZILÁRD, MÉRGEZŐ HIGANY ALAPÚ PESZTICID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	2778	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ HIGANY ALAPÚ PESZTICID (lobbanáspont 23 °C alatt)
L4BH	TU15	2			CW13 CW28	CE7	336	2778	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ HIGANY ALAPÚ PESZTICID (lobbanáspont 23 °C alatt)
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66	2779	SZILÁRD, MÉRGEZŐ HELYETTESÍTETT NITRO-FENOL PESZTICID
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60	2779	SZILÁRD, MÉRGEZŐ HELYETTESÍTETT NITRO-FENOL PESZTICID
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60	2779	SZILÁRD, MÉRGEZŐ HELYETTESÍTETT NITRO-FENOL PESZTICID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	2780	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ HELYETTESÍTETT NITRO-FENOL PESZTICID (lobbanáspont 23 °C alatt)
L4BH	TU15	2			CW13 CW28	CE7	336	2780	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ HELYETTESÍTETT NITRO-FENOL PESZTICID (lobbanáspont 23 °C alatt)
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66	2781	SZILÁRD, MÉRGEZŐ BIPYRIDILIUM PESZTICID
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60	2781	SZILÁRD, MÉRGEZŐ BIPYRIDILIUM PESZTICID
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60	2781	SZILÁRD, MÉRGEZŐ BIPYRIDILIUM PESZTICID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	2782	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ BIPYRIDILIUM PESZTICID (lobbanáspont 23 °C alatt)

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2782	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ BIPIRIDILIUM PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	II	3 + 6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27
2783	SZILÁRD, MÉRGEZŐ SZERVES FOSZFORTARTALMÚ PESZTICID	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33
2783	SZILÁRD, MÉRGEZŐ SZERVES FOSZFORTARTALMÚ PESZTICID	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2783	SZILÁRD, MÉRGEZŐ SZERVES FOSZFORTARTALMÚ PESZTICID	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2784	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ SZERVES FOSZFORTARTALMÚ PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	I	3 + 6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27
2784	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ SZERVES FOSZFORTARTALMÚ PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	II	3 + 6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27
2785	4-TIA-PENTANAL	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2786	SZILÁRD, MÉRGEZŐ SZERVES ÓN PESZTICID	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33
2786	SZILÁRD, MÉRGEZŐ SZERVES ÓN PESZTICID	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2786	SZILÁRD, MÉRGEZŐ SZERVES ÓN PESZTICID	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2787	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ SZERVES ÓN PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	I	3 + 6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27
2787	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ SZERVES ÓN PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	II	3 + 6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28	CE7	336	2782	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ BIPIRIDILIUM PESZTICID (lobbanáspont 23 °C alatt)
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66	2783	SZILÁRD, MÉRGEZŐ SZERVES FOSZFORTARTALMÚ PESZTICID
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60	2783	SZILÁRD, MÉRGEZŐ SZERVES FOSZFORTARTALMÚ PESZTICID
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60	2783	SZILÁRD, MÉRGEZŐ SZERVES FOSZFORTARTALMÚ PESZTICID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	2784	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ SZERVES FOSZFORTARTALMÚ PESZTICID (lobbanáspont 23 °C alatt)
L4BH	TU15	2			CW13 CW28	CE7	336	2784	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ SZERVES FOSZFORTARTALMÚ PESZTICID (lobbanáspont 23 °C alatt)
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2785	4-TIA-PENTANAL
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66	2786	SZILÁRD, MÉRGEZŐ SZERVES ÓN PESZTICID
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60	2786	SZILÁRD, MÉRGEZŐ SZERVES ÓN PESZTICID
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60	2786	SZILÁRD, MÉRGEZŐ SZERVES ÓN PESZTICID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	2787	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ SZERVES ÓN PESZTICID (lobbanáspont 23 °C alatt)
L4BH	TU15	2			CW13 CW28	CE7	336	2787	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ SZERVES ÓN PESZTICID (lobbanáspont 23 °C alatt)

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2788	FOLYÉKONY, SZERVES ÖNVEGYÜLET, M.N.N.	6.1	T3	I	6.1	43 274	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
2788	FOLYÉKONY, SZERVES ÖNVEGYÜLET, M.N.N.	6.1	T3	II	6.1	43 274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
2788	FOLYÉKONY, SZERVES ÖNVEGYÜLET, M.N.N.	6.1	T3	III	6.1	43 274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28
2789	ECETSAV, JÉGECET vagy ECETSAV OLDAT 80 tömeg%-nál több ecetsav tartalommal	8	CF1	II	8 + 3		LQ22	E2	P001 IBC02		MP15	T7	TP2
2790	ECETSAV OLDAT 50 tömeg%-nál több, de legfeljebb 80 tömeg% ecetsav- tartalommal	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
2790	ECETSAV OLDAT 10 tömeg%-nál több, de legfeljebb 50 tömeg% ecetsav- tartalommal	8	C3	III	8	597 647	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2793	VASTARTALMÚ FORGÁCS FÚRÁSBÓL, KÖSZÖRÜLÉSBÓL, ESZTERGÁLÁSBÓL vagy DARABOLÁSBÓL önmelegedésre hajlamos formában	4.2	S4	III	4.2	592	LQ0	E1	P003 IBC08 LP02 R001	PP20 B3 B6	MP14		
2794	NEDVES, SAVAS AKKUMULÁTORTELEPEK elektromosság tárolására	8	C11		8	295 598	LQ0	E0	P801 P801a				
2795	NEDVES, LÚGOS AKKUMULÁTORTELEPEK elektromosság tárolására	8	C11		8	295 598	LQ0	E0	P801 P801a				
2796	KÉNSAV legfeljebb 51% savtartalommal vagy SAVAS AKKUMULÁTOR FOLYADÉK	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T8	TP2
2797	LÚGOS AKKUMULÁTOR FOLYADÉK	8	C5	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2 TP28
2798	FENIL-FOSZFOR-DIKLORID	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
2799	FENIL-TIOFOSZFORIL-DIKLORID	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
2800	KIFOLYÁSBIZTOS, NEDVES AKKUMULÁTORTELEPEK elektromosság tárolására	8	C11		8	238 295 598	LQ0	E0	P003 P801a	PP16			
2801	FOLYÉKONY, MARÓ SZÍNEZÉK, M.N.N. vagy FOLYÉKONY, MARÓ SZÍNEZÉK INTERMEDIER, M.N.N.	8	C9	I	8	274	LQ0	E0	P001		MP8 MP17	T14	TP2 TP27
2801	FOLYÉKONY, MARÓ SZÍNEZÉK, M.N.N. vagy FOLYÉKONY, MARÓ SZÍNEZÉK INTERMEDIER, M.N.N.	8	C9	II	8	274	LQ22	E2	P001 IBC02		MP15	T11	TP2 TP27

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	2788	FOLYÉKONY, SZERVES ŐNVEGYÜLET, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2788	FOLYÉKONY, SZERVES ŐNVEGYÜLET, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2788	FOLYÉKONY, SZERVES ŐNVEGYÜLET, M.N.N.
L4BN		2				CE6	83	2789	ECETSAV, JÉGECET vagy ECETSAV OLDAT 80 tömeg%-nál több ecetsav tartalommal
L4BN		2				CE6	80	2790	ECETSAV OLDAT 50 tömeg%-nál több, de legfeljebb 80 tömeg% ecetsav- tartalommal
L4BN		3				CE8	80	2790	ECETSAV OLDAT 10 tömeg%-nál több, de legfeljebb 50 tömeg% ecetsav- tartalommal
		3	W1	VW4		CE11	40	2793	VASTARTALMÚ FORGÁCS FŰRÁSBÓL, KÖSZÖRÜLÉSBŐL, ESZTERGÁLÁSBÓL vagy DARABOLÁSBÓL önmelegedésre hajlamos formában
		3		VW14		CE8	80	2794	NEDVES, SAVAS AKKUMULÁTORTELEPEK elektromosság tárolására
		3		VW14		CE8	80	2795	NEDVES, LŰGOS AKKUMULÁTORTELEPEK elektromosság tárolására
L4BN		2				CE6	80	2796	KÉNSAV legfeljebb 51% savtartalommal vagy SAVAS AKKUMULÁTOR FOLYADÉK
L4BN		2				CE6	80	2797	LŰGOS AKKUMULÁTOR FOLYADÉK
L4BN		2				CE6	80	2798	FENIL-FOSZFOR-DIKLORID
L4BN		2				CE6	80	2799	FENIL-TIOFOSZFORIL-DIKLORID
		3		VW14		CE8	80	2800	KIFOLYÁSBIZTOS, NEDVES AKKUMULÁTORTELEPEK elektromosság tárolására
L10BH	TU38 TE22	1					88	2801	FOLYÉKONY, MARÓ SZÍNEZÉK, M.N.N. vagy FOLYÉKONY, MARÓ SZÍNEZÉK INTERMEDIER, M.N.N.
L4BN		2				CE6	80	2801	FOLYÉKONY, MARÓ SZÍNEZÉK, M.N.N. vagy FOLYÉKONY, MARÓ SZÍNEZÉK INTERMEDIER, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2801	FOLYÉKONY, MARÓ SZÍNEZÉK, M.N.N. vagy FOLYÉKONY, MARÓ SZÍNEZÉK INTERMEDIER, M.N.N.	8	C9	III	8	274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28
2802	RÉZ-KLORID	8	C2	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2803	GALLIUM	8	C10	III	8		LQ24	E0	P800	PP41	MP10	T1	TP33
2805	LÍTIUM-HIDRID, OLVASZTOTT, SZILÁRD	4.3	W2	II	4.3		LQ11	E2	P410 IBC04	PP40	MP14	T3	TP33
2806	LÍTIUM-NITRID	4.3	W2	I	4.3		LQ0	E0	P403 IBC04		MP2		
2807	MÁGNESEZETT ANYAG	9	M11	Nem tartozik a RID hatálya alá									
2809	HIGANY	8	C9	III	8	599	LQ19	E0	P800		MP15		
2810	SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	6.1	T1	I	6.1	274 315 614	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
2810	SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	6.1	T1	II	6.1	274 614	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
2810	SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	6.1	T1	III	6.1	274 614	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28
2811	SZERVES, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	6.1	T2	I	6.1	274 614	LQ0	E5	P002 IBC07		MP18	T6	TP33
2811	SZERVES, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	6.1	T2	II	6.1	274 614	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2811	SZERVES, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	6.1	T2	III	6.1	274 614	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2812	SZILÁRD NÁTRIUM-ALUMINÁT	8	C6	Nem tartozik a RID hatálya alá									
2813	VÍZZEL REAKTÍV SZILÁRD ANYAG, M.N.N.	4.3	W2	I	4.3	274	LQ0	E0	P403 IBC99	PP83	MP2	T9	TP7 TP33
2813	VÍZZEL REAKTÍV SZILÁRD ANYAG, M.N.N.	4.3	W2	II	4.3	274	LQ11	E2	P410 IBC07	PP83	MP14	T3	TP33
2813	VÍZZEL REAKTÍV SZILÁRD ANYAG, M.N.N.	4.3	W2	III	4.3	274	LQ12	E1	P410 IBC08 R001	PP83 B4	MP14	T1	TP33



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BN		3				CE8	80	2801	FOLYÉKONY, MARÓ SZÍNEZÉK, M.N.N. vagy FOLYÉKONY, MARÓ SZÍNEZÉK INTERMEDIER, M.N.N.
SGAV		3		VW9		CE11	80	2802	RÉZ-KLORID
L4BN SGAV		3		VW9		CE11	80	2803	GALLIUM
SGAN		2	W1		CW23	CE10	423	2805	LÍTIUM-HIDRID, OLVASZTOTT, SZILÁRD
		1	W1		CW23		X423	2806	LÍTIUM-NITRID
Nem tartozik a RID hatálya alá								2807	MÁGNESEZETT ANYAG
L4BN		3				CE8	80	2809	HIGANY
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	2810	SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2810	SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2810	SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
L10CH S10AH	TU15 TU38 TE22	1	W10 W12		CW13 CW28 CW31		66	2811	SZERVES, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	2811	SZERVES, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2811	SZERVES, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
Nem tartozik a RID hatálya alá								2812	SZILÁRD NÁTRIUM-ALUMINÁT
L10DH S10AN	TU4 TU14 TU22 TU38 TE21 TE22 TM2	0	W1		CW23		X423	2813	VÍZZEL REAKTÍV SZILÁRD ANYAG, M.N.N.
SGAN		0	W1 W12		CW23	CE10	423	2813	VÍZZEL REAKTÍV SZILÁRD ANYAG, M.N.N.
SGAN		0	W1	VW5	CW23	CE11	423	2813	VÍZZEL REAKTÍV SZILÁRD ANYAG, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- mago- lási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2814	EMBEREKRE ÁRTALMAS FERTŐZŐ ANYAG	6.2	I1		6.2	318	LQ0	E0	P620		MP5		
2814	EMBEREKRE ÁRTALMAS FERTŐZŐ ANYAG mélyhűtött, cseppfolyósított nitrogénben	6.2	I1		6.2 + 2.2	318	LQ0	E0	P620		MP5		
2814	EMBEREKRE ÁRTALMAS FERTŐZŐ ANYAG (csak állati eredetű anyagok)	6.2	I1		6.2	318	LQ0	E0	P620		MP5	BK1 BK2	
2815	N-AMINO-ETIL-PIPERAZIN	8	C7	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2817	AMMÓNIUM-HIDROGÉN- DIFLUORID OLDAT	8	CT1	II	8 + 6.1		LQ22	E2	P001 IBC02		MP15	T8	TP2
2817	AMMÓNIUM-HIDROGÉN- DIFLUORID OLDAT	8	CT1	III	8 + 6.1		LQ7	E1	P001 IBC03 R001		MP19	T4	TP1
2818	AMMÓNIUM-POLISZULFID OLDAT	8	CT1	II	8 + 6.1		LQ22	E2	P001 IBC02		MP15	T7	TP2
2818	AMMÓNIUM-POLISZULFID OLDAT	8	CT1	III	8 + 6.1		LQ7	E1	P001 IBC03 R001		MP19	T4	TP1
2819	FOSZFORSAV-MONOAMIL-ÉSZTER	8	C3	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2820	VAJSÁV	8	C3	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2821	FENOL OLDAT	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2821	FENOL OLDAT	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2822	2-KLÓR-PIRIDIN	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2823	SZILÁRD KROTONSAV	8	C4	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2826	ETIL-KLÓR-TIOFORMIÁT	8	CF1	II	8 + 3		LQ22	E2	P001		MP15	T7	TP2

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		0	W9		CW13 CW18 CW26 CW28	CE14	606	2814	EMBEREKRE ÁRTALMAS FERTŐZŐ ANYAG
		0	W9		CW13 CW18 CW26 CW28	CE14	606	2814	EMBEREKRE ÁRTALMAS FERTŐZŐ ANYAG mélyhűtött, cseppfolyósított nitrogénben
		0	W9		CW13 CW18 CW26 CW28	CE14	606	2814	EMBEREKRE ÁRTALMAS FERTŐZŐ ANYAG (csak állati eredetű anyagok)
L4BN		3				CE8	80	2815	N-AMINO-ETIL-PIPERAZIN
L4DH	TU14 TE17 TE21 TT4	2			CW13 CW28	CE6	86	2817	AMMÓNIUM-HIDROGÉN-DIFLUORID OLDAT
L4DH	TU14 TE21	3			CW13 CW28	CE8	86	2817	AMMÓNIUM-HIDROGÉN-DIFLUORID OLDAT
L4BN		2			CW13 CW28	CE6	86	2818	AMMÓNIUM-POLISZULFID OLDAT
L4BN		3			CW13 CW28	CE8	86	2818	AMMÓNIUM-POLISZULFID OLDAT
L4BN		3				CE8	80	2819	FOSZFORSAV-MONOAMIL-ÉSZTER
L4BN		3				CE8	80	2820	VAJSAV
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2821	FENOL OLDAT
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2821	FENOL OLDAT
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2822	2-KLÓR-PIRIDIN
L4BN SGAV		3		VW9		CE11	80	2823	SZILÁRD KROTONSAV
L4BN		2				CE6	83	2826	ETIL-KLÓR-TIOFORMIÁT

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2829	KAPRONSAV	8	C3	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2830	LÍTIUM-FERROSZILÍCIUM	4.3	W2	II	4.3		LQ11	E2	P410 IBC07		MP14	T3	TP33
2831	1,1,1-TRIKLÓR-ETÁN	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2834	FOSZFOROSSAV	8	C2	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2835	NÁTRIUM-ALUMÍNIUM-HIDRID	4.3	W2	II	4.3		LQ11	E2	P410 IBC04		MP14	T3	TP33
2837	BISZULFÁTOK VIZES OLDATAI	8	C1	II	8	274	LQ22	E2	P001 IBC02		MP15	T7	TP2
2837	BISZULFÁTOK VIZES OLDATAI	8	C1	III	8	274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2838	VINIL-BUTIRÁT, STABILIZÁLT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
2839	ALDOL	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2840	BUTIRALDOXIM	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2841	DI-n-AMIL-AMIN	3	FT1	III	3 + 6.1		LQ7	E1	P001 IBC03 R001		MP19	T4	TP1
2842	NITRO-ETÁN	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2844	KALCIUM-MANGÁN-SZILÍCIUM	4.3	W2	III	4.3		LQ12	E1	P410 IBC08 R001	B4	MP14	T1	TP33
2845	PIROFOROS, SZERVES FOLYÉKONY ANYAG, M.N.N.	4.2	S1	I	4.2	274	LQ0	E0	P400		MP2	T22	TP2 TP7
2846	PIROFOROS, SZERVES SZILÁRD ANYAG, M.N.N.	4.2	S2	I	4.2	274	LQ0	E0	P404		MP13		
2849	3-KLÓR-1-PROPANOL	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BN		3				CE8	80	2829	KAPRONSAV
SGAN		2	W1 W12		CW23	CE10	423	2830	LÍTIUM-FERROSZILÍCIUM
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2831	1,1,1-TRIKLÓR-ETÁN
SGAV		3		VW9		CE11	80	2834	FOSZFOROSSAV
SGAN		2	W1		CW23	CE10	423	2835	NÁTRIUM-ALUMÍNIUM-HIDRID
L4BN		2				CE6	80	2837	BISZULFÁTOK VIZES OLDATAI
L4BN		3				CE8	80	2837	BISZULFÁTOK VIZES OLDATAI
LGBF		2				CE7	339	2838	VINIL-BUTIRÁT, STABILIZÁLT
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2839	ALDOL
LGBF		3				CE4	30	2840	BUTIRALDOXIM
L4BH	TU15	3			CW13 CW28	CE4	36	2841	DI-n-AMIL-AMIN
LGBF		3				CE4	30	2842	NITRO-ETÁN
SGAN		3	W1	VW5 VW7	CW23	CE11	423	2844	KALCIUM-MANGÁN-SZILÍCIUM
L21DH	TU14 TU38 TC1 TE21 TE22 TE25 TM1	0	W1				333	2845	PIROFOROS, SZERVES FOLYÉKONY ANYAG, M.N.N.
		0	W1				43	2846	PIROFOROS, SZERVES SZILÁRD ANYAG, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2849	3-KLÓR-1-PROPANOL

UN szám	Megnevezés és leírás	Osztály	Osztályozási kód	Csomagolási csoport	Bárcák	Különleges előírások	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru-konténer	
									Csomagolási utasítások	Különleges csomagolási előírások	Egybe-csomagolási előírások	Utasítások	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2850	TETRAPROPILÉN (PROPILÉN-TETRAMER)	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2851	BÓR-TRIFLUORID-DIHDRÁT	8	C1	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
2852	DIPIKRIL-SZULFID, legalább 10 tömeg% vízzel NEDVESÍTETT	4.1	D	I	4.1	545	LQ0	E0	P406	PP24	MP2		
2853	MAGNÉZIUM-FLUORO-SZILIKÁT	6.1	T5	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2854	AMMÓNIUM-FLUORO-SZILIKÁT	6.1	T5	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2855	CINK-FLUORO-SZILIKÁT	6.1	T5	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2856	FLUORO-SZILIKÁTOK, M.N.N.	6.1	T5	III	6.1	274	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2857	HŰTŐGÉPEK, nem gyúlékony, nem mérgező gáz vagy ammónia oldat (UN 2672) tartalommal	2	6A		2.2	119	LQ0	E0	P003	PP32	MP9		
2858	SZÁRAZ CIRKÓNIUM, tekercselt huzal, megmunkált lemezek, szalag (254 mikronnál vékonyabb, de legalább 18 mikron vastag) formában	4.1	F3	III	4.1	546	LQ9	E1	P002 LP02 R001		MP11		
2859	AMMÓNIUM-METAVANADÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2861	AMMÓNIUM-POLIVANADÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2862	VANÁDIUM-PENTOXID, nem olvasztott formában	6.1	T5	III	6.1	600	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2863	NÁTRIUM-AMMÓNIUM-VANADÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2864	KÁLIUM-METAVANADÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2865	HIDROXIL-AMMÓNIUM-SZULFÁT	8	C2	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2869	TITÁN-TRIKLORID KEVERÉK	8	C2	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
LGBF		3				CE4	30	2850	TETRAPROPILÉN (PROPILÉN-TETRAMER)
L4BN		2				CE6	80	2851	BÓR-TRIFLUORID-DIHIDRÁT
		1	W1				40	2852	DIPIKRIL-SZULFID, legalább 10 tömeg% vízzel NEDVESÍTETT
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2853	MAGNÉZIUM-FLUORO-SZILIKÁT
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2854	AMMÓNIUM-FLUORO-SZILIKÁT
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2855	CINK-FLUORO-SZILIKÁT
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2856	FLUORO-SZILIKÁTOK, M.N.N.
		3			CW9	CE2	20	2857	HŰTŐGÉPEK, nem gyúlékony, nem mérgező gáz vagy ammónia oldat (UN 2672) tartalommal
		3	W1	VW1		CE11	40	2858	SZÁRAZ CIRKÓNIUM, tekercselt huzal, megmunkált lemezek, szalag (254 mikronnál vékonyabb, de legalább 18 mikron vastag) formában
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	2859	AMMÓNIUM-METAVANADÁT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	2861	AMMÓNIUM-POLIVANADÁT
SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2862	VANÁDIUM-PENTOXID, nem olvasztott formában
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	2863	NÁTRIUM-AMMÓNIUM-VANADÁT
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	2864	KÁLIUM-METAVANADÁT
SGAV		3		VW9		CE11	80	2865	HIDROXIL-AMMÓNIUM-SZULFÁT
SGAN		2	W11			CE10	80	2869	TITÁN-TRIKLORID KEVERÉK

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- mago- lási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2869	TITÁN-TRIKLORID KEVERÉK	8	C2	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2870	ALUMÍNIUM-BÓR-HIDRID	4.2	SW	I	4.2 + 4.3		LQ0	E0	P400		MP2	T21	TP7 TP33
2870	ALUMÍNIUM-BÓR-HIDRID KÉSZÜLÉKEKBEN	4.2	SW	I	4.2 + 4.3		LQ0	E0	P002	PP13	MP2		
2871	ANTIMONPOR	6.1	T5	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2872	DIBRÓM-KLÓR-PROPÁNOK	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2872	DIBRÓM-KLÓR-PROPÁNOK	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2873	DIBUTIL-AMINO-ETANOL	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2874	FURFURIL-ALKOHOL	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2875	HEXAKLOROFÉN	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2876	REZORCIN	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2878	TITÁN SZIVACS SZEMCSÉK vagy TITÁN SZIVACS POROK	4.1	F3	III	4.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP11	T1	TP33
2879	SZELÉN-OXIKLORID	8	CT1	I	8 + 6.1		LQ0	E0	P001		MP8 MP17	T10	TP2
2880	KALCIUM-HIPOKLORIT, HIDRATÁLT vagy KALCIUM- HIPOKLORIT HIDRATÁLT KEVERÉK legalább 5,5%, de legfeljebb 16% vízzel	5.1	O2	II	5.1	313 314 322	LQ11	E2	P002 IBC08	B4 B13	MP10		



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAV		3		VW9		CE11	80	2869	TITÁN-TRIKLORID KEVERÉK
L21DH	TU14 TU38 TC1 TE22 TE21 TE25 TM1	0	W1				X333	2870	ALUMÍNIUM-BÓR-HIDRID
		0	W1				X333	2870	ALUMÍNIUM-BÓR-HIDRID KÉSZÜLÉKEKBEN
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2871	ANTIMONPOR
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2872	DIBRÓM-KLÓR-PROPÁNOK
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2872	DIBRÓM-KLÓR-PROPÁNOK
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2873	DIBUTIL-AMINO-ETANOL
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2874	FURFURIL-ALKOHOL
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2875	HEXAKLOROFÉN
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	2876	REZORCIN
SGAV		3	W1	VW1		CE11	40	2878	TITÁN SZIVACS SZEMCSÉK vagy TITÁN SZIVACS POROK
L10BH	TU38 TE22	1			CW13 CW28		X886	2879	SZELÉN-OXIKLORID
SGAN	TU3	2	W11		CW24 CW35	CE10	50	2880	KALCIUM-HIPOKLORIT, HIDRATÁLT vagy KALCIUM- HIPOKLORIT HIDRATÁLT KEVERÉK legalább 5,5%, de legfeljebb 16% vízzel

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2880	KALCIUM-HIPOKLORIT, HIDRATÁLT vagy KALCIUM- HIPOKLORIT HIDRATÁLT KEVERÉK legalább 5,5%, de legfeljebb 16% vízzel	5.1	O2	III	5.1	313 314	LQ12	E1	P002 IBC08 R001	B4	MP10		
2881	SZÁRAZ FÉM KATALIZÁTOR	4.2	S4	I	4.2	274	LQ0	E0	P404		MP13	T21	TP7 TP33
2881	SZÁRAZ FÉM KATALIZÁTOR	4.2	S4	II	4.2	274	LQ0	E2	P410 IBC06		MP14	T3	TP33
2881	SZÁRAZ FÉM KATALIZÁTOR	4.2	S4	III	4.2	274	LQ0	E1	P002 IBC08 LP02 R001	B3	MP14	T1	TP33
2900	csak ÁLLATOKRA ÁRTALMAS FERTŐZŐ ANYAG	6.2	I2		6.2	318	LQ0	E0	P620		MP5		
2900	csak ÁLLATOKRA ÁRTALMAS FERTŐZŐ ANYAG mélyhűtött, cseppfolyósított nitrogénben	6.2	I2		6.2 + 2.2	318	LQ0	E0	P620		MP5		
2900	csak ÁLLATOKRA ÁRTALMAS FERTŐZŐ ANYAG (csak állati eredetű anyagok)	6.2	I2		6.2	318	LQ0	E0	P620		MP5	BK1 BK2	
2901	BRÓM-KLORID	2	2TOC		2.3 + 5.1 + 8 (+13)		LQ0	E0	P200		MP9	(M)	
2902	FOLYÉKONY, MÉRGEZŐ PESZTICID, M.N.N.	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
2902	FOLYÉKONY, MÉRGEZŐ PESZTICID, M.N.N.	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
2902	FOLYÉKONY, MÉRGEZŐ PESZTICID, M.N.N.	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28
2903	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY PESZTICID, M.N.N. (lobbanáspont legalább 23 °C)	6.1	TF2	I	6.1 + 3	61 274	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
2903	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY PESZTICID, M.N.N. (lobbanáspont legalább 23 °C)	6.1	TF2	II	6.1 + 3	61 274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAV	TU3	3		VW8	CW24 CW35	CE11	50	2880	KALCIUM-HIPOKLORIT, HIDRATÁLT vagy KALCIUM-HIPOKLORIT HIDRATÁLT KEVERÉK legalább 5,5%, de legfeljebb 16% vízzel
		0	W1				43	2881	SZÁRAZ FÉM KATALIZÁTOR
SGAN		2	W1 W12			CE10	40	2881	SZÁRAZ FÉM KATALIZÁTOR
SGAN		3	W1	VW4		CE11	40	2881	SZÁRAZ FÉM KATALIZÁTOR
		0	W9		CW13 CW18 CW26 CW28	CE14	606	2900	csak ÁLLATOKRA ÁRTALMAS FERTŐZŐ ANYAG
		0	W9		CW13 CW18 CW26 CW28	CE14	606	2900	csak ÁLLATOKRA ÁRTALMAS FERTŐZŐ ANYAG mélyhűtött, cseppfolyósított nitrogénben
		0	W9		CW13 CW18 CW26 CW28	CE14	606	2900	csak ÁLLATOKRA ÁRTALMAS FERTŐZŐ ANYAG (csak állati eredetű anyagok)
P*BH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		265	2901	BRÓM-KLORID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66	2902	FOLYÉKONY, MÉRGEZŐ PESZTICID, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60	2902	FOLYÉKONY, MÉRGEZŐ PESZTICID, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60	2902	FOLYÉKONY, MÉRGEZŐ PESZTICID, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663	2903	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY PESZTICID, M.N.N. (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63	2903	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY PESZTICID, M.N.N. (lobbanáspont legalább 23 °C)

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2903	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY PESZTICID, M.N.N. (lobbanáspont legalább 23 °C)	6.1	TF2	III	6.1 + 3	61 274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP2
2904	FOLYÉKONY KLÓR-FENOLÁTOK vagy FOLYÉKONY FENOLÁTOK	8	C9	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19		
2905	SZILÁRD KLÓR-FENOLÁTOK vagy SZILÁRD FENOLÁTOK	8	C10	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2907	IZOSZORBID-DINITRÁT KEVERÉK legalább 60% laktózzal, mannózzal, keményítővel vagy kalcium-hidrogén- foszfáttal	4.1	D	II	4.1	127	LQ8	E0	P406 IBC06	PP26 PP80 B12	MP2		
2908	RADIOAKTÍV ANYAG, ENGEDMÉNYES KÜLDEMÉNYDARABBAN – ÜRES CSOMAGOLÓESZKÖZ	7				290	LQ0	E0	Lásd 1.7	Lásd 4.1.9.1.3			
2909	RADIOAKTÍV ANYAG ENGEDMÉNYES KÜLDEMÉNYDARABBAN – TERMÉSZETES URÁNBÓL vagy SZEGÉNYÍTETT URÁNBÓL vagy TERMÉSZETES TÓRIUMBÓL KÉSZÜLT GYÁRTMÁNYOK	7				290	LQ0	E0	Lásd 1.7	Lásd 4.1.9.1.3			
2910	RADIOAKTÍV ANYAG ENGEDMÉNYES KÜLDEMÉNYDARABBAN – KORLÁTOZOTT ANYAGMENNYISÉG	7				290	LQ0	E0	Lásd 1.7	Lásd 4.1.9.1.3			
2911	RADIOAKTÍV ANYAG ENGEDMÉNYES KÜLDEMÉNYDARABBAN – KÉSZÜLÉKEK vagy GYÁRTMÁNYOK	7				290	LQ0	E0	Lásd 1.7	Lásd 4.1.9.1.3			
2912	KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-I), nem hasadó vagy hasadó-engedményes	7			7X	172 317 325	LQ0	E0	Lásd 2.2.7 és 4.1.9	Lásd 4.1.9.1.3		T5	TP4
2913	RADIOAKTÍV ANYAG, SZENNYEZETT FELÜLETŰ TÁRGYAK (SCO-I vagy SCO-II), nem hasadó vagy hasadó-engedményes	7			7X	172 317 336	LQ0	E0	Lásd 2.2.7 és 4.1.9	Lásd 4.1.9.1.3			
2915	RADIOAKTÍV ANYAG, A TÍPUSÚ KÜLDEMÉNYDARABBAN, nem különleges formában, nem hasadó vagy hasadó-engedményes	7			7X	172 317 325	LQ0	E0	Lásd 2.2.7 és 4.1.9	Lásd 4.1.9.1.3			

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldeménydarabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63	2903	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY PESZTICID, M.N.N. (lobbanáspont legalább 23 °C)
L4BN		3				CE8	80	2904	FOLYÉKONY KLÓR-FENOLÁTOK vagy FOLYÉKONY FENOLÁTOK
L4BN SGAV		3		VW9		CE11	80	2905	SZILÁRD KLÓR-FENOLÁTOK vagy SZILÁRD FENOLÁTOK
		2	W1 W12			CE10	40	2907	IZOSZORBID-DINITRÁT KEVERÉK legalább 60% laktózzal, mannózzal, keményítővel vagy kalcium-hidrogén-foszfáttal
		4			CW33	CE15	70	2908	RADIOAKTÍV ANYAG, ENGEDMÉNYES KÜLDEMÉNYDARABBAN – ÜRES CSOMAGOLÓESZKÖZ
		4			CW33	CE15	70	2909	RADIOAKTÍV ANYAG ENGEDMÉNYES KÜLDEMÉNYDARABBAN – TERMÉSZETES URÁNBÓL vagy SZEGÉNYÍTETT URÁNBÓL vagy TERMÉSZETES TÓRIUMBÓL KÉSZÜLT GYÁRTMÁNYOK
		4			CW33	CE15	70	2910	RADIOAKTÍV ANYAG ENGEDMÉNYES KÜLDEMÉNYDARABBAN – KORLÁTOZOTT ANYAGMENNYISÉG
		4			CW33	CE15	70	2911	RADIOAKTÍV ANYAG ENGEDMÉNYES KÜLDEMÉNYDARABBAN – KÉSZÜLÉKEK vagy GYÁRTMÁNYOK
L2.65CN(+) S2.65AN(+)	TU36 TT7 TM7	0		VW16	CW33	CE15	70	2912	KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-I), nem hasadó vagy hasadó-engedményes
		0		VW17	CW33	CE15	70	2913	RADIOAKTÍV ANYAG, SZENNYEZETT FELÜLETŰ TÁRGYAK (SCO-I vagy SCO-II), nem hasadó vagy hasadó-engedményes
		0			CW33	CE15	70	2915	RADIOAKTÍV ANYAG, A TÍPUSÚ KÜLDEMÉNYDARABBAN, nem különleges formában, nem hasadó vagy hasadó-engedményes

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2916	RADIOAKTÍV ANYAG, B(U) TÍPUSÚ KÜLDEMÉNY-DARABBAN, nem hasadó vagy hasadó-engedményes	7			7X	172 317 337	LQ0	E0	Lásd 2.2.7 és 4.1.9	Lásd 4.1.9.1.3			
2917	RADIOAKTÍV ANYAG, B(M) TÍPUSÚ KÜLDEMÉNY-DARABBAN, nem hasadó vagy hasadó-engedményes	7			7X	172 317 337	LQ0	E0	Lásd 2.2.7 és 4.1.9	Lásd 4.1.9.1.3			
2919	RADIOAKTÍV ANYAG, KÜLÖN MEGEGYEZÉS ALAPJÁN SZÁLLÍTOTT, nem hasadó vagy hasadó-engedményes	7			7X	172 317	LQ0	E0	Lásd 2.2.7 és 4.1.9	Lásd 4.1.9.1.3			
2920	GYÚLÉKONY, MARÓ FOLYÉKONY ANYAG, M.N.N.	8	CF1	I	8 + 3	274	LQ0	E0	P001		MP8 MP17	T14	TP2 TP27
2920	GYÚLÉKONY, MARÓ FOLYÉKONY ANYAG, M.N.N.	8	CF1	II	8 + 3	274	LQ22	E2	P001 IBC02		MP15	T11	TP2 TP27
2921	GYÚLÉKONY, MARÓ SZILÁRD ANYAG, M.N.N.	8	CF2	I	8 + 4.1	274	LQ0	E0	P002 IBC05		MP18	T6	TP33
2921	GYÚLÉKONY, MARÓ SZILÁRD ANYAG, M.N.N.	8	CF2	II	8 + 4.1	274	LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
2922	MÉRGEZŐ, MARÓ FOLYÉKONY ANYAG, M.N.N.	8	CT1	I	8 + 6.1	274	LQ0	E0	P001		MP8 MP17	T14	TP2 TP27
2922	MÉRGEZŐ, MARÓ FOLYÉKONY ANYAG, M.N.N.	8	CT1	II	8 + 6.1	274	LQ22	E2	P001 IBC02		MP15	T7	TP2
2922	MÉRGEZŐ, MARÓ FOLYÉKONY ANYAG, M.N.N.	8	CT1	III	8 + 6.1	274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP1 TP28
2923	MÉRGEZŐ, MARÓ SZILÁRD ANYAG, M.N.N.	8	CT2	I	8 + 6.1	274	LQ0	E0	P002 IBC05		MP18	T6	TP33
2923	MÉRGEZŐ, MARÓ SZILÁRD ANYAG, M.N.N.	8	CT2	II	8 + 6.1	274	LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
2923	MÉRGEZŐ, MARÓ SZILÁRD ANYAG, M.N.N.	8	CT2	III	8 + 6.1	274	LQ24	E1	P002 IBC08 R001	B3	MP10	T1	TP33
2924	MARÓ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.	3	FC	I	3 + 8	274	LQ3	E0	P001		MP7 MP17	T14	TP2
2924	MARÓ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.	3	FC	II	3 + 8	274	LQ4	E2	P001 IBC02		MP19	T11	TP2 TP27
2924	MARÓ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.	3	FC	III	3 + 8	274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP1 TP28
2925	MARÓ, SZERVES, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.	4.1	FC1	II	4.1 + 8	274	LQ0	E2	P002 IBC06		MP10	T3	TP33
2925	MARÓ, SZERVES, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.	4.1	FC1	III	4.1 + 8	274	LQ0	E1	P002 IBC06 R001		MP10	T1	TP33
2926	MÉRGEZŐ, SZERVES, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.	4.1	FT1	II	4.1 + 6.1	274	LQ0	E2	P002 IBC06		MP10	T3	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		0			CW33	CE15	70	2916	RADIOAKTÍV ANYAG, B(U) TÍPUSÚ KÜLDEMÉNY-DARABBAN, nem hasadó vagy hasadó-engedményes
		0			CW33	CE15	70	2917	RADIOAKTÍV ANYAG, B(M) TÍPUSÚ KÜLDEMÉNY-DARABBAN, nem hasadó vagy hasadó-engedményes
		0			CW33	CE15	70	2919	RADIOAKTÍV ANYAG, KÜLÖN MEGEGYEZÉS ALAPJÁN SZÁLLÍTOTT, nem hasadó vagy hasadó-engedményes
L10BH	TU38 TE22	1					883	2920	GYÚLÉKONY, MARÓ FOLYÉKONY ANYAG, M.N.N.
L4BN		2				CE6	83	2920	GYÚLÉKONY, MARÓ FOLYÉKONY ANYAG, M.N.N.
L10BH S10AN	TU38 TE22	1	W10				884	2921	GYÚLÉKONY, MARÓ SZILÁRD ANYAG, M.N.N.
L4BN SGAN		2	W11			CE10	84	2921	GYÚLÉKONY, MARÓ SZILÁRD ANYAG, M.N.N.
L10BH	TU38 TE22	1			CW13 CW28		886	2922	MÉRGEZŐ, MARÓ FOLYÉKONY ANYAG, M.N.N.
L4BN		2			CW13 CW28	CE6	86	2922	MÉRGEZŐ, MARÓ FOLYÉKONY ANYAG, M.N.N.
L4BN		3			CW13 CW28	CE8	86	2922	MÉRGEZŐ, MARÓ FOLYÉKONY ANYAG, M.N.N.
L10BH S10AN	TU38 TE22	1	W10		CW13 CW28		886	2923	MÉRGEZŐ, MARÓ SZILÁRD ANYAG, M.N.N.
L4BN SGAN		2	W11		CW13 CW28	CE10	86	2923	MÉRGEZŐ, MARÓ SZILÁRD ANYAG, M.N.N.
L4BN SGAV		3		VW9	CW13 CW28	CE11	86	2923	MÉRGEZŐ, MARÓ SZILÁRD ANYAG, M.N.N.
L10CH	TU14 TU38 TE21 TE22	1					338	2924	MARÓ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.
L4BH		2				CE7	338	2924	MARÓ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.
L4BN		3				CE4	38	2924	MARÓ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.
SGAN		2	W1 W12			CE10	48	2925	MARÓ, SZERVES, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.
SGAN		3	W1 W12			CE11	48	2925	MARÓ, SZERVES, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.
SGAN		2	W1 W12		CW28	CE10	46	2926	MÉRGEZŐ, SZERVES, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2926	MÉRGEZŐ, SZERVES, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.	4.1	FT1	III	4.1 + 6.1	274	LQ0	E1	P002 IBC06 R001		MP10	T1	TP33
2927	MARÓ, SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	6.1	TC1	I	6.1 + 8	274 315	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
2927	MARÓ, SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	6.1	TC1	II	6.1 + 8	274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
2928	MARÓ, SZERVES, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	6.1	TC2	I	6.1 + 8	274	LQ0	E5	P002 IBC05		MP18	T6	TP33
2928	MARÓ, SZERVES, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	6.1	TC2	II	6.1 + 8	274	LQ18	E4	P002 IBC06		MP10	T3	TP33
2929	MÉRGEZŐ, FOLYÉKONY, GYÚLÉKONY SZERVES ANYAG, M.N.N.	6.1	TF1	I	6.1 + 3	274 315	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
2929	MÉRGEZŐ, FOLYÉKONY, GYÚLÉKONY SZERVES ANYAG, M.N.N.	6.1	TF1	II	6.1 + 3	274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
2930	MÉRGEZŐ, SZILÁRD, GYÚLÉKONY SZERVES ANYAG, M.N.N.	6.1	TF3	I	6.1 + 4.1	274	LQ0	E5	P002 IBC05		MP18	T6	TP33
2930	MÉRGEZŐ, SZILÁRD, GYÚLÉKONY SZERVES ANYAG, M.N.N.	6.1	TF3	II	6.1 + 4.1	274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2931	VANADIL-SZULFÁT	6.1	T5	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
2933	METIL-2-KLÓR-PROPIONÁT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2934	IZOPROPIL-2-KLÓR-PROPIONÁT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2935	ETIL-2-KLÓR-PROPIONÁT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2936	TIOLAKTONSAV	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2937	FOLYÉKONY alfa-METIL-BENZIL- ALKOHOL	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1



RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAN		3	W1 W12		CW28	CE11	46	2926	MÉRGEZŐ, SZERVES, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		668	2927	MARÓ, SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	68	2927	MARÓ, SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
S10AH	TU14 TU15 TE21	1	W10		CW13 CW28 CW31		668	2928	MARÓ, SZERVES, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
L4BH SGAH	TU15	2	W11 W12		CW13 CW28 CW31	CE9	68	2928	MARÓ, SZERVES, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	2929	MÉRGEZŐ, FOLYÉKONY, GYÚLÉKONY SZERVES ANYAG, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	63	2929	MÉRGEZŐ, FOLYÉKONY, GYÚLÉKONY SZERVES ANYAG, M.N.N.
		1	W10		CW13 CW28 CW31		664	2930	MÉRGEZŐ, SZILÁRD, GYÚLÉKONY SZERVES ANYAG, M.N.N.
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	64	2930	MÉRGEZŐ, SZILÁRD, GYÚLÉKONY SZERVES ANYAG, M.N.N.
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	2931	VANADIL-SZULFÁT
LGBF		3				CE4	30	2933	METIL-2-KLÓR-PROPIONÁT
LGBF		3				CE4	30	2934	IZOPROPIL-2-KLÓR-PROPIONÁT
LGBF		3				CE4	30	2935	ETIL-2-KLÓR-PROPIONÁT
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2936	TIOAKTONSÁV
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2937	FOLYÉKONY alfa-METIL-BENZIL-ALKOHOL

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2940	9-FOSZFA-BICIKLONONÁKOK (CIKLOOKTADIÉN-FOSZFINEK)	4.2	S2	II	4.2		LQ0	E2	P410 IBC06		MP14	T3	TP33
2941	FLUOR-ANILINEK	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2942	2-TRIFLUOR-METIL-ANILIN	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19		
2943	TETRAHIDRO-FURFURIL-AMIN	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2945	N-METIL-BUTIL-AMIN	3	FC	II	3 + 8		LQ4	E2	P001 IBC02		MP19	T7	TP1
2946	2-AMINO-5-DIETIL-AMINO-PENTÁN	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
2947	IZOPROPIL-KLÓR-ACETÁT	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
2948	3-TRIFLUOR-METIL-ANILIN	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2949	HIDRATÁLT NÁTRIUM-HIDROGÉN- SZULFID legalább 25% kristályvíz- tartalommal	8	C6	II	8	523	LQ23	E2	P002 IBC08	B4	MP10	T7	TP2
2950	BEVONT MAGNÉZIUM SZEMCSÉK legalább 149 mikron szemcsemérettel	4.3	W2	III	4.3		LQ12	E1	P410 IBC08 R001	B4	MP14	T1 BK2	TP33
2956	5-terc-BUTIL-2,4,6-TRINITRO-m- XILOL (XILOLMÓSZUSZ)	4.1	SR1	III	4.1	638	LQ0	E1	P409		MP2		
2965	BŐR-TRIFLUORID-DIMETIL-ÉTER	4.3	WFC	I	4.3 + 3 + 8		LQ0	E0	P401		MP2	T10	TP2 TP7
2966	TIOGLIKOL	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
2967	SZULFAMINSAV	8	C2	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
2968	MANEB vagy MANEB KÉSZÍTMÉNY, önmelegedéssel szemben STABILIZÁLT	4.3	W2	III	4.3	547	LQ12	E1	P002 IBC08 R001	B4	MP14	T1	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAN		2	W1 W12			CE10	40	2940	9-FOSZFA-BICIKLONONÁNOK (CIKLOOKTADIÉN-FOSZFINEK)
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2941	FLUOR-ANILINEK
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2942	2-TRIFLUOR-METIL-ANILIN
LGBF		3				CE4	30	2943	TETRAHIDRO-FURFURIL-AMIN
L4BH		2				CE7	338	2945	N-METIL-BUTIL-AMIN
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	2946	2-AMINO-5-DIETIL-AMINO-PENTÁN
LGBF		3				CE4	30	2947	IZOPROPIL-KLÓR-ACETÁT
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2948	3-TRIFLUOR-METIL-ANILIN
L4BN SGAN		2	W11			CE10	80	2949	HIDRATÁLT NÁTRIUM-HIDROGÉN- SZULFID legalább 25% kristályvíz- tartalommal
SGAN		3	W1	VW5	CW23	CE11	423	2950	BEVONT MAGNÉZIUM SZEMCSÉK legalább 149 mikron szemcsemérettel
		3	W1			CE11	40	2956	5-terc-BUTIL-2,4,6-TRINITRO-m- XILOL (XILOLMÓSZUSZ)
L10DH	TU4 TU14 TU22 TU38 TE21 TE22 TM2	0	W1		CW23		382	2965	BÓR-TRIFLUORID-DIMETIL-ÉTER
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	2966	TIOGLIKOL
SGAV		3		VW9		CE11	80	2967	SZULFAMINSAV
SGAN		0	W1	VW5	CW23	CE11	423	2968	MANEB vagy MANEB KÉSZÍTMÉNY, önmelegedéssel szemben STABILIZÁLT

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2969	RICINUSMAG vagy RICINUSMAG LISZT vagy RICINUSMAG POGÁCSA vagy RICINUSMAG PEHELY	9	M11	II	9	141	LQ25	E2	P002 IBC08	PP34 B4	MP10	T3 BK1 BK2	TP33
2977	RADIOAKTÍV ANYAG, HASADÓ URÁN- HEXAFLUORID	7			7X + 7E + 8	172	LQ0	E0	Lásd 2.2.7 és 4.1.9	Lásd 4.1.9.1.3			
2978	RADIOAKTÍV ANYAG, URÁN- HEXAFLUORID, nem hasadó vagy hasadó-engedményes	7			7X + 8	172 317	LQ0	E0	Lásd 2.2.7 és 4.1.9	Lásd 4.1.9.1.3			
2983	ETILÉN-OXID ÉS PROPILÉN-OXID KEVERÉK legfeljebb 30% etilén-oxid tartalommal	3	FT1	I	3 + 6.1		LQ0	E0	P001		MP7 MP17	T14	TP2 TP7
2984	HIDROGÉN-PEROXID VIZES OLDAT legalább 8%, de 20%-nál kevesebb hidrogén-peroxid tartalommal (szükség szerint stabilizálva)	5.1	O1	III	5.1	65	LQ13	E1	P504 IBC02 R001	PP10 B5	MP15	T4	TP1 TP6 TP24
2985	GYÚLÉKONY, MARÓ KLÓR- SZILÁNOK, M.N.N. (lobbanáspont 23 °C alatt)	3	FC	II	3 + 8	274 548	LQ4	E2	P010		MP19	T14	TP2 TP7 TP27
2986	MARÓ, GYÚLÉKONY KLÓR- SZILÁNOK, M.N.N.	8	CF1	II	8 + 3	274 548	LQ22	E2	P010		MP15	T14	TP2 TP7 TP27
2987	MARÓ KLÓR-SZILÁNOK, M.N.N.	8	C3	II	8	274 548	LQ22	E2	P010		MP15	T14	TP2 TP7 TP27
2988	VÍZZEL REAKTÍV, GYÚLÉKONY, MARÓ KLÓR-SZILÁNOK, M.N.N.	4.3	WFC	I	4.3 + 3 + 8	274 549	LQ0	E0	P401	RR7	MP2	T14	TP2 TP7
2989	DIBÁZIKUS ÓLOM-FOSZFIT	4.1	F3	II	4.1		LQ8	E2	P002 IBC08	B4	MP11	T3	TP33
2989	DIBÁZIKUS ÓLOM-FOSZFIT	4.1	F3	III	4.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP11	T1	TP33
2990	ÖNFELFÚVÓ MENTŐESZKÖZ	9	M5		9	296 635	LQ0	E0	P905				
2991	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY KARBAMÁT PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	I	6.1 + 3	61 274	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
2991	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY KARBAMÁT PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	II	6.1 + 3	61 274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27

RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAV		2	W11	VW9	CW31	CE9	90	2969	RICINUSMAG vagy RICINUSMAG LISZT vagy RICINUSMAG POGÁCSA vagy RICINUSMAG PEHELY
		0			CW33	CE15	78	2977	RADIOAKTÍV ANYAG, HASADÓ URÁN- HEXAFLUORID
		0			CW33	CE15	78	2978	RADIOAKTÍV ANYAG, URÁN-HEXAFLUORID, nem hasadó vagy hasadó-engedményes
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	2983	ETILÉN-OKSID ÉS PROPILÉN-OKSID KEVERÉK legfeljebb 30% etilén-oxid tartalommal
LGBV	TU3 TC2 TE8 TE11 TT1	3			CW24	CE8	50	2984	HIDROGÉN-PEROXID VIZES OLDAT legalább 8%, de 20%-nál kevesebb hidrogén-peroxid tartalommal (szükség szerint stabilizálva)
L4BH		2				CE7	X338	2985	GYÚLÉKONY, MARÓ KLÓR-SZILÁNOK, M.N.N. (lobbanáspont 23 °C alatt)
L4BN		2				CE6	X83	2986	MARÓ, GYÚLÉKONY KLÓR-SZILÁNOK, M.N.N.
L4BN		2				CE6	X80	2987	MARÓ KLÓR-SZILÁNOK, M.N.N.
L10DH	TU14 TU26 TU38 TE21 TE22 TM2 TM3	0	W1		CW23		X338	2988	VÍZZEL REAKTÍV, GYÚLÉKONY, MARÓ KLÓR-SZILÁNOK, M.N.N.
SGAN		2	W1			CE10	40	2989	DIBÁZIKUS ÓLOM-FOSZFIT
SGAV		3	W1	VW1		CE11	40	2989	DIBÁZIKUS ÓLOM-FOSZFIT
		3				CE2	90	2990	ÖNFELFÚVÓ MENTŐESZKÖZ
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663	2991	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY KARBAMÁT PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63	2991	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY KARBAMÁT PESZTICID (lobbanáspont legalább 23 °C)

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2991	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY KARBAMÁT PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	III	6.1 + 3	61 274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP2 TP28
2992	FOLYÉKONY, MÉRGEZŐ KARBAMÁT PESZTICID	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
2992	FOLYÉKONY, MÉRGEZŐ KARBAMÁT PESZTICID	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
2992	FOLYÉKONY, MÉRGEZŐ KARBAMÁT PESZTICID	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28
2993	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY ARZÉN PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	I	6.1 + 3	61 274	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
2993	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY ARZÉN PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	II	6.1 + 3	61 274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
2993	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY ARZÉN PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	III	6.1 + 3	61 274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP2 TP28
2994	FOLYÉKONY, MÉRGEZŐ ARZÉN PESZTICID	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
2994	FOLYÉKONY, MÉRGEZŐ ARZÉN PESZTICID	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
2994	FOLYÉKONY, MÉRGEZŐ ARZÉN PESZTICID	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28
2995	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES KLÓRTARTALMÚ PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	I	6.1 + 3	61 274	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
2995	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES KLÓRTARTALMÚ PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	II	6.1 + 3	61 274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
2995	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES KLÓRTARTALMÚ PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	III	6.1 + 3	61 274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP2 TP28

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldeménydarabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63	2991	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY KARBAMÁT PESZTICID (lobbanáspont legalább 23 °C)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66	2992	FOLYÉKONY, MÉRGEZŐ KARBAMÁT PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60	2992	FOLYÉKONY, MÉRGEZŐ KARBAMÁT PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60	2992	FOLYÉKONY, MÉRGEZŐ KARBAMÁT PESZTICID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663	2993	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY ARZÉN PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63	2993	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY ARZÉN PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63	2993	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY ARZÉN PESZTICID (lobbanáspont legalább 23 °C)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66	2994	FOLYÉKONY, MÉRGEZŐ ARZÉN PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60	2994	FOLYÉKONY, MÉRGEZŐ ARZÉN PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60	2994	FOLYÉKONY, MÉRGEZŐ ARZÉN PESZTICID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663	2995	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES KLÓRTARTALMÚ PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63	2995	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES KLÓRTARTALMÚ PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63	2995	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES KLÓRTARTALMÚ PESZTICID (lobbanáspont legalább 23 °C)

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
2996	FOLYÉKONY, MÉRGEZŐ SZERVES KLÓRARTALMÚ PESZTICID	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
2996	FOLYÉKONY, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
2996	FOLYÉKONY, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28
2997	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY TRIAZIN PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	I	6.1 + 3	61 274	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
2997	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY TRIAZIN PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	II	6.1 + 3	61 274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
2997	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY TRIAZIN PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	III	6.1 + 3	61 274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP2 TP28
2998	FOLYÉKONY, MÉRGEZŐ TRIAZIN PESZTICID	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
2998	FOLYÉKONY, MÉRGEZŐ TRIAZIN PESZTICID	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
2998	FOLYÉKONY, MÉRGEZŐ TRIAZIN PESZTICID	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28
3005	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY TIOKARBAMÁT PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	I	6.1 + 3	61 274	LQ0	E5	P001		MP8 MP17	T14	TP2
3005	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY TIOKARBAMÁT PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	II	6.1 + 3	61 274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3005	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY TIOKARBAMÁT PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	III	6.1 + 3	61 274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP2 TP28
3006	FOLYÉKONY, MÉRGEZŐ TIOKARBAMÁT PESZTICID	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001		MP8 MP17	T14	TP2



RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldeménydarabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66	2996	FOLYÉKONY, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60	2996	FOLYÉKONY, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60	2996	FOLYÉKONY, MÉRGEZŐ SZERVES KLÓRTARTALMÚ PESZTICID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663	2997	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY TRIAZIN PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63	2997	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY TRIAZIN PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63	2997	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY TRIAZIN PESZTICID (lobbanáspont legalább 23 °C)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66	2998	FOLYÉKONY, MÉRGEZŐ TRIAZIN PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60	2998	FOLYÉKONY, MÉRGEZŐ TRIAZIN PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60	2998	FOLYÉKONY, MÉRGEZŐ TRIAZIN PESZTICID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663	3005	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY TIOKARBAMÁT PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63	3005	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY TIOKARBAMÁT PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63	3005	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY TIOKARBAMÁT PESZTICID (lobbanáspont legalább 23 °C)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66	3006	FOLYÉKONY, MÉRGEZŐ TIOKARBAMÁT PESZTICID

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3006	FOLYÉKONY, MÉRGEZŐ TIOKARBAMÁT PESZTICID	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3006	FOLYÉKONY, MÉRGEZŐ TIOKARBAMÁT PESZTICID	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28
3009	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY RÉZ ALAPÚ PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	I	6.1 + 3	61 274	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3009	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY RÉZ ALAPÚ PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	II	6.1 + 3	61 274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3009	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY RÉZ ALAPÚ PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	III	6.1 + 3	61 274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP2 TP28
3010	FOLYÉKONY, MÉRGEZŐ RÉZ ALAPÚ PESZTICID	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3010	FOLYÉKONY, MÉRGEZŐ RÉZ ALAPÚ PESZTICID	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3010	FOLYÉKONY, MÉRGEZŐ RÉZ ALAPÚ PESZTICID	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28
3011	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY HIGANY ALAPÚ PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	I	6.1 + 3	61 274	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3011	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY HIGANY ALAPÚ PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	II	6.1 + 3	61 274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3011	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY HIGANY ALAPÚ PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	III	6.1 + 3	61 274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP2 TP28
3012	FOLYÉKONY, MÉRGEZŐ HIGANY ALAPÚ PESZTICID	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3012	FOLYÉKONY, MÉRGEZŐ HIGANY ALAPÚ PESZTICID	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60	3006	FOLYÉKONY, MÉRGEZŐ TIOKARBAMÁT PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60	3006	FOLYÉKONY, MÉRGEZŐ TIOKARBAMÁT PESZTICID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663	3009	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY RÉZ ALAPÚ PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63	3009	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY RÉZ ALAPÚ PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63	3009	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY RÉZ ALAPÚ PESZTICID (lobbanáspont legalább 23 °C)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66	3010	FOLYÉKONY, MÉRGEZŐ RÉZ ALAPÚ PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60	3010	FOLYÉKONY, MÉRGEZŐ RÉZ ALAPÚ PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60	3010	FOLYÉKONY, MÉRGEZŐ RÉZ ALAPÚ PESZTICID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663	3011	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY HIGANY ALAPÚ PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63	3011	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY HIGANY ALAPÚ PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63	3011	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY HIGANY ALAPÚ PESZTICID (lobbanáspont legalább 23 °C)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66	3012	FOLYÉKONY, MÉRGEZŐ HIGANY ALAPÚ PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60	3012	FOLYÉKONY, MÉRGEZŐ HIGANY ALAPÚ PESZTICID

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3012	FOLYÉKONY, MÉRGEZŐ HIGANY ALAPÚ PESZTICID	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28
3013	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY HELYETTESÍTETT NITRO-FENOL PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	I	6.1 + 3	61 274	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3013	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY HELYETTESÍTETT NITRO-FENOL PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	II	6.1 + 3	61 274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3013	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY HELYETTESÍTETT NITRO-FENOL PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	III	6.1 + 3	61 274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP2 TP28
3014	FOLYÉKONY, MÉRGEZŐ HELYETTESÍTETT NITRO-FENOL PESZTICID	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3014	FOLYÉKONY, MÉRGEZŐ HELYETTESÍTETT NITRO-FENOL PESZTICID	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3014	FOLYÉKONY, MÉRGEZŐ HELYETTESÍTETT NITRO-FENOL PESZTICID	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28
3015	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY BIPIRIDILIUM PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	I	6.1 + 3	61 274	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3015	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY BIPIRIDILIUM PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	II	6.1 + 3	61 274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3015	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY BIPIRIDILIUM PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	III	6.1 + 3	61 274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP2 TP28
3016	FOLYÉKONY, MÉRGEZŐ BIPIRIDILIUM PESZTICID	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3016	FOLYÉKONY, MÉRGEZŐ BIPIRIDILIUM PESZTICID	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60	3012	FOLYÉKONY, MÉRGEZŐ HIGANY ALAPÚ PESZTICID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663	3013	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY HELYETTESÍTETT NITRO-FENOL PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63	3013	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY HELYETTESÍTETT NITRO-FENOL PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63	3013	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY HELYETTESÍTETT NITRO-FENOL PESZTICID (lobbanáspont legalább 23 °C)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66	3014	FOLYÉKONY, MÉRGEZŐ HELYETTESÍTETT NITRO-FENOL PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60	3014	FOLYÉKONY, MÉRGEZŐ HELYETTESÍTETT NITRO-FENOL PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60	3014	FOLYÉKONY, MÉRGEZŐ HELYETTESÍTETT NITRO-FENOL PESZTICID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663	3015	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY BIPIRIDILIUM PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63	3015	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY BIPIRIDILIUM PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63	3015	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY BIPIRIDILIUM PESZTICID (lobbanáspont legalább 23 °C)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66	3016	FOLYÉKONY, MÉRGEZŐ BIPIRIDILIUM PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60	3016	FOLYÉKONY, MÉRGEZŐ BIPIRIDILIUM PESZTICID

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3016	FOLYÉKONY, MÉRGEZŐ BIPYRIDILUM PESZTICID	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28
3017	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES FOSZFORTARTALMÚ PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	I	6.1 + 3	61 274	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3017	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES FOSZFORTARTALMÚ PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	II	6.1 + 3	61 274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3017	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES FOSZFORTARTALMÚ PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	III	6.1 + 3	61 274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP2 TP28
3018	FOLYÉKONY, MÉRGEZŐ SZERVES FOSZFORTARTALMÚ PESZTICID	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3018	FOLYÉKONY, MÉRGEZŐ SZERVES FOSZFORTARTALMÚ PESZTICID	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3018	FOLYÉKONY, MÉRGEZŐ SZERVES FOSZFORTARTALMÚ PESZTICID	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28
3019	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES ÓN PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	I	6.1 + 3	61 274	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3019	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES ÓN PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	II	6.1 + 3	61 274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3019	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES ÓN PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	III	6.1 + 3	61 274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP2 TP28
3020	FOLYÉKONY, MÉRGEZŐ SZERVES ÓN PESZTICID	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3020	FOLYÉKONY, MÉRGEZŐ SZERVES ÓN PESZTICID	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60	3016	FOLYÉKONY, MÉRGEZŐ BIPRIDILIUM PESZTICID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663	3017	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES FOSZFORTARTALMÚ PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63	3017	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES FOSZFORTARTALMÚ PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63	3017	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES FOSZFORTARTALMÚ PESZTICID (lobbanáspont legalább 23 °C)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66	3018	FOLYÉKONY, MÉRGEZŐ SZERVES FOSZFORTARTALMÚ PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60	3018	FOLYÉKONY, MÉRGEZŐ SZERVES FOSZFORTARTALMÚ PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60	3018	FOLYÉKONY, MÉRGEZŐ SZERVES FOSZFORTARTALMÚ PESZTICID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663	3019	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES ÓN PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63	3019	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES ÓN PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63	3019	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY SZERVES ÓN PESZTICID (lobbanáspont legalább 23 °C)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66	3020	FOLYÉKONY, MÉRGEZŐ SZERVES ÓN PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60	3020	FOLYÉKONY, MÉRGEZŐ SZERVES ÓN PESZTICID

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3020	FOLYÉKONY, MÉRGEZŐ SZERVES ÓN PESZTICID	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28
3021	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ PESZTICID, M.N.N. (lobbanáspont 23 °C alatt)	3	FT2	I	3 + 6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27
3021	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ PESZTICID, M.N.N. (lobbanáspont 23 °C alatt)	3	FT2	II	3 + 6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27
3022	1,2-BUTILÉN-OXID, STABILIZÁLT	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
3023	2-METIL-2-HEPTÁNTIOL	6.1	TF1	I	6.1 + 3		LQ0	E5	P001		MP8 MP17	T20	TP2 TP35
3024	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	I	3 + 6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27
3024	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	II	3 + 6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27
3025	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY KUMARIN SZÁRMAZÉK PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	I	6.1 + 3	61 274	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3025	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY KUMARIN SZÁRMAZÉK PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	II	6.1 + 3	61 274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3025	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY KUMARIN SZÁRMAZÉK PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	III	6.1 + 3	61 274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP1 TP28
3026	FOLYÉKONY, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3026	FOLYÉKONY, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3026	FOLYÉKONY, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldeménydarabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60	3020	FOLYÉKONY, MÉRGEZŐ SZERVES ÓN PESZTICID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	3021	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ PESZTICID, M.N.N. (lobbanáspont 23 °C alatt)
L4BH	TU15	2			CW13 CW28	CE7	336	3021	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ PESZTICID, M.N.N. (lobbanáspont 23 °C alatt)
LGBF		2				CE7	339	3022	1,2-BUTILÉN-OXID, STABILIZÁLT
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	3023	2-METIL-2-HEPTÁNTIOL
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	3024	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID (lobbanáspont 23 °C alatt)
L4BH	TU15	2			CW13 CW28	CE7	336	3024	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID (lobbanáspont 23 °C alatt)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663	3025	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY KUMARIN SZÁRMAZÉK PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63	3025	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY KUMARIN SZÁRMAZÉK PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63	3025	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY KUMARIN SZÁRMAZÉK PESZTICID (lobbanáspont legalább 23 °C)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66	3026	FOLYÉKONY, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60	3026	FOLYÉKONY, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60	3026	FOLYÉKONY, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3027	SZILÁRD, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33
3027	SZILÁRD, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3027	SZILÁRD, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3028	SZILÁRD KÁLIUM-HIDROXID TARTALMÚ SZÁRAZ AKKUMULÁTORTÉLEPEK elektromosság tárolására	8	C11		8	295 304 598	LQ0	E0	P801 P801a				
3048	ALUMÍNIUM-FOSZFID PESZTICID	6.1	T7	I	6.1	153 648	LQ0	E5	P002 IBC07		MP18	T6	TP33
3054	CIKLOHEXIL-MERKAPTÁN	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
3055	2-(2-AMINO-ETOXI)-ETANOL	8	C7	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
3056	n-HEPTALDEHID	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
3057	TRIFLUOR-ACETIL-KLORID	2	2TC		2.3 + 8 (+13)		LQ0	E0	P200		MP9	T50	TP21
3064	NITROGLICERIN ALKOHOLOS OLDATBAN 1%-nál több, de legfeljebb 5% nitroglicerín-tartalommal	3	D	II	3		LQ0	E0	P300		MP2		
3065	ALKOHOLOS ITALOK, 70 tf. %-nál több alkoholtartalommal	3	F1	II	3		LQ5	E2	P001 IBC02 R001	PP2	MP19	T4	TP1
3065	ALKOHOLOS ITALOK, 24 tf. %-nál több, de legfeljebb 70 tf. % alkoholtartalommal	3	F1	III	3	144 145 247	LQ7	E1	P001 IBC03 R001	PP2	MP19	T2	TP1
3066	FESTÉK (beleértve a festéket, lakkot, zománct, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy FESTÉK SEGÉDANYAG (beleértve a festékhígítót vagy oldószert)	8	C9	II	8	163	LQ22	E2	P001 IBC02		MP15	T7	TP2 TP28

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66	3027	SZILÁRD, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60	3027	SZILÁRD, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60	3027	SZILÁRD, MÉRGEZŐ KUMARIN SZÁRMAZÉK PESZTICID
		3		VW14		CE11	80	3028	SZILÁRD KÁLIUM-HIDROXID TARTALMÚ SZÁRAZ AKKUMULÁTORTÉLEPEK elektromosság tárolására
S10AH	TU15	1	W10 W12		CW13 CW28 CW31		642	3048	ALUMÍNIUM-FOSZFID PESZTICID
LGBF		3				CE4	30	3054	CIKLOHEXIL-MERKAPTÁN
L4BN		3				CE8	80	3055	2-(2-AMINO-ETOXI)-ETANOL
LGBF		3				CE4	30	3056	n-HEPTALDEHID
P*BH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		268	3057	TRIFLUOR-ACETIL-KLORID
		2					33	3064	NITROGLICERIN ALKOHOLOS OLDATBAN 1%-nál több, de legfeljebb 5% nitroglicerintartalommal
LGBF		2				CE7	33	3065	ALKOHOLOS ITALOK, 70 tf. %-nál több alkoholtartalommal
LGBF		3				CE4	30	3065	ALKOHOLOS ITALOK, 24 tf. %-nál több, de legfeljebb 70 tf. % alkoholtartalommal
L4BN		2				CE6	80	3066	FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy FESTÉK SEGÉDANYAG (beleértve a festékhígítót vagy oldószert)

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3066	FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy FESTÉK SEGÉDANYAG (beleértve a festékhígítót vagy oldószert)	8	C9	III	8	163	LQ7	E1	P001 IBC03 R001		MP19	T4	TP1 TP29
3070	ETILÉN-OXID ÉS DIKLÓR-DIFLUOR-METÁN KEVERÉK legfeljebb 12,5% etilén-oxiddal	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
3071	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY MERKAPTÁNOK, M.N.N. vagy FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY MERKAPTÁN KEVERÉK, M.N.N.	6.1	TF1	II	6.1 + 3	274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3072	NEM ÖNFELFÚVÓ MENTŐESZKÖZ, mely tartozékként veszélyes anyagokat tartalmaz	9	M5		9	296 635	LQ0	E0	P905				
3073	VINIL-PIRIDINEK, STABILIZÁLT	6.1	TFC	II	6.1 + 3 + 8		LQ17	E4	P001 IBC01		MP15	T7	TP2
3077	KÖRNYEZETRE VESZÉLYES SZILÁRD ANYAG, M.N.N.	9	M7	III	9	274 335 601	LQ27	E1	P002 IBC08 LP02 R001	PP12 B3	MP10	T1 BK1 BK2	TP33
3078	CÉRIUM, forgács vagy homokkal szennyezett por	4.3	W2	II	4.3	550	LQ11	E2	P410 IBC07		MP14	T3	TP33
3079	METAKRILNITRIL, STABILIZÁLT	3	FT1	I	3 + 6.1		LQ0	E0	P001		MP7 MP17	T14	TP2
3080	MÉRGEZŐ, GYÚLÉKONY IZOCIANÁTOK, M.N.N. vagy MÉRGEZŐ, GYÚLÉKONY IZOCIANÁT OLDAT, M.N.N.	6.1	TF1	II	6.1 + 3	274 551	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3082	KÖRNYEZETRE VESZÉLYES FOLYÉKONY ANYAG, M.N.N.	9	M6	III	9	274 335 601	LQ7	E1	P001 IBC03 LP01 R001	PP1	MP19	T4	TP1 TP29
3083	PERKLORIL-FLUORID	2	2TO		2.3 + 5.1 (+13)		LQ0	E0	P200		MP9	(M)	
3084	GYÚJTÓ HATÁSÚ, MARÓ SZILÁRD ANYAG, M.N.N.	8	CO2	I	8 + 5.1	274	LQ0	E0	P002		MP18	T6	TP33
3084	GYÚJTÓ HATÁSÚ, MARÓ SZILÁRD ANYAG, M.N.N.	8	CO2	II	8 + 5.1	274	LQ23	E2	P002 IBC06		MP10	T3	TP33
3085	SZILÁRD, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.	5.1	OC2	I	5.1 + 8	274	LQ0	E0	P503		MP2		

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BN		3				CE8	80	3066	FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy FESTÉK SEGÉDANYAG (beleértve a festékhígítót vagy oldószert)
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	3070	ETILÉN-OXID ÉS DIKLÓR-DIFLUOR-METÁN KEVERÉK legfeljebb 12,5% etilén-oxiddal
L4BH	TU15	2			CW13 CW28 CW31	CE5	63	3071	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY MERKAPTÁNOK, M.N.N. vagy FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY MERKAPTÁN KEVERÉK, M.N.N.
		3				CE2	90	3072	NEM ÖNFELFÚVÓ MENTŐESZKÖZ, mely tartozékként veszélyes anyagokat tartalmaz
L4BH	TU15	2			CW13 CW28 CW31	CE5	638	3073	VINIL-PIRIDINEK, STABILIZÁLT
LGBV SGAV		3	W13	VW1	CW13 CW31	CE11	90	3077	KÖRNYEZETRE VESZÉLYES SZILÁRD ANYAG, M.N.N.
SGAN		2	W1 W12		CW23	CE10	423	3078	CÉRIUM, forgács vagy homokkal szennyezett por
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	3079	METAKRILNITRIL, STABILIZÁLT
L4BH	TU15	2			CW13 CW28 CW31	CE5	63	3080	MÉRGEZŐ, GYÚLÉKONY IZOCIANÁTOK, M.N.N. vagy MÉRGEZŐ, GYÚLÉKONY IZOCIANÁT OLDAT, M.N.N.
LGBV		3			CW13 CW31	CE8	90	3082	KÖRNYEZETRE VESZÉLYES FOLYÉKONY ANYAG, M.N.N.
P*BH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		265	3083	PERKLORIL-FLUORID
L10BH S10AN	TU38 TE22	1			CW24		885	3084	GYÚJTÓ HATÁSÚ, MARÓ SZILÁRD ANYAG, M.N.N.
L4BN SGAN		2	W11 W12		CW24	CE10	85	3084	GYÚJTÓ HATÁSÚ, MARÓ SZILÁRD ANYAG, M.N.N.
		1			CW24		558	3085	SZILÁRD, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3085	SZILÁRD, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.	5.1	OC2	II	5.1 + 8	274	LQ11	E2	P002 IBC06		MP2	T3	TP33
3085	SZILÁRD, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.	5.1	OC2	III	5.1 + 8	274	LQ12	E1	P002 IBC08 R001	B3	MP2	T1	TP33
3086	GYÚJTÓ HATÁSÚ, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	6.1	TO2	I	6.1 + 5.1	274	LQ0	E5	P002		MP18	T6	TP33
3086	GYÚJTÓ HATÁSÚ, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	6.1	TO2	II	6.1 + 5.1	274	LQ18	E4	P002 IBC06		MP10	T3	TP33
3087	SZILÁRD, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.	5.1	OT2	I	5.1 + 6.1	274	LQ0	E0	P503		MP2		
3087	SZILÁRD, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.	5.1	OT2	II	5.1 + 6.1	274	LQ11	E2	P002 IBC06		MP2	T3	TP33
3087	SZILÁRD, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.	5.1	OT2	III	5.1 + 6.1	274	LQ12	E1	P002 IBC08 R001	B3	MP2	T1	TP33
3088	ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.	4.2	S2	II	4.2	274	LQ0	E2	P410 IBC06		MP14	T3	TP33
3088	ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.	4.2	S2	III	4.2	274	LQ0	E1	P002 IBC08 LP02 R001	B3	MP14	T1	TP33
3089	GYÚLÉKONY FÉMPOR, M.N.N.	4.1	F3	II	4.1	274 552	LQ8	E2	P002 IBC08	B4	MP11	T3	TP33
3089	GYÚLÉKONY FÉMPOR, M.N.N.	4.1	F3	III	4.1	274 552	LQ9	E1	P002 IBC06 R001		MP11	T1	TP33
3090	FÉMLÍTIUM AKKUMULÁTOROK (beleértve a lítiumötvözet akkumulátorokat is)	9	M4	II	9	188 230 310 636	LQ0	E0	P903 P903a P903b				
3091	FÉMLÍTIUM AKKUMULÁTOROK KÉSZÜLÉKBEN vagy FÉMLÍTIUM AKKUMULÁTOROK KÉSZÜLÉKKEL EGYBECSOMAGOLVA (beleértve a lítiumötvözet akkumulátorokat is)	9	M4	II	9	188 230 636	LQ0	E0	P903 P903a P903b				
3092	1-METOXI-2-PROPANOL	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T2	TP1
3093	GYÚJTÓ HATÁSÚ, MARÓ FOLYÉKONY ANYAG, M.N.N.	8	CO1	I	8 + 5.1	274	LQ0	E0	P001		MP8 MP17		
3093	GYÚJTÓ HATÁSÚ, MARÓ FOLYÉKONY ANYAG, M.N.N.	8	CO1	II	8 + 5.1	274	LQ22	E2	P001 IBC02		MP15		
3094	VÍZZEL REAKTÍV, MARÓ FOLYÉKONY ANYAG, M.N.N.	8	CW1	I	8 + 4.3	274	LQ0	E0	P001		MP8 MP17		
3094	VÍZZEL REAKTÍV, MARÓ FOLYÉKONY ANYAG, M.N.N.	8	CW1	II	8 + 4.3	274	LQ22	E2	P001		MP15		

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAN	TU3	2	W11 W12		CW24	CE10	58	3085	SZILÁRD, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.
SGAN	TU3	3			CW24	CE11	58	3085	SZILÁRD, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		665	3086	GYÚJTÓ HATÁSÚ, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
L4BH SGAH	TU15	2	W11 W12		CW13 CW28 CW31	CE9	65	3086	GYÚJTÓ HATÁSÚ, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
		1			CW24 CW28		556	3087	SZILÁRD, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.
SGAN	TU3	2	W11 W12		CW24 CW28	CE10	56	3087	SZILÁRD, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.
SGAN	TU3	3			CW24 CW28	CE11	56	3087	SZILÁRD, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.
SGAV		2	W1 W12			CE10	40	3088	ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.
SGAV		3	W1			CE11	40	3088	ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.
SGAN		2	W1			CE10	40	3089	GYÚLÉKONY FÉMPOR, M.N.N.
SGAV		3	W1 W12	VW1		CE11	40	3089	GYÚLÉKONY FÉMPOR, M.N.N.
		2				CE2	90	3090	FÉMLÍTIUM AKKUMULÁTOROK (beleérte a lítiumötvözet akkumulátorokat is)
		2				CE2	90	3091	FÉMLÍTIUM AKKUMULÁTOROK KÉSZÜLÉKBEN vagy FÉMLÍTIUM AKKUMULÁTOROK KÉSZÜLÉKKEL EGYBECSOMAGOLVA (beleérte a lítiumötvözet akkumulátorokat is)
LGBF		3				CE4	30	3092	1-METOXI-2-PROPANOL
L10BH	TU38 TE22	1			CW24		885	3093	GYÚJTÓ HATÁSÚ, MARÓ FOLYÉKONY ANYAG, M.N.N.
L4BN		2			CW24	CE6	85	3093	GYÚJTÓ HATÁSÚ, MARÓ FOLYÉKONY ANYAG, M.N.N.
L10BH	TU38 TE22	1					823	3094	VÍZZEL REAKTÍV, MARÓ FOLYÉKONY ANYAG, M.N.N.
L4BN		2				CE6	823	3094	VÍZZEL REAKTÍV, MARÓ FOLYÉKONY ANYAG, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3095	ÖNMELEGEDŐ, MARÓ SZILÁRD ANYAG, M.N.N.	8	CS2	I	8 + 4.2	274	LQ0	E0	P002		MP18	T6	TP33
3095	ÖNMELEGEDŐ, MARÓ SZILÁRD ANYAG, M.N.N.	8	CS2	II	8 + 4.2	274	LQ23	E2	P002 IBC06		MP10	T3	TP33
3096	VÍZZEL REAKTÍV, MARÓ SZILÁRD ANYAG, M.N.N.	8	CW2	I	8 + 4.3	274	LQ0	E0	P002		MP18	T6	TP33
3096	VÍZZEL REAKTÍV, MARÓ SZILÁRD ANYAG, M.N.N.	8	CW2	II	8 + 4.3	274	LQ23	E2	P002 IBC06		MP10	T3	TP33
3097	GYÚJTÓ HATÁSÚ, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.	4.1	FO	A fuvarozásból ki van zárva									
3098	FOLYÉKONY, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.	5.1	OC1	I	5.1 + 8	274	LQ0	E0	P502		MP2		
3098	FOLYÉKONY, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.	5.1	OC1	II	5.1 + 8	274	LQ10	E2	P504 IBC01		MP2		
3098	FOLYÉKONY, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.	5.1	OC1	III	5.1 + 8	274	LQ13	E1	P504 IBC02 R001		MP2		
3099	FOLYÉKONY, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.	5.1	OT1	I	5.1 + 6.1	274	LQ0	E0	P502		MP2		
3099	FOLYÉKONY, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.	5.1	OT1	II	5.1 + 6.1	274	LQ10	E2	P504 IBC01		MP2		
3099	FOLYÉKONY, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.	5.1	OT1	III	5.1 + 6.1	274	LQ13	E1	P504 IBC02 R001		MP2		
3100	ÖNMELEGEDŐ, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N.	5.1	OS	A fuvarozásból ki van zárva									
3101	B TÍPUSÚ, FOLYÉKONY SZERVES PEROXID	5.2	P1		5.2 + 1	122 181 274	LQ14	E0	P520		MP4		
3102	B TÍPUSÚ, SZILÁRD SZERVES PEROXID	5.2	P1		5.2 + 1	122 181 274	LQ15	E0	P520		MP4		
3103	C TÍPUSÚ, FOLYÉKONY SZERVES PEROXID	5.2	P1		5.2	122 274	LQ14	E0	P520		MP4		
3104	C TÍPUSÚ, SZILÁRD SZERVES PEROXID	5.2	P1		5.2	122 274	LQ15	E0	P520		MP4		
3105	D TÍPUSÚ, FOLYÉKONY SZERVES PEROXID	5.2	P1		5.2	122 274	LQ16	E0	P520		MP4		
3106	D TÍPUSÚ, SZILÁRD SZERVES PEROXID	5.2	P1		5.2	122 274	LQ11	E0	P520		MP4		
3107	E TÍPUSÚ, FOLYÉKONY SZERVES PEROXID	5.2	P1		5.2	122 274	LQ16	E0	P520		MP4		
3108	E TÍPUSÚ, SZILÁRD SZERVES PEROXID	5.2	P1		5.2	122 274	LQ11	E0	P520		MP4		



RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
S10AN		1					884	3095	ÖNMELEGEDŐ, MARÓ SZILÁRD ANYAG, M.N.N.
SGAN		2	W11 W12			CE10	84	3095	ÖNMELEGEDŐ, MARÓ SZILÁRD ANYAG, M.N.N.
L10BH S10AN	TU38 TE22	1					842	3096	VÍZZEL REAKTÍV, MARÓ SZILÁRD ANYAG, M.N.N.
L4BN SGAN		2	W11 W12			CE10	842	3096	VÍZZEL REAKTÍV, MARÓ SZILÁRD ANYAG, M.N.N.
A fuvarozásból ki van zárva								3097	GYÚJTÓ HATÁSÚ, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.
		1			CW24		558	3098	FOLYÉKONY, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.
		2			CW24	CE6	58	3098	FOLYÉKONY, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.
		3			CW24	CE8	58	3098	FOLYÉKONY, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.
		1			CW24 CW28		556	3099	FOLYÉKONY, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.
		2			CW24 CW28	CE6	56	3099	FOLYÉKONY, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.
		3			CW24 CW28	CE8	56	3099	FOLYÉKONY, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.
A fuvarozásból ki van zárva								3100	ÖNMELEGEDŐ, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N.
		1	W5 W7 W8		CW22 CW24 CW29		539	3101	B TÍPUSÚ, FOLYÉKONY SZERVES PEROXID
		1	W5 W7 W8		CW22 CW24 CW29		539	3102	B TÍPUSÚ, SZILÁRD SZERVES PEROXID
		1	W7		CW22 CW24 CW29	CE6	539	3103	C TÍPUSÚ, FOLYÉKONY SZERVES PEROXID
		1	W7		CW22 CW24 CW29	CE10	539	3104	C TÍPUSÚ, SZILÁRD SZERVES PEROXID
		2	W7		CW22 CW24 CW29	CE6	539	3105	D TÍPUSÚ, FOLYÉKONY SZERVES PEROXID
		2	W7		CW22 CW24 CW29	CE10	539	3106	D TÍPUSÚ, SZILÁRD SZERVES PEROXID
		2	W7		CW22 CW24 CW29	CE6	539	3107	E TÍPUSÚ, FOLYÉKONY SZERVES PEROXID
		2	W7		CW22 CW24 CW29	CE10	539	3108	E TÍPUSÚ, SZILÁRD SZERVES PEROXID

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- mago- lási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3109	F TÍPUSÚ, FOLYÉKONY SZERVES PEROXID	5.2	P1		5.2	122 274	LQ16	E0	P520 IBC520		MP4	T23	
3110	F TÍPUSÚ, SZILÁRD SZERVES PEROXID	5.2	P1		5.2	122 274	LQ11	E0	P520 IBC520		MP4	T23	TP33
3111	B TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET- SZABÁLYOZÁSSAL	5.2	P2	A fuvarozásból ki van zárva									
3112	B TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET- SZABÁLYOZÁSSAL	5.2	P2	A fuvarozásból ki van zárva									
3113	C TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET- SZABÁLYOZÁSSAL	5.2	P2	A fuvarozásból ki van zárva									
3114	C TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET- SZABÁLYOZÁSSAL	5.2	P2	A fuvarozásból ki van zárva									
3115	D TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET- SZABÁLYOZÁSSAL	5.2	P2	A fuvarozásból ki van zárva									
3116	D TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET- SZABÁLYOZÁSSAL	5.2	P2	A fuvarozásból ki van zárva									
3117	E TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET- SZABÁLYOZÁSSAL	5.2	P2	A fuvarozásból ki van zárva									
3118	E TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET- SZABÁLYOZÁSSAL	5.2	P2	A fuvarozásból ki van zárva									
3119	F TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET- SZABÁLYOZÁSSAL	5.2	P2	A fuvarozásból ki van zárva									
3120	F TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET- SZABÁLYOZÁSSAL	5.2	P2	A fuvarozásból ki van zárva									
3121	VÍZZEL REAKTÍV, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N.	5.1	OW	A fuvarozásból ki van zárva									
3122	GYÚJTÓ HATÁSÚ, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	6.1	TO1	I	6.1 + 5.1	274 315	LQ0	E5	P001		MP8 MP17		

RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BN(+)	TU3 TU13 TU30 TE12 TA2 TM4	2	W7		CW22 CW24 CW29	CE6	539	3109	F TÍPUSÚ, FOLYÉKONY SZERVES PEROXID
S4AN(+)	TU3 TU13 TU30 TE12 TA2 TM4	2	W7		CW22 CW24 CW29	CE10	539	3110	F TÍPUSÚ, SZILÁRD SZERVES PEROXID
A fuvarozásból ki van zárva								3111	B TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL
A fuvarozásból ki van zárva								3112	B TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL
A fuvarozásból ki van zárva								3113	C TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL
A fuvarozásból ki van zárva								3114	C TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL
A fuvarozásból ki van zárva								3115	D TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL
A fuvarozásból ki van zárva								3116	D TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL
A fuvarozásból ki van zárva								3117	E TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL
A fuvarozásból ki van zárva								3118	E TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL
A fuvarozásból ki van zárva								3119	F TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL
A fuvarozásból ki van zárva								3120	F TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL
A fuvarozásból ki van zárva								3121	VÍZZEL REAKTÍV, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		665	3122	GYÚJTÓ HATÁSÚ, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3122	GYÚJTÓ HATÁSÚ, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	6.1	TO1	II	6.1 + 5.1	274	LQ17	E4	P001 IBC02		MP15		
3123	VÍZZEL REAKTÍV, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	6.1	TW1	I	6.1 + 4.3	274 315	LQ0	E5	P099		MP8 MP17		
3123	VÍZZEL REAKTÍV, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	6.1	TW1	II	6.1 + 4.3	274	LQ17	E4	P001 IBC02		MP15		
3124	ÖNMELEGEDŐ, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	6.1	TS	I	6.1 + 4.2	274	LQ0	E5	P002		MP18	T6	TP33
3124	ÖNMELEGEDŐ, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	6.1	TS	II	6.1 + 4.2	274	LQ18	E4	P002 IBC06		MP10	T3	TP33
3125	VÍZZEL REAKTÍV, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	6.1	TW2	I	6.1 + 4.3	274	LQ0	E5	P099		MP18	T6	TP33
3125	VÍZZEL REAKTÍV, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	6.1	TW2	II	6.1 + 4.3	274	LQ18	E4	P002 IBC06		MP10	T3	TP33
3126	MARÓ, ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.	4.2	SC2	II	4.2 + 8	274	LQ0	E2	P410 IBC05		MP14	T3	TP33
3126	MARÓ, ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.	4.2	SC2	III	4.2 + 8	274	LQ0	E1	P002 IBC08 R001	B3	MP14	T1	TP33
3127	GYÚJTÓ HATÁSÚ, ÖNMELEGEDŐ SZILÁRD ANYAG, M.N.N.	4.2	SO	A fuvarozásból ki van zárva									
3128	MÉRGEZŐ, ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.	4.2	ST2	II	4.2 + 6.1	274	LQ0	E2	P410 IBC05		MP14	T3	TP33
3128	MÉRGEZŐ, ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.	4.2	ST2	III	4.2 + 6.1	274	LQ0	E1	P002 IBC08 R001	B3	MP14	T1	TP33
3129	VÍZZEL REAKTÍV, MARÓ FOLYÉKONY ANYAG, M.N.N.	4.3	WC1	I	4.3 + 8	274	LQ0	E0	P402	RR7 RR8	MP2	T14	TP2 TP7
3129	VÍZZEL REAKTÍV, MARÓ, FOLYÉKONY ANYAG, M.N.N.	4.3	WC1	II	4.3 + 8	274	LQ10	E2	P402 IBC01	RR7 RR8	MP15	T11	TP2
3129	VÍZZEL REAKTÍV, MARÓ, FOLYÉKONY ANYAG, M.N.N.	4.3	WC1	III	4.3 + 8	274	LQ13	E1	P001 IBC02 R001		MP15	T7	TP1

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28 CW31	CE5	65	3122	GYÚJTÓ HATÁSÚ, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		623	3123	VÍZZEL REAKTÍV, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	623	3123	VÍZZEL REAKTÍV, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		664	3124	ÖNMELEGEDŐ, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
L4BH SGAH	TU15	2	W11 W12		CW13 CW28 CW31	CE9	64	3124	ÖNMELEGEDŐ, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		642	3125	VÍZZEL REAKTÍV, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
L4BH SGAH	TU15	2	W11 W12		CW13 CW28 CW31	CE9	642	3125	VÍZZEL REAKTÍV, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
SGAN		2	W1			CE10	48	3126	MARÓ, ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.
SGAN		3	W1			CE11	48	3126	MARÓ, ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.
A fuvarozásból ki van zárva								3127	GYÚJTÓ HATÁSÚ, ÖNMELEGEDŐ SZILÁRD ANYAG, M.N.N.
SGAN		2	W1		CW28	CE10	46	3128	MÉRGEZŐ, ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.
SGAN		3	W1		CW28	CE11	46	3128	MÉRGEZŐ, ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.
L10DH	TU14 TU38 TE21 TE22 TM2	0	W1		CW23		X382	3129	VÍZZEL REAKTÍV, MARÓ FOLYÉKONY ANYAG, M.N.N.
L4DH	TU14 TE21 TM2	0	W1		CW23	CE7	382	3129	VÍZZEL REAKTÍV, MARÓ, FOLYÉKONY ANYAG, M.N.N.
L4DH	TU14 TE21 TM2	0	W1		CW23	CE8	382	3129	VÍZZEL REAKTÍV, MARÓ, FOLYÉKONY ANYAG, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3130	VÍZZEL REAKTÍV, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	4.3	WT1	I	4.3 + 6.1	274	LQ0	E0	P402	RR4 RR8	MP2		
3130	VÍZZEL REAKTÍV, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	4.3	WT1	II	4.3 + 6.1	274	LQ10	E2	P402 IBC01	RR4 RR8 BB1	MP15		
3130	VÍZZEL REAKTÍV, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	4.3	WT1	III	4.3 + 6.1	274	LQ13	E1	P001 IBC02 R001		MP15		
3131	VÍZZEL REAKTÍV, MARÓ SZILÁRD ANYAG, M.N.N.	4.3	WC2	I	4.3 + 8	274	LQ0	E0	P403		MP2	T9	TP7 TP33
3131	VÍZZEL REAKTÍV, MARÓ SZILÁRD ANYAG, M.N.N.	4.3	WC2	II	4.3 + 8	274	LQ11	E2	P410 IBC06		MP14	T3	TP33
3131	VÍZZEL REAKTÍV, MARÓ SZILÁRD ANYAG, M.N.N.	4.3	WC2	III	4.3 + 8	274	LQ12	E1	P410 IBC08 R001	B4	MP14	T1	TP33
3132	VÍZZEL REAKTÍV, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.	4.3	WF2	I	4.3 + 4.1	274	LQ0	E0	P403 IBC99		MP2		
3132	VÍZZEL REAKTÍV, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.	4.3	WF2	II	4.3 + 4.1	274	LQ11	E2	P410 IBC04		MP14	T3	TP33
3132	VÍZZEL REAKTÍV, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.	4.3	WF2	III	4.3 + 4.1	274	LQ12	E1	P410 IBC06		MP14	T1	TP33
3133	VÍZZEL REAKTÍV, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N.	4.3	WO	A fuvarozásból ki van zárva									
3134	VÍZZEL REAKTÍV, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	4.3	WT2	I	4.3 + 6.1	274	LQ0	E0	P403		MP2		
3134	VÍZZEL REAKTÍV, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	4.3	WT2	II	4.3 + 6.1	274	LQ11	E2	P410 IBC05		MP14	T3	TP33
3134	VÍZZEL REAKTÍV, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	4.3	WT2	III	4.3 + 6.1	274	LQ12	E1	P410 IBC08 R001	B4	MP14	T1	TP33
3135	VÍZZEL REAKTÍV, ÖNMELEGEDŐ SZILÁRD ANYAG, M.N.N.	4.3	WS	I	4.3 + 4.2	274	LQ0	E0	P403		MP2		
3135	VÍZZEL REAKTÍV, ÖNMELEGEDŐ SZILÁRD ANYAG, M.N.N.	4.3	WS	II	4.3 + 4.2	274	LQ11	E2	P410 IBC05		MP14	T3	TP33
3135	VÍZZEL REAKTÍV, ÖNMELEGEDŐ SZILÁRD ANYAG, M.N.N.	4.3	WS	III	4.3 + 4.2	274	LQ12	E1	P410 IBC08	B4	MP14	T1	TP33
3136	TRIFLUOR-METÁN, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT	2	3A		2.2 (+13)	593	LQ1	E1	P203		MP9	T75	TP5

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10DH	TU14 TU38 TE21 TE22 TM2	0	W1		CW23 CW28		X362	3130	VÍZZEL REAKTÍV, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
L4DH	TU14 TE21 TM2	0	W1		CW23 CW28	CE7	362	3130	VÍZZEL REAKTÍV, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
L4DH	TU14 TE21 TM2	0	W1		CW23 CW28	CE8	362	3130	VÍZZEL REAKTÍV, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
L10DH S10AN	TU4 TU14 TU22 TU38 TE21 TE22 TM2	0	W1		CW23		X482	3131	VÍZZEL REAKTÍV, MARÓ SZILÁRD ANYAG, M.N.N.
SGAN		0	W1 W12		CW23	CE10	482	3131	VÍZZEL REAKTÍV, MARÓ SZILÁRD ANYAG, M.N.N.
SGAN		0	W1		CW23	CE11	482	3131	VÍZZEL REAKTÍV, MARÓ SZILÁRD ANYAG, M.N.N.
		0	W1		CW23		X423	3132	VÍZZEL REAKTÍV, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.
L4DH SGAN	TU14 TE21 TM2	0	W1		CW23		423	3132	VÍZZEL REAKTÍV, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.
L4DH SGAN	TU14 TE21 TM2	0	W1		CW23		423	3132	VÍZZEL REAKTÍV, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.
A fuvarozásból ki van zárva								3133	VÍZZEL REAKTÍV, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N.
		0	W1		CW23 CW28		X462	3134	VÍZZEL REAKTÍV, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
SGAN		0	W1		CW23 CW28	CE10	462	3134	VÍZZEL REAKTÍV, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
SGAN		0	W1		CW23 CW28	CE11	462	3134	VÍZZEL REAKTÍV, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
		1	W1		CW23		X423	3135	VÍZZEL REAKTÍV, ÖNMELEGEDŐ SZILÁRD ANYAG, M.N.N.
L4DH SGAN	TU14 TE21 TM2	2	W1		CW23		423	3135	VÍZZEL REAKTÍV, ÖNMELEGEDŐ SZILÁRD ANYAG, M.N.N.
L4DH SGAN	TU14 TE21 TM2	3	W1		CW23		423	3135	VÍZZEL REAKTÍV, ÖNMELEGEDŐ SZILÁRD ANYAG, M.N.N.
R*BN	TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	22	3136	TRIFLUOR-METÁN, MÉLYHŰTŐTT, CSEPPFOLYÓSÍTOTT

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3137	GYŰLÉKONY, GYŰJTŐ HATÁSÚ SZILÁRD ANYAG, M.N.N.	5.1	OF	A fuvarozásból ki van zárva									
3138	ETILÉN, ACETILÉN ÉS PROPILÉN KEVERÉK, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT, legalább 71,5% etilén-, legfeljebb 22,5% acetilén- és legfeljebb 6% propilén-tartalommal	2	3F		2.1 (+13)		LQ0	E0	P203		MP9	T75	TP5
3139	FOLYÉKONY, GYŰJTŐ HATÁSÚ ANYAG, M.N.N.	5.1	O1	I	5.1	274	LQ0	E0	P502		MP2		
3139	FOLYÉKONY, GYŰJTŐ HATÁSÚ ANYAG, M.N.N.	5.1	O1	II	5.1	274	LQ10	E2	P504 IBC02		MP2		
3139	FOLYÉKONY, GYŰJTŐ HATÁSÚ ANYAG, M.N.N.	5.1	O1	III	5.1	274	LQ13	E1	P504 IBC02 R001		MP2		
3140	FOLYÉKONY ALKALOIDOK, M.N.N. vagy FOLYÉKONY ALKALOIDA SÓK, M.N.N.	6.1	T1	I	6.1	43 274	LQ0	E5	P001		MP8 MP17		
3140	FOLYÉKONY ALKALOIDOK, M.N.N. vagy FOLYÉKONY ALKALOIDA SÓK, M.N.N.	6.1	T1	II	6.1	43 274	LQ17	E4	P001 IBC02		MP15		
3140	FOLYÉKONY ALKALOIDOK, M.N.N. vagy FOLYÉKONY ALKALOIDA SÓK, M.N.N.	6.1	T1	III	6.1	43 274	LQ7	E1	P001 IBC03 LP01 R001		MP19		
3141	SZERVETLEN, FOLYÉKONY ANTIMONVEGYÜLET, M.N.N.	6.1	T4	III	6.1	45 274 512	LQ7	E1	P001 IBC03 LP01 R001		MP19		
3142	MÉRGEZŐ, FOLYÉKONY FERTŐTLENÍTŐSZER, M.N.N.	6.1	T1	I	6.1	274	LQ0	E5	P001		MP8 MP17		
3142	MÉRGEZŐ, FOLYÉKONY FERTŐTLENÍTŐSZER, M.N.N.	6.1	T1	II	6.1	274	LQ17	E4	P001 IBC02		MP15		
3142	MÉRGEZŐ, FOLYÉKONY FERTŐTLENÍTŐSZER, M.N.N.	6.1	T1	III	6.1	274	LQ7	E1	P001 IBC03 LP01 R001		MP19		
3143	MÉRGEZŐ, SZILÁRD SZÍNEZÉK, M.N.N. vagy MÉRGEZŐ, SZILÁRD SZÍNEZÉK INTERMEDIER, M.N.N.	6.1	T2	I	6.1	274	LQ0	E5	P002 IBC07		MP18	T6	TP33
3143	MÉRGEZŐ, SZILÁRD SZÍNEZÉK, M.N.N. vagy MÉRGEZŐ, SZILÁRD SZÍNEZÉK INTERMEDIER, M.N.N.	6.1	T2	II	6.1	274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
A fuvarozásból ki van zárva								3137	GYÚLÉKONY, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N.
R*BN	TU18 TU38 TE22 TA4 TT9 TM6	2	W5		CW9 CW11 CW30 CW36	CE2	223	3138	ETILÉN, ACETILÉN ÉS PROPILÉN KEVERÉK, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT, legalább 71,5% etilén-, legfeljebb 22,5% acetilén- és legfeljebb 6% propilén-tartalommal
		1			CW24		55	3139	FOLYÉKONY, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.
		2			CW24	CE6	50	3139	FOLYÉKONY, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.
		3			CW24	CE8	50	3139	FOLYÉKONY, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	3140	FOLYÉKONY ALKALOIDOK, M.N.N. vagy FOLYÉKONY ALKALOIDA SÓK, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	3140	FOLYÉKONY ALKALOIDOK, M.N.N. vagy FOLYÉKONY ALKALOIDA SÓK, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	3140	FOLYÉKONY ALKALOIDOK, M.N.N. vagy FOLYÉKONY ALKALOIDA SÓK, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	3141	SZERVETLEN, FOLYÉKONY ANTIMONVEGYÜLET, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	3142	MÉRGEZŐ, FOLYÉKONY FERTŐTLENÍTŐSZER, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	3142	MÉRGEZŐ, FOLYÉKONY FERTŐTLENÍTŐSZER, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	3142	MÉRGEZŐ, FOLYÉKONY FERTŐTLENÍTŐSZER, M.N.N.
L10CH S10AH	TU15 TU38 TE22	1	W10 W12		CW13 CW28 CW31		66	3143	MÉRGEZŐ, SZILÁRD SZÍNEZÉK, M.N.N. vagy MÉRGEZŐ, SZILÁRD SZÍNEZÉK INTERMEDIER, M.N.N.
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3143	MÉRGEZŐ, SZILÁRD SZÍNEZÉK, M.N.N. vagy MÉRGEZŐ, SZILÁRD SZÍNEZÉK INTERMEDIER, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3143	MÉRGEZŐ, SZILÁRD SZÍNEZÉK, M.N.N. vagy MÉRGEZŐ, SZILÁRD SZÍNEZÉK INTERMEDIER, M.N.N.	6.1	T2	III	6.1	274	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3144	FOLYÉKONY NIKOTIN-VEGYÜLET, M.N.N. vagy FOLYÉKONY NIKOTIN- KÉSZÍTMÉNY, M.N.N.	6.1	T1	I	6.1	43 274	LQ0	E5	P001		MP8 MP17		
3144	FOLYÉKONY NIKOTIN-VEGYÜLET, M.N.N. vagy FOLYÉKONY NIKOTIN- KÉSZÍTMÉNY, M.N.N.	6.1	T1	II	6.1	43 274	LQ17	E4	P001 IBC02		MP15		
3144	FOLYÉKONY NIKOTIN-VEGYÜLET, M.N.N. vagy FOLYÉKONY NIKOTIN- KÉSZÍTMÉNY, M.N.N.	6.1	T1	III	6.1	43 274	LQ7	E1	P001 IBC03 LP01 R001		MP19		
3145	FOLYÉKONY ALKIL-FENOLOK, M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve)	8	C3	I	8	274	LQ0	E0	P001		MP8 MP17	T14	TP2
3145	FOLYÉKONY ALKIL-FENOLOK, M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve)	8	C3	II	8	274	LQ22	E2	P001 IBC02		MP15	T11	TP2 TP27
3145	FOLYÉKONY ALKIL-FENOLOK, M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve)	8	C3	III	8	274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28
3146	SZILÁRD, SZERVES ÓNVEGYÜLET, M.N.N.	6.1	T3	I	6.1	43 274	LQ0	E5	P002 IBC07		MP18	T6	TP33
3146	SZILÁRD, SZERVES ÓNVEGYÜLET, M.N.N.	6.1	T3	II	6.1	43 274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3146	SZILÁRD, SZERVES ÓNVEGYÜLET, M.N.N.	6.1	T3	III	6.1	43 274	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3147	SZILÁRD, MARÓ SZÍNEZÉK, M.N.N. vagy SZILÁRD, MARÓ SZÍNEZÉK INTERMEDIER, M.N.N.	8	C10	I	8	274	LQ0	E0	P002 IBC07		MP18	T6	TP33
3147	SZILÁRD, MARÓ SZÍNEZÉK, M.N.N. vagy SZILÁRD, MARÓ SZÍNEZÉK INTERMEDIER, M.N.N.	8	C10	II	8	274	LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
3147	SZILÁRD, MARÓ SZÍNEZÉK, M.N.N. vagy SZILÁRD, MARÓ SZÍNEZÉK INTERMEDIER, M.N.N.	8	C10	III	8	274	LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	3143	MÉRGEZŐ, SZILÁRD SZÍNEZÉK, M.N.N. vagy MÉRGEZŐ, SZILÁRD SZÍNEZÉK INTERMEDIER, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	3144	FOLYÉKONY NIKOTIN-VEGYÜLET, M.N.N. vagy FOLYÉKONY NIKOTIN-KÉSZÍTMÉNY, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	3144	FOLYÉKONY NIKOTIN-VEGYÜLET, M.N.N. vagy FOLYÉKONY NIKOTIN-KÉSZÍTMÉNY, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	3144	FOLYÉKONY NIKOTIN-VEGYÜLET, M.N.N. vagy FOLYÉKONY NIKOTIN-KÉSZÍTMÉNY, M.N.N.
L10BH	TU38 TE22	1					88	3145	FOLYÉKONY ALKIL-FENOLOK, M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve)
L4BN		2				CE6	80	3145	FOLYÉKONY ALKIL-FENOLOK, M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve)
L4BN		3				CE8	80	3145	FOLYÉKONY ALKIL-FENOLOK, M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve)
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66	3146	SZILÁRD, SZERVES ÓNVEGYÜLET, M.N.N.
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3146	SZILÁRD, SZERVES ÓNVEGYÜLET, M.N.N.
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	3146	SZILÁRD, SZERVES ÓNVEGYÜLET, M.N.N.
L10BH S10AN	TU38 TE22	1	W10 W12				88	3147	SZILÁRD, MARÓ SZÍNEZÉK, M.N.N. vagy SZILÁRD, MARÓ SZÍNEZÉK INTERMEDIER, M.N.N.
L4BN SGAN		2	W11			CE10	80	3147	SZILÁRD, MARÓ SZÍNEZÉK, M.N.N. vagy SZILÁRD, MARÓ SZÍNEZÉK INTERMEDIER, M.N.N.
L4BN SGAV		3		VW9		CE11	80	3147	SZILÁRD, MARÓ SZÍNEZÉK, M.N.N. vagy SZILÁRD, MARÓ SZÍNEZÉK INTERMEDIER, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3148	VÍZZEL REAKTÍV FOLYÉKONY ANYAG, M.N.N.	4.3	W1	I	4.3	274	LQ0	E0	P402	RR8	MP2	T9	TP2 TP7
3148	VÍZZEL REAKTÍV FOLYÉKONY ANYAG, M.N.N.	4.3	W1	II	4.3	274	LQ10	E2	P402 IBC01	RR8	MP15	T7	TP2
3148	VÍZZEL REAKTÍV FOLYÉKONY ANYAG, M.N.N.	4.3	W1	III	4.3	274	LQ13	E1	P001 IBC02 R001		MP15	T7	TP1
3149	HIDROGÉN-PEROXID ÉS PEROXI- ECETSAV KEVERÉK savakkal, vízzel és legfeljebb 5% peroxi-ecetsavval, STABILIZÁLT	5.1	OC1	II	5.1 + 8	196 553	LQ10	E2	P504 IBC02	PP10 B5	MP15	T7	TP2 TP6 TP24
3150	KISMÉRETŰ ESZKÖZÖK SZÉNHIDROGÉN-GÁZ TÖLTETTEL vagy SZÉNHIDROGÉN-GÁZ UTÁNTÖLTŐ PATRONOK KISMÉRETŰ ESZKÖZÖKHÖZ, adagolószerkezettel	2	6F		2.1		LQ0	E0	P206		MP9		
3151	FOLYÉKONY POLIHALOGÉNEZETT BIFENILEK vagy FOLYÉKONY POLIHALOGÉNEZETT TERFENILEK	9	M2	II	9	203 305	LQ26	E2	P906 IBC02		MP15		
3152	SZILÁRD POLIHALOGÉNEZETT BIFENILEK vagy SZILÁRD POLIHALOGÉNEZETT TERFENILEK	9	M2	II	9	203 305	LQ25	E2	P906 IBC08	B4	MP10	T3	TP33
3153	PERFLUOR-(METIL-VINIL-ÉTER)	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	
3154	PERFLUOR-(ETIL-VINIL-ÉTER)	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	(M)	
3155	PENTAKLÓR-FENOL	6.1	T2	II	6.1	43	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3156	SŰRÍTETT GÁZ, GYÚJTÓ HATÁSÚ, M.N.N.	2	1O		2.2 + 5.1 (+13)	274	LQ0	E0	P200		MP9	(M)	
3157	CSEPPFOLYÓSÍTOTT GÁZ, GYÚJTÓ HATÁSÚ, M.N.N.	2	2O		2.2 + 5.1 (+13)	274	LQ0	E0	P200		MP9	(M)	

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10DH	TU14 TU38 TE21 TE22 TM2	0	W1		CW23		X323	3148	VÍZZEL REAKTÍV FOLYÉKONY ANYAG, M.N.N.
L4DH	TU14 TE21 TM2	0	W1		CW23	CE7	323	3148	VÍZZEL REAKTÍV FOLYÉKONY ANYAG, M.N.N.
L4DH	TU14 TE21 TM2	0	W1		CW23	CE8	323	3148	VÍZZEL REAKTÍV FOLYÉKONY ANYAG, M.N.N.
L4BV(+)	TU3 TC2 TE8 TE11 TT1	2			CW24	CE6	58	3149	HIDROGÉN-PEROXID ÉS PEROXI-ECETSAV KEVERÉK savakkal, vízzel és legfeljebb 5% peroxi-ecetsavval, STABILIZÁLT
		2			CW9	CE2	23	3150	KISMÉRETŰ ESZKÖZÖK SZÉNHYDROGÉN-GÁZ TÖLTETTEL vagy SZÉNHYDROGÉN-GÁZ UTÁNTÖLTŐ PATRONOK KISMÉRETŰ ESZKÖZÖKHÖZ, adagolószerkezettel
L4BH	TU15	0		VW15	CW13 CW28 CW31	CE5	90	3151	FOLYÉKONY POLIHALOGÉNEZETT BIFENILEK vagy FOLYÉKONY POLIHALOGÉNEZETT TERFENILEK
L4BH S4AH	TU15	0	W11	VW15	CW13 CW28 CW31	CE9	90	3152	SZILÁRD POLIHALOGÉNEZETT BIFENILEK vagy SZILÁRD POLIHALOGÉNEZETT TERFENILEK
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	3153	PERFLUOR-(METIL-VINIL-ÉTER)
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	3154	PERFLUOR-(ETIL-VINIL-ÉTER)
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3155	PENTAKLÓR-FENOL
C*BN(M)	TA4 TT9	3			CW9 CW10 CW36	CE3	25	3156	SŰRÍTETT GÁZ, GYŰJTŐ HATÁSÚ, M.N.N.
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	25	3157	CSEPPFOLYÓSÍTOTT GÁZ, GYŰJTŐ HATÁSÚ, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3158	MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT GÁZ, M.N.N.	2	3A		2.2 (+13)	274 593	LQ1	E1	P203		MP9	T75	TP5
3159	1,1,1,2-TETRAFLUOR-ETÁN (R 134a HŰTŐGÁZ)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
3160	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚLÉKONY, M.N.N.	2	2TF		2.3 + 2.1 (+13)	274	LQ0	E0	P200		MP9	(M)	
3161	CSEPPFOLYÓSÍTOTT GÁZ, GYÚLÉKONY, M.N.N.	2	2F		2.1 (+13)	274	LQ0	E0	P200		MP9	T50 (M)	
3162	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, M.N.N.	2	2T		2.3 (+13)	274	LQ0	E0	P200		MP9	(M)	
3163	CSEPPFOLYÓSÍTOTT GÁZ, M.N.N.	2	2A		2.2 (+13)	274	LQ1	E1	P200		MP9	T50 (M)	
3164	PNEUMATIKUS NYOMÁS ALATTI TÁRGYAK vagy HIDRAULIKUS NYOMÁS ALATTI TÁRGYAK (nem gyúlékony gáz tartalommal)	2	6A		2.2	283 594	LQ0	E0	P003		MP9		
3165	REPÜLŐGÉP HIDRAULIKA FOLYADÉK TARTÁLY (vízmentes hidrazin és metil-hidrazin keveréket tartalmazó) (M86 tüzelőanyag)	3	FTC	I	3 + 6.1 + 8		LQ0	E0	P301		MP7		
3166	BELŐÉGÉSŰ MOTOR vagy GYÚLÉKONY GÁZ ÜZEMŰ JÁRMŰ vagy GYÚLÉKONY FOLYADÉK ÜZEMŰ JÁRMŰ	9	M11	Nem tartozik a RID hatálya alá									
3167	TÚLNOMÁS NÉLKÜLI, GYÚLÉKONY GÁZMINTA, M.N.N., nem mélyhűtött, nem cseppfolyósított	2	7F		2.1	274	LQ0	E0	P201		MP9		
3168	TÚLNOMÁS NÉLKÜLI, MÉRGEZŐ, GYÚLÉKONY GÁZMINTA, M.N.N., nem mélyhűtött, nem cseppfolyósított	2	7TF		2.3 + 2.1	274	LQ0	E0	P201		MP9		
3169	TÚLNOMÁS NÉLKÜLI, MÉRGEZŐ GÁZMINTA, M.N.N., nem mélyhűtött, nem cseppfolyósított	2	7T		2.3	274	LQ0	E0	P201		MP9		

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
R*BN	TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	22	3158	MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT GÁZ, M.N.N.
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	3159	1,1,1,2-TETRAFLUOR-ETÁN (R 134a HŰTŐGÁZ)
P*BH(M)	TU6 TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		263	3160	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚLÉKONY, M.N.N.
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	3161	CSEPPFOLYÓSÍTOTT GÁZ, GYÚLÉKONY, M.N.N.
P*BH(M)	TU6 TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		26	3162	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, M.N.N.
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	3163	CSEPPFOLYÓSÍTOTT GÁZ, M.N.N.
		3			CW9	CE2	20	3164	PNEUMATIKUS NYOMÁS ALATTI TÁRGYAK vagy HIDRAULIKUS NYOMÁS ALATTI TÁRGYAK (nem gyúlékony gáz tartalommal)
		1			CW13 CW28		336	3165	REPÜLŐGÉP HIDRAULIKA FOLYADÉK TARTÁLY (vízmentes hidrazin és metil-hidrazin keveréket tartalmazó) (M86 tüzelőanyag)
Nem tartozik a RID hatálya alá								3166	BELSŐGÉESŰ MOTOR vagy GYÚLÉKONY GÁZ ÜZEMŰ JÁRMŰ vagy GYÚLÉKONY FOLYADÉK ÜZEMŰ JÁRMŰ
		2			CW9	CE2	23	3167	TÚLNYOMÁS NÉLKÜLI, GYÚLÉKONY GÁZMINTA, M.N.N., nem mélyhűtött, nem cseppfolyósított
		1			CW9		263	3168	TÚLNYOMÁS NÉLKÜLI, MÉRGEZŐ, GYÚLÉKONY GÁZMINTA, M.N.N., nem mélyhűtött, nem cseppfolyósított
		1			CW9		26	3169	TÚLNYOMÁS NÉLKÜLI, MÉRGEZŐ GÁZMINTA, M.N.N., nem mélyhűtött, nem cseppfolyósított

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3170	ALUMÍNIUMFELDOLGOZÁSI MELLÉKTERMÉKEK vagy ALUMÍNIUM ÚJRAOLVASZTÁSI MELLÉKTERMÉKEK	4.3	W2	II	4.3	244	LQ11	E2	P410 IBC07		MP14	T3 BK1 BK2	TP33
3170	ALUMÍNIUMFELDOLGOZÁSI MELLÉKTERMÉKEK vagy ALUMÍNIUM ÚJRAOLVASZTÁSI MELLÉKTERMÉKEK	4.3	W2	III	4.3	244	LQ12	E1	P002 IBC08 R001	B4	MP14	T1 BK1 BK2	TP33
3171	AKKUMULÁTORRAL HAJTOTT JÁRMŰ vagy AKKUMULÁTORRAL HAJTOTT KÉSZÜLÉK	9	M11	Nem tartozik a RID hatálya alá									
3172	ÉLŐ SZERVEZETEKBŐL KIVONT FOLYÉKONY TOXINOK, M.N.N.	6.1	T1	I	6.1	210 274	LQ0	E5	P001		MP8 MP17		
3172	ÉLŐ SZERVEZETEKBŐL KIVONT FOLYÉKONY TOXINOK, M.N.N.	6.1	T1	II	6.1	210 274	LQ17	E4	P001 IBC02		MP15		
3172	ÉLŐ SZERVEZETEKBŐL KIVONT FOLYÉKONY TOXINOK, M.N.N.	6.1	T1	III	6.1	210 274	LQ7	E1	P001 IBC03 LP01 R001		MP19		
3174	TITÁN-DISZULFID	4.2	S4	III	4.2		LQ0	E1	P002 IBC08 LP02 R001	B3	MP14	T1	TP33
3175	GYÚLÉKONY FOLYADÉK TARTALMÚ SZILÁRD ANYAGOK vagy keverékeik (készítmények és hulladékok), M.N.N., amelyek lobbanáspontja legfeljebb 60 °C	4.1	F1	II	4.1	216 274	LQ8	E2	P002 IBC06 R001	PP9	MP11	T3 BK1 BK2	TP33
3176	SZERVES, GYÚLÉKONY SZILÁRD ANYAG OLVASZTOTT ÁLLAPOTBAN, M.N.N.	4.1	F2	II	4.1	274	LQ0	E0				T3	TP3 TP26
3176	SZERVES, GYÚLÉKONY SZILÁRD ANYAG OLVASZTOTT ÁLLAPOTBAN, M.N.N.	4.1	F2	III	4.1	274	LQ0	E0				T1	TP3 TP26
3178	SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.	4.1	F3	II	4.1	274	LQ8	E2	P002 IBC08	B4	MP11	T3	TP33
3178	SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.	4.1	F3	III	4.1	274	LQ9	E1	P002 IBC08 LP02 R001	B3	MP11	T1	TP33
3179	MÉRGEZŐ, SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.	4.1	FT2	II	4.1 + 6.1	274	LQ0	E2	P002 IBC06		MP10	T3	TP33



RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAN		2	W1 W12	VW6	CW23	CE10	423	3170	ALUMÍNIUMFELDOLGOZÁSI MELLÉKTERMÉKEK vagy ALUMÍNIUM ÚJRAOLVASZTÁSI MELLÉKTERMÉKEK
SGAN		3	W1	VW1 VW5	CW23	CE11	423	3170	ALUMÍNIUMFELDOLGOZÁSI MELLÉKTERMÉKEK vagy ALUMÍNIUM ÚJRAOLVASZTÁSI MELLÉKTERMÉKEK
Nem tartozik a RID hatálya alá								3171	AKKUMULÁTORRAL HAJTOTT JÁRMŰ vagy AKKUMULÁTORRAL HAJTOTT KÉSZÜLÉK
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	3172	ÉLŐ SZERVEZETEKBŐL KIVONT FOLYÉKONY TOXINOK, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	3172	ÉLŐ SZERVEZETEKBŐL KIVONT FOLYÉKONY TOXINOK, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	3172	ÉLŐ SZERVEZETEKBŐL KIVONT FOLYÉKONY TOXINOK, M.N.N.
SGAN		3	W1			CE11	40	3174	TITÁN-DISZULFID
		2	W1 W12	VW3		CE11	40	3175	GYÚLÉKONY FOLYADÉK TARTALMÚ SZILÁRD ANYAGOK vagy keverékeik (készítmények és hulladékok), M.N.N., amelyek lobbanáspontja legfeljebb 60 °C
LGBV	TU27 TE4 TE6	2					44	3176	SZERVES, GYÚLÉKONY SZILÁRD ANYAG OLVASZTOTT ÁLLAPOTBAN, M.N.N.
LGBV	TU27 TE4 TE6	3					44	3176	SZERVES, GYÚLÉKONY SZILÁRD ANYAG OLVASZTOTT ÁLLAPOTBAN, M.N.N.
SGAN		2	W1			CE10	40	3178	SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.
SGAV		3	W1	VW1		CE11	40	3178	SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.
SGAN		2	W1 W12		CW28	CE10	46	3179	MÉRGEZŐ, SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3179	MÉRGEZŐ, SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.	4.1	FT2	III	4.1 + 6.1	274	LQ0	E1	P002 IBC06 R001		MP10	T1	TP33
3180	MARÓ, SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.	4.1	FC2	II	4.1 + 8	274	LQ0	E2	P002 IBC06		MP10	T3	TP33
3180	MARÓ, SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.	4.1	FC2	III	4.1 + 8	274	LQ0	E1	P002 IBC06 R001		MP10	T1	TP33
3181	SZERVES VEGYÜLETEK GYÚLÉKONY FÉMSÓI, M.N.N.	4.1	F3	II	4.1	274	LQ8	E2	P002 IBC08	B4	MP11	T3	TP33
3181	SZERVES VEGYÜLETEK GYÚLÉKONY FÉMSÓI, M.N.N.	4.1	F3	III	4.1	274	LQ9	E1	P002 IBC08 LP02 R001	B3	MP11	T1	TP33
3182	GYÚLÉKONY FÉMHIIDRIK, M.N.N.	4.1	F3	II	4.1	274 554	LQ8	E2	P410 IBC04	PP40	MP11	T3	TP33
3182	GYÚLÉKONY FÉMHIIDRIK, M.N.N.	4.1	F3	III	4.1	274 554	LQ9	E1	P002 IBC04 R001		MP11	T1	TP33
3183	ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.	4.2	S1	II	4.2	274	LQ0	E2	P001 IBC02		MP15		
3183	ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.	4.2	S1	III	4.2	274	LQ0	E1	P001 IBC02 R001		MP15		
3184	MÉRGEZŐ, ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.	4.2	ST1	II	4.2 + 6.1	274	LQ0	E2	P402 IBC02		MP15		
3184	MÉRGEZŐ, ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.	4.2	ST1	III	4.2 + 6.1	274	LQ0	E1	P001 IBC02 R001		MP15		
3185	MARÓ, ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.	4.2	SC1	II	4.2 + 8	274	LQ0	E2	P402 IBC02		MP15		
3185	MARÓ, ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.	4.2	SC1	III	4.2 + 8	274	LQ0	E1	P001 IBC02 R001		MP15		
3186	ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.	4.2	S3	II	4.2	274	LQ0	E2	P001 IBC02		MP15		
3186	ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.	4.2	S3	III	4.2	274	LQ0	E1	P001 IBC02 R001		MP15		
3187	MÉRGEZŐ, ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.	4.2	ST3	II	4.2 + 6.1	274	LQ0	E2	P402 IBC02		MP15		
3187	MÉRGEZŐ, ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.	4.2	ST3	III	4.2 + 6.1	274	LQ0	E1	P001 IBC02 R001		MP15		
3188	MARÓ, ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.	4.2	SC3	II	4.2 + 8	274	LQ0	E2	P402 IBC02		MP15		
3188	MARÓ, ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.	4.2	SC3	III	4.2 + 8	274	LQ0	E1	P001 IBC02 R001		MP15		

RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAN		3	W1 W12		CW28	CE11	46	3179	MÉRGEZŐ, SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.
SGAN		2	W1 W12			CE10	48	3180	MARÓ, SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.
SGAN		3	W1 W12			CE11	48	3180	MARÓ, SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.
SGAN		2	W1			CE10	40	3181	SZERVES VEGYÜLETEK GYÚLÉKONY FÉMSÓI, M.N.N.
SGAV		3	W1	VW1		CE11	40	3181	SZERVES VEGYÜLETEK GYÚLÉKONY FÉMSÓI, M.N.N.
SGAN		2	W1			CE10	40	3182	GYÚLÉKONY FÉMHIÐRIDEK, M.N.N.
SGAV		3	W1	VW1		CE11	40	3182	GYÚLÉKONY FÉMHIÐRIDEK, M.N.N.
L4DH	TU14 TE21	2	W1			CE7	30	3183	ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.
L4DH	TU14 TE21	3	W1			CE8	30	3183	ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.
L4DH	TU14 TE21	2	W1		CW28	CE7	36	3184	MÉRGEZŐ, ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.
L4DH	TU14 TE21	3	W1		CW28	CE8	36	3184	MÉRGEZŐ, ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.
L4DH	TU14 TE21	2	W1			CE7	38	3185	MARÓ, ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.
L4DH	TU14 TE21	3	W1			CE8	38	3185	MARÓ, ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.
L4DH	TU14 TE21	2	W1			CE7	30	3186	ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.
L4DH	TU14 TE21	3	W1			CE8	30	3186	ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.
L4DH	TU14 TE21	2	W1		CW28	CE7	36	3187	MÉRGEZŐ, ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.
L4DH	TU14 TE21	3	W1		CW28	CE8	36	3187	MÉRGEZŐ, ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.
L4DH	TU14 TE21	2	W1			CE7	38	3188	MARÓ, ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.
L4DH	TU14 TE21	3	W1			CE8	38	3188	MARÓ, ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3189	ÖNMELEGEDŐ FÉMPOR, M.N.N.	4.2	S4	II	4.2	274 555	LQ0	E2	P410 IBC06		MP14	T3	TP33
3189	ÖNMELEGEDŐ FÉMPOR, M.N.N.	4.2	S4	III	4.2	274 555	LQ0	E1	P002 IBC08 LP02 R001	B3	MP14	T1	TP33
3190	ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.	4.2	S4	II	4.2	274	LQ0	E2	P410 IBC06		MP14	T3	TP33
3190	ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.	4.2	S4	III	4.2	274	LQ0	E1	P002 IBC08 LP02 R001	B3	MP14	T1	TP33
3191	MÉRGEZŐ, ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.	4.2	ST4	II	4.2 + 6.1	274	LQ0	E2	P410 IBC05		MP14	T3	TP33
3191	MÉRGEZŐ, ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.	4.2	ST4	III	4.2 + 6.1	274	LQ0	E1	P002 IBC08 R001	B3	MP14	T1	TP33
3192	MARÓ, ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.	4.2	SC4	II	4.2 + 8	274	LQ0	E2	P410 IBC05		MP14	T3	TP33
3192	MARÓ, ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.	4.2	SC4	III	4.2 + 8	274	LQ0	E1	P002 IBC08 R001	B3	MP14	T1	TP33
3194	PIROFOROS, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.	4.2	S3	I	4.2	274	LQ0	E0	P400		MP2		
3200	PIROFOROS, SZERVETLEN SZILÁRD ANYAG, M.N.N.	4.2	S4	I	4.2	274	LQ0	E0	P404		MP13	T21	TP7 TP33
3205	ALKÁLIFÖLDFÉM-ALKOHOLÁTOK, M.N.N.	4.2	S4	II	4.2	183 274	LQ0	E2	P410 IBC06		MP14	T3	TP33
3205	ALKÁLIFÖLDFÉM-ALKOHOLÁTOK, M.N.N.	4.2	S4	III	4.2	183 274	LQ0	E1	P002 IBC08 LP02 R001	B3	MP14	T1	TP33
3206	MARÓ, ÖNMELEGEDŐ ALKÁLIFÉM- ALKOHOLÁTOK, M.N.N.	4.2	SC4	II	4.2 + 8	182 274	LQ0	E2	P410 IBC05		MP14	T3	TP33
3206	MARÓ, ÖNMELEGEDŐ ALKÁLIFÉM- ALKOHOLÁTOK, M.N.N.	4.2	SC4	III	4.2 + 8	182 274	LQ0	E1	P002 IBC08 R001	B3	MP14	T1	TP33
3208	VÍZZEL REAKTÍV FÉMES ANYAG, M.N.N.	4.3	W2	I	4.3	274 557	LQ0	E0	P403 IBC99		MP2		
3208	VÍZZEL REAKTÍV FÉMES ANYAG, M.N.N.	4.3	W2	II	4.3	274 557	LQ11	E2	P410 IBC07		MP14	T3	TP33
3208	VÍZZEL REAKTÍV FÉMES ANYAG, M.N.N.	4.3	W2	III	4.3	274 557	LQ12	E1	P410 IBC08 R001	B4	MP14	T1	TP33
3209	VÍZZEL REAKTÍV, ÖNMELEGEDŐ FÉMES ANYAG, M.N.N.	4.3	WS	I	4.3 + 4.2	274 558	LQ0	E0	P403		MP2		

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAN		2	W1 W12			CE10	40	3189	ÖNMELEGEDŐ FÉMPOR, M.N.N.
SGAN		3	W1	VW4		CE11	40	3189	ÖNMELEGEDŐ FÉMPOR, M.N.N.
SGAN		2	W1 W12			CE10	40	3190	ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.
SGAN		3	W1	VW4		CE11	40	3190	ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.
SGAN		2	W1		CW28	CE10	46	3191	MÉRGEZŐ, ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.
SGAN		3	W1		CW28	CE11	46	3191	MÉRGEZŐ, ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.
SGAN		2	W1			CE10	48	3192	MARÓ, ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.
SGAN		3	W1			CE11	48	3192	MARÓ, ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.
L21DH	TU14 TU38 TC1 TE21 TE22 TE25 TM1	0	W1				333	3194	PIROFOROS, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.
		0	W1				43	3200	PIROFOROS, SZERVETLEN SZILÁRD ANYAG, M.N.N.
SGAN		2	W1 W12			CE10	40	3205	ALKÁLIFÖLDFÉM-ALKOHOLÁTOK, M.N.N.
SGAN		3	W1			CE11	40	3205	ALKÁLIFÖLDFÉM-ALKOHOLÁTOK, M.N.N.
SGAN		2	W1			CE10	48	3206	MARÓ, ÖNMELEGEDŐ ALKÁLIFÉM-ALKOHOLÁTOK, M.N.N.
SGAN		3	W1			CE11	48	3206	MARÓ, ÖNMELEGEDŐ ALKÁLIFÉM-ALKOHOLÁTOK, M.N.N.
		1	W1		CW23		X423	3208	VÍZZEL REAKTÍV FÉMES ANYAG, M.N.N.
SGAN		2	W1 W12		CW23	CE10	423	3208	VÍZZEL REAKTÍV FÉMES ANYAG, M.N.N.
SGAN		3	W1	VW5	CW23	CE11	423	3208	VÍZZEL REAKTÍV FÉMES ANYAG, M.N.N.
		1	W1		CW23		X423	3209	VÍZZEL REAKTÍV, ÖNMELEGEDŐ FÉMES ANYAG, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3209	VÍZZEL REAKTÍV, ÖNMELEGEDŐ FÉMES ANYAG, M.N.N.	4.3	WS	II	4.3 + 4.2	274 558	LQ11	E2	P410 IBC05		MP14	T3	TP33
3209	VÍZZEL REAKTÍV, ÖNMELEGEDŐ FÉMES ANYAG, M.N.N.	4.3	WS	III	4.3 + 4.2	274 558	LQ12	E1	P410 IBC08 R001	B4	MP14	T1	TP33
3210	SZERVETLEN Klorátok Vizes Oldata, M.N.N.	5.1	O1	II	5.1	274 605	LQ10	E2	P504 IBC02		MP2	T4	TP1
3210	SZERVETLEN Klorátok Vizes Oldata, M.N.N.	5.1	O1	III	5.1	274 605	LQ13	E1	P504 IBC02 R001		MP2	T4	TP1
3211	SZERVETLEN Perklorátok Vizes Oldata, M.N.N.	5.1	O1	II	5.1	274	LQ10	E2	P504 IBC02		MP2	T4	TP1
3211	SZERVETLEN Perklorátok Vizes Oldata, M.N.N.	5.1	O1	III	5.1	274	LQ13	E1	P504 IBC02 R001		MP2	T4	TP1
3212	SZERVETLEN HIPOKLORITOK, M.N.N.	5.1	O2	II	5.1	274 559	LQ11	E2	P002 IBC08	B4	MP10	T3	TP33
3213	SZERVETLEN BROMÁTOK Vizes Oldata, M.N.N.	5.1	O1	II	5.1	274 604	LQ10	E2	P504 IBC02		MP2	T4	TP1
3213	SZERVETLEN BROMÁTOK Vizes Oldata, M.N.N.	5.1	O1	III	5.1	274 604	LQ13	E1	P504 IBC02 R001		MP15	T4	TP1
3214	SZERVETLEN PERMANGANÁTOK Vizes Oldata, M.N.N.	5.1	O1	II	5.1	274 608	LQ10	E2	P504 IBC02		MP2	T4	TP1
3215	SZERVETLEN PERSZULFÁTOK, M.N.N.	5.1	O2	III	5.1	274	LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3216	SZERVETLEN PERSZULFÁTOK Vizes Oldata, M.N.N.	5.1	O1	III	5.1	274	LQ13	E1	P504 IBC02 R001		MP15	T4	TP1 TP29
3218	SZERVETLEN NITRÁTOK Vizes Oldata, M.N.N.	5.1	O1	II	5.1	270 274 511	LQ10	E2	P504 IBC02		MP15	T4	TP1
3218	SZERVETLEN NITRÁTOK Vizes Oldata, M.N.N.	5.1	O1	III	5.1	270 274 511	LQ13	E1	P504 IBC02 R001		MP15	T4	TP1
3219	SZERVETLEN NITRITEK Vizes Oldata, M.N.N.	5.1	O1	II	5.1	103 274	LQ10	E2	P504 IBC01		MP15	T4	TP1
3219	SZERVETLEN NITRITEK Vizes Oldata, M.N.N.	5.1	O1	III	5.1	103 274	LQ13	E1	P504 IBC02 R001		MP15	T4	TP1
3220	PENTAFLUOR-ETÁN (R 125 Hűtőgáz)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
3221	B TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG	4.1	SR1		4.1 + 1	181 194 274	LQ14	E0	P520	PP21	MP2		
3222	B TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG	4.1	SR1		4.1 + 1	181 194 274	LQ15	E0	P520	PP21	MP2		
3223	C TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG	4.1	SR1		4.1	194 274	LQ14	E0	P520	PP21	MP2		

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldeménydarabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAN		2	W1		CW23	CE10	423	3209	VÍZZEL REAKTÍV, ÖNMELEGEDŐ FÉMES ANYAG, M.N.N.
SGAN		3	W1	VW5	CW23	CE11	423	3209	VÍZZEL REAKTÍV, ÖNMELEGEDŐ FÉMES ANYAG, M.N.N.
L4BN	TU3	2			CW24	CE6	50	3210	SZERVETLEN KLOORÁTOK VIZES OLDDATA, M.N.N.
LGBV	TU3	3			CW24	CE8	50	3210	SZERVETLEN KLOORÁTOK VIZES OLDDATA, M.N.N.
L4BN	TU3	2			CW24	CE6	50	3211	SZERVETLEN PERKLOORÁTOK VIZES OLDDATA, M.N.N.
LGBV	TU3	3			CW24	CE8	50	3211	SZERVETLEN PERKLOORÁTOK VIZES OLDDATA, M.N.N.
SGAN	TU3	2	W11		CW24	CE10	50	3212	SZERVETLEN HIPOKLOORITOK, M.N.N.
L4BN	TU3	2			CW24	CE6	50	3213	SZERVETLEN BROMÁTOK VIZES OLDDATA, M.N.N.
LGBV	TU3	3			CW24	CE8	50	3213	SZERVETLEN BROMÁTOK VIZES OLDDATA, M.N.N.
L4BN	TU3	2			CW24	CE6	50	3214	SZERVETLEN PERMANGANÁTOK VIZES OLDDATA, M.N.N.
SGAV	TU3	3		VW8	CW24	CE11	50	3215	SZERVETLEN PERSZULFÁTOK, M.N.N.
LGBV	TU3	3			CW24	CE8	50	3216	SZERVETLEN PERSZULFÁTOK VIZES OLDDATA, M.N.N.
L4BN	TU3	2			CW24	CE6	50	3218	SZERVETLEN NITRÁTOK VIZES OLDDATA, M.N.N.
LGBV	TU3	3			CW24	CE8	50	3218	SZERVETLEN NITRÁTOK VIZES OLDDATA, M.N.N.
L4BN	TU3	2			CW24	CE6	50	3219	SZERVETLEN NITRITEK VIZES OLDDATA, M.N.N.
LGBV	TU3	3			CW24	CE8	50	3219	SZERVETLEN NITRITEK VIZES OLDDATA, M.N.N.
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	3220	PENTAFLUOR-ETÁN (R 125 HŰTŐGÁZ)
		1	W5 W7 W8		CW22		40	3221	B TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG
		1	W5 W7 W8		CW22		40	3222	B TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG
		1	W7		CW22	CE6	40	3223	C TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG

[illegible]



RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		1	W7		CW22	CE10	40	3224	C TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG
		2	W7		CW22	CE6	40	3225	D TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG
		2	W7		CW22	CE10	40	3226	D TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG
		2	W7		CW22	CE6	40	3227	E TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG
		2	W7		CW22	CE10	40	3228	E TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG
		2	W7		CW22	CE6	40	3229	F TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG
		2	W7		CW22	CE10	40	3230	F TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG
A fuvarozásból ki van zárva								3231	B TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL
A fuvarozásból ki van zárva								3232	B TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL
A fuvarozásból ki van zárva								3233	C TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL
A fuvarozásból ki van zárva								3234	C TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL
A fuvarozásból ki van zárva								3235	D TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL
A fuvarozásból ki van zárva								3236	D TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL
A fuvarozásból ki van zárva								3237	E TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL
A fuvarozásból ki van zárva								3238	E TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL
A fuvarozásból ki van zárva								3239	F TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL
A fuvarozásból ki van zárva								3240	F TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3241	2-BRÓM-2-NITRO-1,3-PROPÁNDIOL	4.1	SR1	III	4.1	638	LQ0	E1	P520 IBC08	PP22 B3	MP2		
3242	AZO-DIKARBONAMID	4.1	SR1	II	4.1	215 638	LQ0	E2	P409		MP2	T3	TP33
3243	MÉRGEZŐ FOLYADÉK TARTALMÚ SZILÁRD ANYAG, M.N.N.	6.1	T9	II	6.1	217 274	LQ18	E4	P002 IBC02	PP9	MP10	T3 BK1 BK2	TP33
3244	MARÓ FOLYADÉK TARTALMÚ SZILÁRD ANYAG, M.N.N.	8	C10	II	8	218 274	LQ23	E2	P002 IBC05	PP9	MP10	T3 BK1 BK2	TP33
3245	GÉNTÉCHNOLÓGIÁVAL MÓDOSÍTOTT MIKROORGANIZMUSOK vagy GÉNTÉCHNOLÓGIÁVAL MÓDOSÍTOTT ÉLŐ SZERVEZETEK	9	M8		9	219 637	LQ0	E0	P904 IBC08		MP6		
3245	GÉNTÉCHNOLÓGIÁVAL MÓDOSÍTOTT MIKROORGANIZMUSOK vagy GÉNTÉCHNOLÓGIÁVAL MÓDOSÍTOTT ÉLŐ SZERVEZETEK mélyhűtött, cseppfolyósított nitrogénben	9	M8		9 + 2.2	219 637	LQ0	E0	P904 IBC08		MP6		
3246	METÁN-SZULFONIL-KLORID	6.1	TC1	I	6.1 + 8		LQ0	E5	P001		MP8 MP17	T14	TP2
3247	VÍZMENTES NÁTRIUM-PEROXO- BORÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP2	T3	TP33
3248	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ GYÓGYSZER, M.N.N.	3	FT1	II	3 + 6.1	220 221 274 601	LQ0	E2	P001		MP19		
3248	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ GYÓGYSZER, M.N.N.	3	FT1	III	3 + 6.1	220 221 274 601	LQ7	E1	P001 R001		MP19		
3249	SZILÁRD, MÉRGEZŐ GYÓGYSZER, M.N.N.	6.1	T2	II	6.1	221 274 601	LQ18	E4	P002		MP10	T3	TP33
3249	SZILÁRD, MÉRGEZŐ GYÓGYSZER, M.N.N.	6.1	T2	III	6.1	221 274 601	LQ9	E1	P002 LP02 R001		MP10	T1	TP33
3250	OLVASZTOTT KLÓR-ECETSAV	6.1	TC1	II	6.1 + 8		LQ0	E0				T7	TP3 TP28
3251	IZOSZORBID-5-MONONITRÁT	4.1	SR1	III	4.1	226 638	LQ0	E1	P409		MP2		
3252	DIFLUOR-METÁN (R 32 HÜTŐGÁZ)	2	2F		2.1 (+13)		LQ0	E0	P200		MP9	T50 (M)	

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		3	W1			CE11	40	3241	2-BRÓM-2-NITRO-1,3-PROPÁNDIOL
		2	W1			CE10	40	3242	AZO-DIKARBONAMID
SGAH	TU15	2		VW10	CW13 CW28 CW31	CE5	60	3243	MÉRGEZŐ FOLYADÉK TARTALMÚ SZILÁRD ANYAG, M.N.N.
SGAV		2		VW10		CE10	80	3244	MARÓ FOLYADÉK TARTALMÚ SZILÁRD ANYAG, M.N.N.
		2			CW13 CW17 CW18 CW26 CW28 CW31		90	3245	GÉNTECHNOLÓGIÁVAL MÓDOSÍTOTT MIKROORGANIZMUSOK vagy GÉNTECHNOLÓGIÁVAL MÓDOSÍTOTT ÉLŐ SZERVEZETEK
		2			CW13 CW17 CW18 CW26 CW28 CW31		90	3245	GÉNTECHNOLÓGIÁVAL MÓDOSÍTOTT MIKROORGANIZMUSOK vagy GÉNTECHNOLÓGIÁVAL MÓDOSÍTOTT ÉLŐ SZERVEZETEK mélyhűtött, cseppfolyósított nitrogénben
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		668	3246	METÁN-SZULFONIL-KLORID
SGAN	TU3	2	W11		CW24	CE10	50	3247	VÍZMENTES NÁTRIUM-PEROXO-BORÁT
L4BH	TU15	2			CW13 CW28	CE7	336	3248	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ GYÓGYSZER, M.N.N.
L4BH	TU15	3			CW13 CW28	CE4	36	3248	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ GYÓGYSZER, M.N.N.
L4BH SGAH	TU15	2			CW13 CW28 CW31	CE9	60	3249	SZILÁRD, MÉRGEZŐ GYÓGYSZER, M.N.N.
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	3249	SZILÁRD, MÉRGEZŐ GYÓGYSZER, M.N.N.
L4BH	TU15 TC4	0			CW13 CW31		68	3250	OLVASZTOTT KLÓR-ECETSAV
		3	W1			CE11	40	3251	IZOSZORBID-5-MONONITRÁT
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	3252	DIFLUOR-METÁN (R 32 HŰTŐGÁZ)

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3253	DINÁTRIUM-TRIOXO-SZILIKÁT	8	C6	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3254	TRIBUTIL-FOSZFÁN	4.2	S1	I	4.2		LQ0	E0	P400		MP2	T21	TP2 TP7
3255	terc-BUTIL-HIPOKLORIT	4.2	SC1	A fuvarozásból ki van zárva									
3256	MAGAS HŐMÉRSÉKLETŰ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N., 60 °C feletti lobbanásponttal, a lobbanásponton vagy magasabb hőmérsékleten	3	F2	III	3	274 560	LQ0	E0	P099 IBC99		MP2	T3	TP3 TP29
3257	MAGAS HŐMÉRSÉKLETŰ FOLYÉKONY ANYAG, M.N.N., 100 °C-on vagy magasabb hőmérsékleten, de a lobbanáspont alatti hőmérsékleten (beleértve az olvasztott fémeket, olvasztott sókat, stb.)	9	M9	III	9	274 580 643	LQ0	E0	P099 IBC99			T3	TP3 TP29
3258	MAGAS HŐMÉRSÉKLETŰ SZILÁRD ANYAG, M.N.N., 240 °C-on vagy magasabb hőmérsékleten	9	M10	III	9	274 580 643	LQ0	E0	P099 IBC99			T3	
3259	SZILÁRD, MARÓ AMINOK, M.N.N. vagy SZILÁRD, MARÓ POLIAMINOK, M.N.N.	8	C8	I	8	274	LQ0	E0	P002 IBC07		MP18	T6	TP33
3259	SZILÁRD, MARÓ AMINOK, M.N.N. vagy SZILÁRD, MARÓ POLIAMINOK, M.N.N.	8	C8	II	8	274	LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
3259	SZILÁRD, MARÓ AMINOK, M.N.N. vagy SZILÁRD, MARÓ POLIAMINOK, M.N.N.	8	C8	III	8	274	LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3260	MARÓ, SZILÁRD, SAVAS SZERVETLEN ANYAG, M.N.N.	8	C2	I	8	274	LQ0	E0	P002 IBC07		MP18	T6	TP33
3260	MARÓ, SZILÁRD, SAVAS SZERVETLEN ANYAG, M.N.N.	8	C2	II	8	274	LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
3260	MARÓ, SZILÁRD, SAVAS SZERVETLEN ANYAG, M.N.N.	8	C2	III	8	274	LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3261	MARÓ, SZILÁRD, SAVAS SZERVES ANYAG, M.N.N.	8	C4	I	8	274	LQ0	E0	P002 IBC07		MP18	T6	TP33
3261	MARÓ, SZILÁRD, SAVAS SZERVES ANYAG, M.N.N.	8	C4	II	8	274	LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
3261	MARÓ, SZILÁRD, SAVAS SZERVES ANYAG, M.N.N.	8	C4	III	8	274	LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3262	MARÓ, SZILÁRD, LÚGOS SZERVETLEN ANYAG, M.N.N.	8	C6	I	8	274	LQ0	E0	P002 IBC07		MP18	T6	TP33
3262	MARÓ, SZILÁRD, LÚGOS SZERVETLEN ANYAG, M.N.N.	8	C6	II	8	274	LQ23	E2	P002 IBC08	B4	MP10	T3	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
SGAV		3		VW9		CE11	80	3253	DINÁTRIUM-TRIOXO-SZILIKÁT
		0	W1				333	3254	TRIBUTIL-FOSZFÁN
A fuvarozásból ki van zárva								3255	terc-BUTIL-HIPOKLORIT
LGAV	TU35	3				CE4	30	3256	MAGAS HŐMÉRSÉKLETŰ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N., 60 °C feletti lobbanásponttal, a lobbanásponton vagy magasabb hőmérsékleten
LGAV	TU35 TE6 TE14	3		VW12	CW17 CW31		99	3257	MAGAS HŐMÉRSÉKLETŰ FOLYÉKONY ANYAG, M.N.N., 100 °C-on vagy magasabb hőmérsékleten, de a lobbanáspont alatti hőmérsékleten (beleértve az olvasztott fémeket, olvasztott sókat, stb.)
		3		VW13	CW31		99	3258	MAGAS HŐMÉRSÉKLETŰ SZILÁRD ANYAG, M.N.N., 240 °C-on vagy magasabb hőmérsékleten
L10BH S10AN	TU38 TE22	1	W10 W12				88	3259	SZILÁRD, MARÓ AMINOK, M.N.N. vagy SZILÁRD, MARÓ POLIAMINOK, M.N.N.
L4BN SGAN		2	W11			CE10	80	3259	SZILÁRD, MARÓ AMINOK, M.N.N. vagy SZILÁRD, MARÓ POLIAMINOK, M.N.N.
L4BN SGAV		3		VW9		CE11	80	3259	SZILÁRD, MARÓ AMINOK, M.N.N. vagy SZILÁRD, MARÓ POLIAMINOK, M.N.N.
S10AN		1	W10 W12				88	3260	MARÓ, SZILÁRD, SAVAS SZERVETLEN ANYAG, M.N.N.
SGAN		2	W11			CE10	80	3260	MARÓ, SZILÁRD, SAVAS SZERVETLEN ANYAG, M.N.N.
SGAV		3		VW9		CE11	80	3260	MARÓ, SZILÁRD, SAVAS SZERVETLEN ANYAG, M.N.N.
L10BH S10AN	TU38 TE22	1	W10 W12				88	3261	MARÓ, SZILÁRD, SAVAS SZERVES ANYAG, M.N.N.
L4BN SGAN		2	W11			CE10	80	3261	MARÓ, SZILÁRD, SAVAS SZERVES ANYAG, M.N.N.
L4BN SGAV		3		VW9		CE11	80	3261	MARÓ, SZILÁRD, SAVAS SZERVES ANYAG, M.N.N.
L10BH S10AN	TU38 TE22	1	W10 W12				88	3262	MARÓ, SZILÁRD, LÚGOS SZERVETLEN ANYAG, M.N.N.
L4BN SGAN		2	W11			CE10	80	3262	MARÓ, SZILÁRD, LÚGOS SZERVETLEN ANYAG, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3262	MARÓ, SZILÁRD, LÚGOS SZERVETLEN ANYAG, M.N.N.	8	C6	III	8	274	LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3263	MARÓ, SZILÁRD, LÚGOS SZERVES ANYAG, M.N.N.	8	C8	I	8	274	LQ0	E0	P002 IBC07		MP18	T6	TP33
3263	MARÓ, SZILÁRD, LÚGOS SZERVES ANYAG, M.N.N.	8	C8	II	8	274	LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
3263	MARÓ, SZILÁRD, LÚGOS SZERVES ANYAG, M.N.N.	8	C8	III	8	274	LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3264	MARÓ, FOLYÉKONY, SAVAS SZERVETLEN ANYAG, M.N.N.	8	C1	I	8	274	LQ0	E0	P001		MP8 MP17	T14	TP2 TP27
3264	MARÓ, FOLYÉKONY, SAVAS SZERVETLEN ANYAG, M.N.N.	8	C1	II	8	274	LQ22	E2	P001 IBC02		MP15	T11	TP2 TP27
3264	MARÓ, FOLYÉKONY, SAVAS SZERVETLEN ANYAG, M.N.N.	8	C1	III	8	274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28
3265	MARÓ, FOLYÉKONY, SAVAS SZERVES ANYAG, M.N.N.	8	C3	I	8	274	LQ0	E0	P001		MP8 MP17	T14	TP2 TP27
3265	MARÓ, FOLYÉKONY, SAVAS SZERVES ANYAG, M.N.N.	8	C3	II	8	274	LQ22	E2	P001 IBC02		MP15	T11	TP2 TP27
3265	MARÓ, FOLYÉKONY, SAVAS SZERVES ANYAG, M.N.N.	8	C3	III	8	274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28
3266	MARÓ, FOLYÉKONY, LÚGOS SZERVETLEN ANYAG, M.N.N.	8	C5	I	8	274	LQ0	E0	P001		MP8 MP17	T14	TP2 TP27
3266	MARÓ, FOLYÉKONY, LÚGOS SZERVETLEN ANYAG, M.N.N.	8	C5	II	8	274	LQ22	E2	P001 IBC02		MP15	T11	TP2 TP27
3266	MARÓ, FOLYÉKONY, LÚGOS SZERVETLEN ANYAG, M.N.N.	8	C5	III	8	274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28
3267	MARÓ, FOLYÉKONY, LÚGOS SZERVES ANYAG, M.N.N.	8	C7	I	8	274	LQ0	E0	P001		MP8 MP17	T14	TP2 TP27
3267	MARÓ, FOLYÉKONY, LÚGOS SZERVES ANYAG, M.N.N.	8	C7	II	8	274	LQ22	E2	P001 IBC02		MP15	T11	TP2 TP27
3267	MARÓ, FOLYÉKONY, LÚGOS SZERVES ANYAG, M.N.N.	8	C7	III	8	274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28
3268	LÉGZSÁK GÁZGENERÁTOR vagy LÉGZSÁK MODUL vagy BIZTONSÁGI ÖV ELŐFESZÍTŐ	9	M5	III	9	280 289	LQ0	E0	P902 LP902				
3269	POLIÉSZTER-GYANTA KÉSZLET	3	F1	II	3	236 340	LQ6	E0	P302 R001				
3269	POLIÉSZTER-GYANTA KÉSZLET (a 2.2.3.1.4 pont szerint viszkózus)	3	F1	III	3	236 340	LQ7	E0	P302 R001				
3269	POLIÉSZTER-GYANTA KÉSZLET	3	F1	III	3	236 340	LQ7	E0	P302 R001				

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BN SGAV		3		VW9		CE11	80	3262	MARÓ, SZILÁRD, LÚGOS SZERVETLEN ANYAG, M.N.N.
L10BH S10AN	TU38 TE22	1	W10 W12				88	3263	MARÓ, SZILÁRD, LÚGOS SZERVES ANYAG, M.N.N.
L4BN SGAN		2	W11			CE10	80	3263	MARÓ, SZILÁRD, LÚGOS SZERVES ANYAG, M.N.N.
L4BN SGAV		3		VW9		CE11	80	3263	MARÓ, SZILÁRD, LÚGOS SZERVES ANYAG, M.N.N.
L10BH	TU38 TE22	1					88	3264	MARÓ, FOLYÉKONY, SAVAS SZERVETLEN ANYAG, M.N.N.
L4BN		2				CE6	80	3264	MARÓ, FOLYÉKONY, SAVAS SZERVETLEN ANYAG, M.N.N.
L4BN		3				CE8	80	3264	MARÓ, FOLYÉKONY, SAVAS SZERVETLEN ANYAG, M.N.N.
L10BH	TU38 TE22	1					88	3265	MARÓ, FOLYÉKONY, SAVAS SZERVES ANYAG, M.N.N.
L4BN		2				CE6	80	3265	MARÓ, FOLYÉKONY, SAVAS SZERVES ANYAG, M.N.N.
L4BN		3				CE8	80	3265	MARÓ, FOLYÉKONY, SAVAS SZERVES ANYAG, M.N.N.
L10BH	TU38 TE22	1					88	3266	MARÓ, FOLYÉKONY, LÚGOS SZERVETLEN ANYAG, M.N.N.
L4BN		2				CE6	80	3266	MARÓ, FOLYÉKONY, LÚGOS SZERVETLEN ANYAG, M.N.N.
L4BN		3				CE8	80	3266	MARÓ, FOLYÉKONY, LÚGOS SZERVETLEN ANYAG, M.N.N.
L10BH	TU38 TE22	1					88	3267	MARÓ, FOLYÉKONY, LÚGOS SZERVES ANYAG, M.N.N.
L4BN		2				CE6	80	3267	MARÓ, FOLYÉKONY, LÚGOS SZERVES ANYAG, M.N.N.
L4BN		3				CE8	80	3267	MARÓ, FOLYÉKONY, LÚGOS SZERVES ANYAG, M.N.N.
		4				CE2	90	3268	LÉGZSÁK GÁZGENERÁTOR vagy LÉGZSÁK MODUL vagy BIZTONSÁGI ÖV ELŐFESZÍTŐ
		2				CE7	33	3269	POLIÉSZTER-GYANTA KÉSZLET
		3				CE4	33	3269	POLIÉSZTER-GYANTA KÉSZLET (a 2.2.3.1.4 pont szerint viszkózus)
		3				CE4	30	3269	POLIÉSZTER-GYANTA KÉSZLET

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3270	NITROCELLULÓZ MEMBRÁNSZŰRŐK száraz tömegre vetítve legfeljebb 12,6% nitrogén- tartalommal	4.1	F1	II	4.1	237 286	LQ8	E2	P411		MP11		
3271	ÉTEREK, M.N.N.	3	F1	II	3	274	LQ4	E2	P001 IBC02 R001		MP19	T7	TP1 TP8 TP28
3271	ÉTEREK, M.N.N.	3	F1	III	3	274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1 TP29
3272	ÉSZTEREK, M.N.N.	3	F1	II	3	274 601	LQ4	E2	P001 IBC02 R001		MP19	T7	TP1 TP8 TP28
3272	ÉSZTEREK, M.N.N.	3	F1	III	3	274 601	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1 TP29
3273	GYŰLÉKONY, MÉRGEZŐ NITRILEK, M.N.N.	3	FT1	I	3 + 6.1	274	LQ0	E0	P001		MP7 MP17	T14	TP2 TP27
3273	GYŰLÉKONY, MÉRGEZŐ NITRILEK, M.N.N.	3	FT1	II	3 + 6.1	274	LQ0	E2	P001 IBC02		MP19	T11	TP2 TP27
3274	ALKOHOLÁTOK OLDATA, M.N.N., alkoholban	3	FC	II	3 + 8	274	LQ4	E2	P001 IBC02		MP19		
3275	MÉRGEZŐ, GYŰLÉKONY NITRILEK, M.N.N.	6.1	TF1	I	6.1 + 3	274 315	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3275	MÉRGEZŐ, GYŰLÉKONY NITRILEK, M.N.N.	6.1	TF1	II	6.1 + 3	274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3276	MÉRGEZŐ, FOLYÉKONY NITRILEK, M.N.N.	6.1	T1	I	6.1	274 315	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3276	MÉRGEZŐ, FOLYÉKONY NITRILEK, M.N.N.	6.1	T1	II	6.1	274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3276	MÉRGEZŐ, FOLYÉKONY NITRILEK, M.N.N.	6.1	T1	III	6.1	274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28
3277	MÉRGEZŐ, MARÓ, KLÓR- FORMIÁTOK, M.N.N.	6.1	TC1	II	6.1 + 8	274 561	LQ17	E4	P001 IBC02		MP15	T8	TP2 TP28
3278	MÉRGEZŐ, FOLYÉKONY, SZERVES FOSZFORVEGYÜLET, M.N.N.	6.1	T1	I	6.1	43 274 315	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		2	W1			CE10	40	3270	NITROCELLULÓZ MEMBRÁNSZŰRŐK száraz tömegre vetítve legfeljebb 12,6% nitrogén- tartalommal
LGBF		2				CE7	33	3271	ÉTEREK, M.N.N.
LGBF		3				CE4	30	3271	ÉTEREK, M.N.N.
LGBF		2				CE7	33	3272	ÉSZTEREK, M.N.N.
LGBF		3				CE4	30	3272	ÉSZTEREK, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	3273	GYÚLÉKONY, MÉRGEZŐ NITRILEK, M.N.N.
L4BH	TU15	2			CW13 CW28	CE7	336	3273	GYÚLÉKONY, MÉRGEZŐ NITRILEK, M.N.N.
L4BH		2				CE7	338	3274	ALKOHOLÁTOK OLDATA, M.N.N., alkoholban
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	3275	MÉRGEZŐ, GYÚLÉKONY NITRILEK, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	63	3275	MÉRGEZŐ, GYÚLÉKONY NITRILEK, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	3276	MÉRGEZŐ, FOLYÉKONY NITRILEK, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	3276	MÉRGEZŐ, FOLYÉKONY NITRILEK, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	3276	MÉRGEZŐ, FOLYÉKONY NITRILEK, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE9	68	3277	MÉRGEZŐ, MARÓ, KLÓR- FORMIÁTOK, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	3278	MÉRGEZŐ, FOLYÉKONY, SZERVES FOSZFORVEGYÜLET, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3278	MÉRGEZŐ, FOLYÉKONY, SZERVES FOSZFORVEGYÜLET, M.N.N.	6.1	T1	II	6.1	43 274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3278	MÉRGEZŐ, FOLYÉKONY, SZERVES FOSZFORVEGYÜLET, M.N.N.	6.1	T1	III	6.1	43 274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28
3279	MÉRGEZŐ, GYÚLÉKONY, SZERVES FOSZFORVEGYÜLET, M.N.N.	6.1	TF1	I	6.1 + 3	43 274 315	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3279	MÉRGEZŐ, GYÚLÉKONY, SZERVES FOSZFORVEGYÜLET, M.N.N.	6.1	TF1	II	6.1 + 3	43 274	LQ17	E4	P001		MP15	T11	TP2 TP27
3280	FOLYÉKONY, SZERVES ARZÉNEGYÜLET, M.N.N.	6.1	T3	I	6.1	274 315	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3280	FOLYÉKONY, SZERVES ARZÉNEGYÜLET, M.N.N.	6.1	T3	II	6.1	274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3280	FOLYÉKONY, SZERVES ARZÉNEGYÜLET, M.N.N.	6.1	T3	III	6.1	274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28
3281	FOLYÉKONY FÉM-KARBONILOK, M.N.N.	6.1	T3	I	6.1	274 315 562	LQ0	E5	P601		MP8 MP17	T14	TP2 TP27
3281	FOLYÉKONY FÉM-KARBONILOK, M.N.N.	6.1	T3	II	6.1	274 562	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3281	FOLYÉKONY FÉM-KARBONILOK, M.N.N.	6.1	T3	III	6.1	274 562	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28
3282	MÉRGEZŐ, FOLYÉKONY, SZERVES FÉMVEGYÜLET, M.N.N.	6.1	T3	I	6.1	274 562	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3282	MÉRGEZŐ, FOLYÉKONY, SZERVES FÉMVEGYÜLET, M.N.N.	6.1	T3	II	6.1	274 562	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3282	MÉRGEZŐ, FOLYÉKONY, SZERVES FÉMVEGYÜLET, M.N.N.	6.1	T3	III	6.1	274 562	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldeménydarabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	3278	MÉRGEZŐ, FOLYÉKONY, SZERVES FOSZFORVEGYÜLET, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	3278	MÉRGEZŐ, FOLYÉKONY, SZERVES FOSZFORVEGYÜLET, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	3279	MÉRGEZŐ, GYÚLÉKONY, SZERVES FOSZFORVEGYÜLET, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	63	3279	MÉRGEZŐ, GYÚLÉKONY, SZERVES FOSZFORVEGYÜLET, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	3280	FOLYÉKONY, SZERVES ARZÉNVEGYÜLET, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	3280	FOLYÉKONY, SZERVES ARZÉNVEGYÜLET, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE11	60	3280	FOLYÉKONY, SZERVES ARZÉNVEGYÜLET, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	3281	FOLYÉKONY FÉM-KARBONILOK, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	3281	FOLYÉKONY FÉM-KARBONILOK, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	3281	FOLYÉKONY FÉM-KARBONILOK, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	3282	MÉRGEZŐ, FOLYÉKONY, SZERVES FÉMVEGYÜLET, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	3282	MÉRGEZŐ, FOLYÉKONY, SZERVES FÉMVEGYÜLET, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	3282	MÉRGEZŐ, FOLYÉKONY, SZERVES FÉMVEGYÜLET, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3283	SZILÁRD SZELÉNVEGYÜLET, M.N.N.	6.1	T5	I	6.1	274 563	LQ0	E5	P002 IBC07		MP18	T6	TP33
3283	SZILÁRD SZELÉNVEGYÜLET, M.N.N.	6.1	T5	II	6.1	274 563	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3283	SZILÁRD SZELÉNVEGYÜLET, M.N.N.	6.1	T5	III	6.1	274 563	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3284	TELLÚRVEGYÜLET, M.N.N.	6.1	T5	I	6.1	274	LQ0	E5	P002 IBC07		MP18	T6	TP33
3284	TELLÚRVEGYÜLET, M.N.N.	6.1	T5	II	6.1	274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3284	TELLÚRVEGYÜLET, M.N.N.	6.1	T5	III	6.1	274	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3285	VANÁDIUMVEGYÜLET, M.N.N.	6.1	T5	I	6.1	274 564	LQ0	E5	P002 IBC07		MP18	T6	TP33
3285	VANÁDIUMVEGYÜLET, M.N.N.	6.1	T5	II	6.1	274 564	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3285	VANÁDIUMVEGYÜLET, M.N.N.	6.1	T5	III	6.1	274 564	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3286	MÉRGEZŐ, MARÓ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.	3	FTC	I	3 + 6.1 + 8	274	LQ0	E0	P001		MP7 MP17	T14	TP2 TP27
3286	MÉRGEZŐ, MARÓ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.	3	FTC	II	3 + 6.1 + 8	274	LQ0	E2	P001 IBC02		MP19	T11	TP2 TP27
3287	SZERVETLEN, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	6.1	T4	I	6.1	274 315	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3287	SZERVETLEN, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	6.1	T4	II	6.1	274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66	3283	SZILÁRD SZELENVEGYÜLET, M.N.N.
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3283	SZILÁRD SZELENVEGYÜLET, M.N.N.
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	3283	SZILÁRD SZELENVEGYÜLET, M.N.N.
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66	3284	TELLÚRVEGYÜLET, M.N.N.
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3284	TELLÚRVEGYÜLET, M.N.N.
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	3284	TELLÚRVEGYÜLET, M.N.N.
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66	3285	VANÁDIUMVEGYÜLET, M.N.N.
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3285	VANÁDIUMVEGYÜLET, M.N.N.
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	3285	VANÁDIUMVEGYÜLET, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		368	3286	MÉRGEZŐ, MARÓ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.
L4BH	TU15	2			CW13 CW28	CE7	368	3286	MÉRGEZŐ, MARÓ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	3287	SZERVETLEN, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	3287	SZERVETLEN, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- mago- lási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3287	SZERVETLEN, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	6.1	T4	III	6.1	274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP1 TP28
3288	SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	6.1	T5	I	6.1	274	LQ0	E5	P002 IBC07		MP18	T6	TP33
3288	SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	6.1	T5	II	6.1	274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3288	SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	6.1	T5	III	6.1	274	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3289	MARÓ, SZERVETLEN, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	6.1	TC3	I	6.1 + 8	274 315	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3289	MARÓ, SZERVETLEN, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	6.1	TC3	II	6.1 + 8	274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3290	MARÓ, SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	6.1	TC4	I	6.1 + 8	274	LQ0	E5	P002 IBC05		MP18	T6	TP33
3290	MARÓ, SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	6.1	TC4	II	6.1 + 8	274	LQ18	E4	P002 IBC06		MP10	T3	TP33
3291	NEM SPECIFIKÁLT KÓRHÁZI HULLADÉK, M.N.N. vagy (BIO)GYÓGYÁSZATI HULLADÉK, M.N.N. vagy SZABÁLYOZOTT GYÓGYÁSZATI HULLADÉK, M.N.N.	6.2	I3	II	6.2	565	LQ0	E0	P621 IBC620 LP621		MP6	BK2	
3291	NEM SPECIFIKÁLT KÓRHÁZI HULLADÉK, M.N.N. vagy (BIO)GYÓGYÁSZATI HULLADÉK, M.N.N. vagy SZABÁLYOZOTT GYÓGYÁSZATI HULLADÉK, M.N.N. mélyhűtött, cseppfolyósított nitrogénben	6.2	I3	II	6.2 +2.2	565	LQ0	E0	P621 IBC620 LP621		MP6		
3292	NÁTRIUMAKKUMULÁTOROK vagy NÁTRIUMCELLÁK	4.3	W3	II	4.3	239 295	LQ0	E0	P408				
3293	HIDRAZIN VIZES OLDAT legfeljebb 37 tömeg% hidrazintartalommal	6.1	T4	III	6.1	566	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	3287	SZERVETLEN, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66	3288	SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3288	SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	3288	SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		668	3289	MARÓ, SZERVETLEN, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	68	3289	MARÓ, SZERVETLEN, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.
L10CH S10AH	TU15 TU38 TE22	1	W10		CW13 CW28 CW31		668	3290	MARÓ, SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
L4BH SGAH	TU15	2	W11 W12		CW13 CW28 CW31	CE5	68	3290	MARÓ, SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.
		2	W9	VW11	CW13 CW18 CW28	CE14	606	3291	NEM SPECIFIKÁLT KÓRHÁZI HULLADÉK, M.N.N. vagy (BIO)GYÓGYÁSZATI HULLADÉK, M.N.N. vagy SZABÁLYOZOTT GYÓGYÁSZATI HULLADÉK, M.N.N.
		2	W9		CW13 CW18 CW28	CE14	606	3291	NEM SPECIFIKÁLT KÓRHÁZI HULLADÉK, M.N.N. vagy (BIO)GYÓGYÁSZATI HULLADÉK, M.N.N. vagy SZABÁLYOZOTT GYÓGYÁSZATI HULLADÉK, M.N.N. mélyhűtött, cseppfolyósított nitrogénben
		2	W1		CW23	CE2	423	3292	NÁTRIUMAKKUMULÁTOROK vagy NÁTRIUMCELLÁK
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	3293	HIDRAZIN VIZES OLDAT legfeljebb 37 tömeg% hidrazintartalommal

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3294	HIDROGÉN-CIANID ALKOHOLOS OLDAT legfeljebb 45% hidrogén-cianid tartalommal	6.1	TF1	I	6.1 + 3	610	LQ0	E5	P601		MP8 MP17	T14	TP2
3295	FOLYÉKONY SZÉNHIIDROGÉNEK, M.N.N.	3	F1	I	3	649	LQ3	E3	P001		MP7 MP17	T11	TP1 TP8 TP28
3295	FOLYÉKONY SZÉNHIIDROGÉNEK, M.N.N. (gőznyomás 50 °C-on nagyobb mint 110 kPa)	3	F1	II	3	640C 649	LQ4	E2	P001		MP19	T7	TP1 TP8 TP28
3295	FOLYÉKONY SZÉNHIIDROGÉNEK, M.N.N. (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	II	3	640D 649	LQ4	E2	P001 IBC02 R001		MP19	T7	TP1 TP8 TP28
3295	FOLYÉKONY SZÉNHIIDROGÉNEK, M.N.N.	3	F1	III	3		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1 TP29
3296	HEPTAFLUOR-PROPÁN (R 227 HŰTŐGÁZ)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
3297	ETILÉN-OXID ÉS KLÓR- TETRAFLUOR-ETÁN KEVERÉK legfeljebb 8,8% etilén-oxid tartalommal	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
3298	ETILÉN-OXID ÉS PENTAFLUOR- ETÁN KEVERÉK legfeljebb 7,9% etilén- oxid tartalommal	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
3299	ETILÉN-OXID ÉS TETRAFLUOR- ETÁN KEVERÉK legfeljebb 5,6% etilén- oxid tartalommal	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
3300	ETILÉN-OXID ÉS SZÉN-DIOXID KEVERÉK 87%-nál több etilén-oxid tartalommal	2	2TF		2.3 + 2.1 (+13)		LQ0	E0	P200		MP9	(M)	
3301	ÖNMELEGEDŐ, MARÓ FOLYÉKONY ANYAG, M.N.N.	8	CS1	I	8 + 4.2	274	LQ0	E0	P001		MP8 MP17		
3301	ÖNMELEGEDŐ, MARÓ FOLYÉKONY ANYAG, M.N.N.	8	CS1	II	8 + 4.2	274	LQ22	E2	P001		MP15		
3302	2-DIMETIL-AMINO-ETIL-AKRILÁT	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
3303	SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, M.N.N.	2	1TO		2.3 + 5.1 (+13)	274	LQ0	E0	P200		MP9	(M)	



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L15DH(+)	TU14 TU15 TU38 TE21 TE22 TE25	0			CW13 CW28 CW31		663	3294	HIDROGÉN-CIANID ALKOHOLOS OLDAT legfeljebb 45% hidrogén-cianid tartalommal
L4BN		1					33	3295	FOLYÉKONY SZÉNHDROGÉNEK, M.N.N.
L1.5BN		2				CE7	33	3295	FOLYÉKONY SZÉNHDROGÉNEK, M.N.N. (gőznyomás 50 °C-on nagyobb mint 110 kPa)
LGBF		2				CE7	33	3295	FOLYÉKONY SZÉNHDROGÉNEK, M.N.N. (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	3295	FOLYÉKONY SZÉNHDROGÉNEK, M.N.N.
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	3296	HEPTAFLUOR-PROPÁN (R 227 HÜTŐGÁZ)
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	3297	ETILÉN-OXID ÉS KLÓR-TETRAFLUOR-ETÁN KEVERÉK legfeljebb 8,8% etilén-oxid tartalommal
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	3298	ETILÉN-OXID ÉS PENTAFLUOR-ETÁN KEVERÉK legfeljebb 7,9% etilén-oxid tartalommal
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	3299	ETILÉN-OXID ÉS TETRAFLUOR-ETÁN KEVERÉK legfeljebb 5,6% etilén-oxid tartalommal
P*BH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		263	3300	ETILÉN-OXID ÉS SZÉN-DIOXID KEVERÉK 87%-nál több etilén-oxid tartalommal
L10BH	TU38 TE22	1					884	3301	ÖNMELEGEDŐ, MARÓ FOLYÉKONY ANYAG, M.N.N.
L4BN		2				CE6	84	3301	ÖNMELEGEDŐ, MARÓ FOLYÉKONY ANYAG, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	3302	2-DIMETIL-AMINO-ETIL-AKRILÁT
C*BH(M)	TU6 TU38 TE22 TE25 TA4 TT9	1			CW9 CW10 CW36		265	3303	SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3304	SŰRÍTETT GÁZ, MÉRGEZŐ, MARÓ, M.N.N.	2	1TC		2.3 + 8 (+13)	274	LQ0	E0	P200		MP9	(M)	
3305	SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚLÉKONY, MARÓ, M.N.N.	2	1TFC		2.3 + 2.1 + 8 (+13)	274	LQ0	E0	P200		MP9	(M)	
3306	SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, MARÓ, M.N.N.	2	1TOC		2.3 + 5.1 + 8 (+13)	274	LQ0	E0	P200		MP9	(M)	
3307	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, M.N.N.	2	2TO		2.3 + 5.1 (+13)	274	LQ0	E0	P200		MP9	(M)	
3308	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, MARÓ, M.N.N.	2	2TC		2.3 + 8 (+13)	274	LQ0	E0	P200		MP9	(M)	
3309	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚLÉKONY, MARÓ, M.N.N.	2	2TFC		2.3 + 2.1 + 8 (+13)	274	LQ0	E0	P200		MP9	(M)	
3310	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, MARÓ, M.N.N.	2	2TOC		2.3 + 5.1 + 8 (+13)	274	LQ0	E0	P200		MP9	(M)	
3311	MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT, GYÚJTÓ HATÁSÚ GÁZ, M.N.N.	2	3O		2.2 + 5.1 (+13)	274	LQ0	E0	P203		MP9	T75	TP5 TP22

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
C*BH(M)	TU6 TU38 TE22 TE25 TA4 TT9	1			CW9 CW10 CW36		268	3304	SŰRÍTETT GÁZ, MÉRGEZŐ, MARÓ, M.N.N.
C*BH(M)	TU6 TU38 TE22 TE25 TA4 TT9	1			CW9 CW10 CW36		263	3305	SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚLÉKONY, MARÓ, M.N.N.
C*BH(M)	TU6 TU38 TE22 TE25 TA4 TT9	1			CW9 CW10 CW36		265	3306	SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, MARÓ, M.N.N.
P*BH(M)	TU6 TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		265	3307	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, M.N.N.
P*BH(M)	TU6 TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		268	3308	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, MARÓ, M.N.N.
P*BH(M)	TU6 TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		263	3309	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚLÉKONY, MARÓ, M.N.N.
P*BH(M)	TU6 TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		265	3310	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, MARÓ, M.N.N.
R*BN	TU7 TU19 TA4 TT9 TM6	3	W5		CW9 CW11 CW30 CW36	CE2	225	3311	MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT, GYÚJTÓ HATÁSÚ GÁZ, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Osztályozási kód	Csomagolási csoport	Bárcák	Különleges előírások	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru-konténer	
									Csomagolási utasítások	Különleges csomagolási előírások	Egybe-csomagolási előírások		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3312	MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT, GYÚLÉKONY GÁZ, M.N.N.	2	3F		2.1 (+13)	274	LQ0	E0	P203		MP9	T75	TP5
3313	ÖNMELEGEDŐ SZERVES PIGMENTEK	4.2	S2	II	4.2		LQ0	E2	P002 IBC08	B4	MP14	T3	TP33
3313	ÖNMELEGEDŐ SZERVES PIGMENTEK	4.2	S2	III	4.2		LQ0	E1	P002 IBC08 LP02 R001	B3	MP14	T1	TP33
3314	MŰANYAG SAJTOLÓANYAG gyúlékony gőzt fejlesztő massa, lemez vagy extrudált profil formában	9	M3	III	-	207 633	LQ27	E1	P002 IBC08 R001	PP14 B3 B6	MP10		
3315	MÉRGEZŐ VEGYIANYAG MINTA	6.1	T8	I	6.1	250	LQ0	E5	P099		MP8 MP17		
3316	VIZSGÁLÓKÉSZLET vagy ELSŐSEGÉLY FELSZERELÉS	9	M11	II	9	251 340	LQ0	E0	P901				
3316	VIZSGÁLÓKÉSZLET vagy ELSŐSEGÉLY FELSZERELÉS	9	M11	III	9	251 340	LQ0	E0	P901				
3317	2-AMINO-4,6-DINITRO-FENOL, legalább 20 tömeg% vízzel NEDVESÍTETT	4.1	D	I	4.1		LQ0	E0	P406	PP26	MP2		
3318	AMMÓNIA OLDAT, vizes, relatív sűrűség 15 °C-on kisebb, mint 0,880, 50%-nál több ammóniatartalommal	2	4TC		2.3 + 8 (+13)	23	LQ0	E0	P200		MP9	T50 (M)	
3319	NITROGLICERIN KEVERÉK, ÉRZÉKETLENÍTETT, M.N.N., 2 tömeg%-nál több, de legfeljebb 10 tömeg% nitroglicerín-tartalommal	4.1	D	II	4.1	272 274	LQ0	E0	P099 IBC99		MP2		
3320	NÁTRIUM-BÓR-HIDRID ÉS NÁTRIUM-HIDROXID OLDAT legfeljebb 12 tömeg% nátrium-bór-hidrid és legfeljebb 40 tömeg% nátrium-hidroxid tartalommal	8	C5	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
3320	NÁTRIUM-BÓR-HIDRID ÉS NÁTRIUM-HIDROXID OLDAT legfeljebb 12 tömeg% nátrium-bór-hidrid és legfeljebb 40 tömeg% nátrium-hidroxid tartalommal	8	C5	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP2
3321	KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-II), nem hasadó vagy hasadó-engedményes	7			7X	172 317 325 336	LQ0	E0	Lásd 2.2.7 és 4.1.9	Lásd 4.1.9.1.3		T5	TP4
3322	KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-III), nem hasadó vagy hasadó-engedményes	7			7X	172 317 325 336	LQ0	E0	Lásd 2.2.7 és 4.1.9	Lásd 4.1.9.1.3		T5	TP4

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
R*BN	TU18 TU38 TE22 TA4 TT9 TM6	2	W5		CW9 CW11 CW30 CW36	CE2	223	3312	MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT, GYÚLÉKONY GÁZ, M.N.N.
SGAV		2	W1			CE10	40	3313	ÖNMELEGEDŐ SZERVES PIGMENTEK
SGAV		3	W1			CE11	40	3313	ÖNMELEGEDŐ SZERVES PIGMENTEK
		3		VW3	CW31	CE11	90	3314	MŰANYAG SAJTOLOÁNYAG gyúlékony gőzt fejlesztő massa, lemez vagy extrudált profil formában
		1			CW13 CW28 CW31		66	3315	MÉRGEZŐ VEGYIANYAG MINTA
		2					90	3316	VIZSGÁLÓKÉSZLET vagy ELSŐSEGÉLY FELSZERELÉS
		3					90	3316	VIZSGÁLÓKÉSZLET vagy ELSŐSEGÉLY FELSZERELÉS
		1	W1				40	3317	2-AMINO-4,6-DINITRO-FENOL, legalább 20 tömeg% vízzel NEDVESÍTETT
P*BH(M)	TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10		268	3318	AMMÓNIA OLDAT, vizes, relatív sűrűség 15 °C-on kisebb, mint 0,880, 50%-nál több ammóniatartalommal
		2	W1			CE10	40	3319	NITROGLICERIN KEVERÉK, ÉRZÉKETLENÍTETT, M.N.N., 2 tömeg%-nál több, de legfeljebb 10 tömeg% nitroglicerintartalommal
L4BN		2				CE6	80	3320	NÁTRIUM-BÓR-HIDRID ÉS NÁTRIUM-HIDROXID OLDAT legfeljebb 12 tömeg% nátrium-bór-hidrid és legfeljebb 40 tömeg% nátrium-hidroxid tartalommal
L4BN		3				CE8	80	3320	NÁTRIUM-BÓR-HIDRID ÉS NÁTRIUM-HIDROXID OLDAT legfeljebb 12 tömeg% nátrium-bór-hidrid és legfeljebb 40 tömeg% nátrium-hidroxid tartalommal
L2.65CN(+) S2.65AN(+)	TU36 TT7 TM7	0			CW33	CE15	70	3321	KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-II), nem hasadó vagy hasadó-engedményes
L2.65CN(+) S2.65AN(+)	TU36 TT7 TM7	0			CW33	CE15	70	3322	KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-III), nem hasadó vagy hasadó-engedményes

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3323	RADIOAKTÍV ANYAG, C TÍPUSÚ KÜLDEMÉNYDARABBAN, nem hasadó vagy hasadó-engedményes	7			7X	172 317	LQ0	E0	Lásd 2.2.7 és 4.1.9	Lásd 4.1.9.1.3			
3324	KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-II), HASADÓ	7			7X + 7E	172 326 336	LQ0	E0	Lásd 2.2.7 és 4.1.9	Lásd 4.1.9.1.3			
3325	KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-III), HASADÓ	7			7X + 7E	172 326 336	LQ0	E0	Lásd 2.2.7 és 4.1.9	Lásd 4.1.9.1.3			
3326	RADIOAKTÍV ANYAG, HASADÓ, SZENNYEZETT FELÜLETŰ TÁRGYAK, (SCO-I vagy SCO-II)	7			7X + 7E	172 336	LQ0	E0	Lásd 2.2.7 és 4.1.9	Lásd 4.1.9.1.3			
3327	RADIOAKTÍV ANYAG, HASADÓ, A TÍPUSÚ KÜLDEMÉNY- DARABBAN, nem különleges formában	7			7X + 7E	172 326	LQ0	E0	Lásd 2.2.7 és 4.1.9	Lásd 4.1.9.1.3			
3328	RADIOAKTÍV ANYAG, HASADÓ, B(U) TÍPUSÚ KÜLDEMÉNYDARABBAN	7			7X + 7E	172 337	LQ0	E0	Lásd 2.2.7 és 4.1.9	Lásd 4.1.9.1.3			
3329	RADIOAKTÍV ANYAG, HASADÓ, B(M) TÍPUSÚ KÜLDEMÉNYDARABBAN	7			7X + 7E	172 337	LQ0	E0	Lásd 2.2.7 és 4.1.9	Lásd 4.1.9.1.3			
3330	RADIOAKTÍV ANYAG, HASADÓ, C TÍPUSÚ KÜLDEMÉNYDARABBAN	7			7X + 7E	172	LQ0	E0	Lásd 2.2.7 és 4.1.9	Lásd 4.1.9.1.3			
3331	RADIOAKTÍV ANYAG, HASADÓ, KÜLÖN MEGEGYEZÉS ALAPJÁN SZÁLLÍTOTT	7			7X + 7E	172	LQ0	E0	Lásd 2.2.7 és 4.1.9	Lásd 4.1.9.1.3			
3332	RADIOAKTÍV ANYAG, A TÍPUSÚ KÜLDEMÉNYDARABBAN, KÜLÖNLEGES FORMÁBAN, nem hasadó vagy hasadó-engedményes	7			7X	172 317	LQ0	E0	Lásd 2.2.7 és 4.1.9	Lásd 4.1.9.1.3			
3333	RADIOAKTÍV ANYAG, HASADÓ, A TÍPUSÚ KÜLDEMÉNYDARABBAN, KÜLÖNLEGES FORMÁBAN	7			7X + 7E	172	LQ0	E0	Lásd 2.2.7 és 4.1.9	Lásd 4.1.9.1.3			
3334	LÉGI FORGALOMBAN SZABÁLYOZOTT FOLYADÉK, M.N.N.	9	M11	Nem tartozik a RID hatálya alá									
3335	LÉGI FORGALOMBAN SZABÁLYOZOTT SZILÁRD ANYAG, M.N.N.	9	M11	Nem tartozik a RID hatálya alá									
3336	FOLYÉKONY, GYÚLÉKONY MERKAPTÁNOK, M.N.N. vagy FOLYÉKONY, GYÚLÉKONY MERKAPTÁN KEVERÉK, M.N.N.	3	F1	I	3	274	LQ3	E3	P001		MP7 MP17	T11	TP2

RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldeménydarabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		0			CW33	CE15	70	3323	RADIOAKTÍV ANYAG, C TÍPUSÚ KÜLDEMÉNYDARABBAN, nem hasadó vagy hasadó-engedményes
		0			CW33	CE15	70	3324	KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-II), HASADÓ
		0			CW33	CE15	70	3325	KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-III), HASADÓ
		0			CW33	CE15	70	3326	RADIOAKTÍV ANYAG, HASADÓ, SZENNYEZETT FELÜLETŰ TÁRGYAK, (SCO-I vagy SCO-II)
		0			CW33	CE15	70	3327	RADIOAKTÍV ANYAG, HASADÓ, A TÍPUSÚ KÜLDEMÉNYDARABBAN, nem különleges formában
		0			CW33	CE15	70	3328	RADIOAKTÍV ANYAG, HASADÓ, B(U) TÍPUSÚ KÜLDEMÉNYDARABBAN
		0			CW33	CE15	70	3329	RADIOAKTÍV ANYAG, HASADÓ, B(M) TÍPUSÚ KÜLDEMÉNYDARABBAN
		0			CW33	CE15	70	3330	RADIOAKTÍV ANYAG, HASADÓ, C TÍPUSÚ KÜLDEMÉNYDARABBAN
		0			CW33	CE15	70	3331	RADIOAKTÍV ANYAG, HASADÓ, KÜLÖN MEGEGYEZÉS ALAPJÁN SZÁLLÍTOTT
		0			CW33	CE15	70	3332	RADIOAKTÍV ANYAG, A TÍPUSÚ KÜLDEMÉNYDARABBAN, KÜLÖNLEGES FORMÁBAN, nem hasadó vagy hasadó-engedményes
		0			CW33	CE15	70	3333	RADIOAKTÍV ANYAG, HASADÓ, A TÍPUSÚ KÜLDEMÉNYDARABBAN, KÜLÖNLEGES FORMÁBAN
Nem tartozik a RID hatálya alá								3334	LÉGI FORGALOMBAN SZABÁLYOZOTT FOLYADÉK, M.N.N.
Nem tartozik a RID hatálya alá								3335	LÉGI FORGALOMBAN SZABÁLYOZOTT SZILÁRD ANYAG, M.N.N.
L4BN		1					33	3336	FOLYÉKONY, GYÚLÉKONY MERKAPTÁNOK, M.N.N. vagy FOLYÉKONY, GYÚLÉKONY MERKAPTÁN KEVERÉK, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3336	FOLYÉKONY, GYŰLÉKONY MERKAPTÁNOK, M.N.N. vagy FOLYÉKONY, GYŰLÉKONY MERKAPTÁN KEVERÉK, M.N.N. (gőznyomás 50 °C-on nagyobb mint 110 kPa)	3	F1	II	3	274 640C	LQ4	E2	P001		MP19	T7	TP1 TP8 TP28
3336	FOLYÉKONY, GYŰLÉKONY MERKAPTÁNOK, M.N.N. vagy FOLYÉKONY, GYŰLÉKONY MERKAPTÁN KEVERÉK, M.N.N. (gőznyomás 50 °C-on legfeljebb 110 kPa)	3	F1	II	3	274 640D	LQ4	E2	P001 IBC02 R001		MP19	T7	TP1 TP8 TP28
3336	FOLYÉKONY, GYŰLÉKONY MERKAPTÁNOK, M.N.N. vagy FOLYÉKONY, GYŰLÉKONY MERKAPTÁN KEVERÉK, M.N.N.	3	F1	III	3	274	LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1 TP29
3337	R 404A HŰTŐGÁZ (pentafluor-etán, 1,1,1-trifluor-etán és 1,1,1,2-tetrafluor- etán zeotrop keveréke kb. 44% pentafluor-etán és 52% 1,1,1-trifluor- etán tartalommal)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
3338	R 407A HŰTŐGÁZ (difluor-metán, pentafluor-etán és 1,1,1,2-tetrafluor-etán zeotrop keveréke kb. 20% difluor-metán és 40% pentafluor-etán tartalommal)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
3339	R 407B HŰTŐGÁZ (difluor-metán, pentafluor-etán és 1,1,1,2-tetrafluor-etán zeotrop keveréke kb. 10% difluor-metán és 70% pentafluor-etán tartalommal)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
3340	R 407C HŰTŐGÁZ (difluor-metán, pentafluor-etán és 1,1,1,2-tetrafluor-etán zeotrop keveréke kb. 23% difluor-metán és 25% pentafluor-etán tartalommal)	2	2A		2.2 (+13)		LQ1	E1	P200		MP9	T50 (M)	
3341	TIOKARBAMID-DIOXID	4.2	S2	II	4.2		LQ0	E2	P002 IBC06		MP14	T3	TP33
3341	TIOKARBAMID-DIOXID	4.2	S2	III	4.2		LQ0	E1	P002 IBC08 LP02 R001	B3	MP14	T1	TP33
3342	XANTÁTOK	4.2	S2	II	4.2		LQ0	E2	P002 IBC06		MP14	T3	TP33
3342	XANTÁTOK	4.2	S2	III	4.2		LQ0	E1	P002 IBC08 LP02 R001	B3	MP14	T1	TP33
3343	NITROGLICERIN KEVERÉK, ÉRZÉKETLENÍTETT, FOLYÉKONY, GYŰLÉKONY, M.N.N., legfeljebb 30 tömeg% nitroglicerín-tartalommal	3	D		3	274 278	LQ0	E0	P099		MP2		



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L1.5BN		2				CE7	33	3336	FOLYÉKONY, GYÚLÉKONY MERKAPTÁNOK, M.N.N. vagy FOLYÉKONY, GYÚLÉKONY MERKAPTÁN KEVERÉK, M.N.N. (gőznyomás 50 °C-on nagyobb mint 110 kPa)
LGBF		2				CE7	33	3336	FOLYÉKONY, GYÚLÉKONY MERKAPTÁNOK, M.N.N. vagy FOLYÉKONY, GYÚLÉKONY MERKAPTÁN KEVERÉK, M.N.N. (gőznyomás 50 °C-on legfeljebb 110 kPa)
LGBF		3				CE4	30	3336	FOLYÉKONY, GYÚLÉKONY MERKAPTÁNOK, M.N.N. vagy FOLYÉKONY, GYÚLÉKONY MERKAPTÁN KEVERÉK, M.N.N.
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	3337	R 404A HŰTŐGÁZ (pentafluor-etán, 1,1,1-trifluor-etán és 1,1,1,2-tetrafluor-etán zeotrop keveréke kb. 44% pentafluor-etán és 52% 1,1,1-trifluor-etán tartalommal)
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	3338	R 407A HŰTŐGÁZ (difluor-metán, pentafluor-etán és 1,1,1,2-tetrafluor-etán zeotrop keveréke kb. 20% difluor-metán és 40% pentafluor-etán tartalommal)
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	3339	R 407B HŰTŐGÁZ (difluor-metán, pentafluor-etán és 1,1,1,2-tetrafluor-etán zeotrop keveréke kb. 10% difluor-metán és 70% pentafluor-etán tartalommal)
P*BN(M)	TA4 TT9 TM6	3			CW9 CW10 CW36	CE3	20	3340	R 407C HŰTŐGÁZ (difluor-metán, pentafluor-etán és 1,1,1,2-tetrafluor-etán zeotrop keveréke kb. 23% difluor-metán és 25% pentafluor-etán tartalommal)
SGAV		2	W1 W12			CE10	40	3341	TIOKARBAMID-DIOXID
SGAV		3	W1			CE11	40	3341	TIOKARBAMID-DIOXID
SGAV		2	W1 W12			CE10	40	3342	XANTÁTOK
SGAV		3	W1			CE11	40	3342	XANTÁTOK
		0					30/33	3343	NITROGLICERIN KEVERÉK, ÉRZÉKETLENÍTETT, FOLYÉKONY, GYÚLÉKONY, M.N.N., legfeljebb 30 tömeg% nitroglicerintartalommal

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3344	PENTAERITRIT-TETRANITRÁT (PETN) KEVERÉK, ÉRZÉKETLENÍTETT, SZILÁRD, M.N.N., 10 tömeg%-nál több, de legfeljebb 20 tömeg% PETN tartalommal	4.1	D	II	4.1	272 274	LQ0	E0	P099		MP2		
3345	SZILÁRD, MÉRGEZŐ FENOXI- ECETSAV SZÁRMAZÉK PESZTICID	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33
3345	SZILÁRD, MÉRGEZŐ FENOXI- ECETSAV SZÁRMAZÉK PESZTICID	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3345	SZILÁRD, MÉRGEZŐ FENOXI- ECETSAV SZÁRMAZÉK PESZTICID	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3346	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	I	3 + 6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27
3346	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	II	3 + 6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27
3347	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY FENOXI-ECETSAV SZÁRMAZÉK PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	I	6.1 + 3	61 274	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3347	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY FENOXI-ECETSAV SZÁRMAZÉK PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	II	6.1 + 3	61 274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3347	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY FENOXI-ECETSAV SZÁRMAZÉK PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	III	6.1 + 3	61 274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP2 TP28
3348	FOLYÉKONY, MÉRGEZŐ FENOXI- ECETSAV SZÁRMAZÉK PESZTICID	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3348	FOLYÉKONY, MÉRGEZŐ FENOXI- ECETSAV SZÁRMAZÉK PESZTICID	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3348	FOLYÉKONY, MÉRGEZŐ FENOXI- ECETSAV SZÁRMAZÉK PESZTICID	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		2	W1			CE10	40	3344	PENTAERITRIT-TETRANITRÁT (PETN) KEVERÉK, ÉRZÉKETLENÍTETT, SZILÁRD, M.N.N., 10 tömeg%-nál több, de legfeljebb 20 tömeg% PETN tartalommal
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66	3345	SZILÁRD, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60	3345	SZILÁRD, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60	3345	SZILÁRD, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	3346	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID (lobbanáspont 23 °C alatt)
L4BH	TU15	2			CW13 CW28	CE7	336	3346	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID (lobbanáspont 23 °C alatt)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663	3347	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY FENOXI-ECETSAV SZÁRMAZÉK PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63	3347	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY FENOXI-ECETSAV SZÁRMAZÉK PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63	3347	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY FENOXI-ECETSAV SZÁRMAZÉK PESZTICID (lobbanáspont legalább 23 °C)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66	3348	FOLYÉKONY, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60	3348	FOLYÉKONY, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60	3348	FOLYÉKONY, MÉRGEZŐ FENOXI-ECETSAV SZÁRMAZÉK PESZTICID

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3349	SZILÁRD, MÉRGEZŐ PIRETROID PESZTICID	6.1	T7	I	6.1	61 274 648	LQ0	E5	P002 IBC07		MP18	T6	TP33
3349	SZILÁRD, MÉRGEZŐ PIRETROID PESZTICID	6.1	T7	II	6.1	61 274 648	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3349	SZILÁRD, MÉRGEZŐ PIRETROID PESZTICID	6.1	T7	III	6.1	61 274 648	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3350	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ PIRETROID PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	I	3 + 6.1	61 274	LQ3	E0	P001		MP7 MP17	T14	TP2 TP27
3350	FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ PIRETROID PESZTICID (lobbanáspont 23 °C alatt)	3	FT2	II	3 + 6.1	61 274	LQ4	E2	P001 IBC02 R001		MP19	T11	TP2 TP27
3351	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY PIRETROID PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	I	6.1 + 3	61 274	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3351	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY PIRETROID PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	II	6.1 + 3	61 274	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3351	FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY PIRETROID PESZTICID (lobbanáspont legalább 23 °C)	6.1	TF2	III	6.1 + 3	61 274	LQ7	E1	P001 IBC03 R001		MP19	T7	TP2 TP28
3352	FOLYÉKONY, MÉRGEZŐ PIRETROID PESZTICID	6.1	T6	I	6.1	61 274 648	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3352	FOLYÉKONY, MÉRGEZŐ PIRETROID PESZTICID	6.1	T6	II	6.1	61 274 648	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3352	FOLYÉKONY, MÉRGEZŐ PIRETROID PESZTICID	6.1	T6	III	6.1	61 274 648	LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28
3354	GYÚLÉKONY ROVARIRTÓ GÁZ, M.N.N.	2	2F		2.1 (+13)	274	LQ0	E0	P200		MP9	(M)	

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31	CE12	66	3349	SZILÁRD, MÉRGEZŐ PIRETROID PESZTICID
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9 CE12	60	3349	SZILÁRD, MÉRGEZŐ PIRETROID PESZTICID
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11 CE12	60	3349	SZILÁRD, MÉRGEZŐ PIRETROID PESZTICID
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28		336	3350	FOLYÉKONY, GYŰLÉKONY, MÉRGEZŐ PIRETROID PESZTICID (lobbanáspont 23 °C alatt)
L4BH	TU15	2			CW13 CW28	CE7	336	3350	FOLYÉKONY, GYŰLÉKONY, MÉRGEZŐ PIRETROID PESZTICID (lobbanáspont 23 °C alatt)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	663	3351	FOLYÉKONY, MÉRGEZŐ, GYŰLÉKONY PIRETROID PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	63	3351	FOLYÉKONY, MÉRGEZŐ, GYŰLÉKONY PIRETROID PESZTICID (lobbanáspont legalább 23 °C)
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	63	3351	FOLYÉKONY, MÉRGEZŐ, GYŰLÉKONY PIRETROID PESZTICID (lobbanáspont legalább 23 °C)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31	CE12	66	3352	FOLYÉKONY, MÉRGEZŐ PIRETROID PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE5 CE12	60	3352	FOLYÉKONY, MÉRGEZŐ PIRETROID PESZTICID
L4BH	TU15	2			CW13 CW28 CW31	CE8 CE12	60	3352	FOLYÉKONY, MÉRGEZŐ PIRETROID PESZTICID
P*BN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36	CE3	23	3354	GYŰLÉKONY ROVARIRTÓ GÁZ, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3355	MÉRGEZŐ, GYÚLÉKONY ROVARIRTÓ GÁZ, M.N.N.	2	2TF		2.3 + 2.1 (+13)	274	LQ0	E0	P200		MP9	(M)	
3356	KÉMIAI OXIGÉNFEJLESZTŐ	5.1	O3	II	5.1	284	LQ0	E0	P500		MP2		
3357	NITROGLICERIN KEVERÉK, ÉRZÉKETLENÍTETT, FOLYÉKONY, M.N.N., legfeljebb 30 tömeg% nitroglicerintartalommal	3	D	II	3	274 288	LQ0	E0	P099		MP2		
3358	HÜTŐGÉPEK, gyúlékony, nem mérgező, cseppfolyósított gáz tartalommal	2	6F		2.1	291	LQ0	E0	P003	PP32	MP9		
3359	GÁZOSÍTÓSZER HATÁSA ALATT ÁLLÓ EGYSÉG	9	M11			302							
3360	SZÁRAZ, NÖVÉNYI EREDETŰ SZÁLAK	4.1	F1	Nem tartozik a RID hatálya alá									
3361	MÉRGEZŐ, MARÓ KLÓR-SZILÁNOK M.N.N.	6.1	TC1	II	6.1 + 8	274	LQ0	E4	P010		MP15	T14	TP2 TP7 TP27
3362	MÉRGEZŐ, MARÓ, GYÚLÉKONY KLÓR-SZILÁNOK, M.N.N.	6.1	TFC	II	6.1 + 3 + 8	274	LQ0	E4	P010		MP15	T14	TP2 TP7 TP27
3363	VESZÉLYES ÁRU KÉSZÜLÉKBEN vagy VESZÉLYES ÁRU BERENDEZÉSBEN	9	M11	Nem tartozik a RID hatálya alá [lásd még az 1.1.3.1 b) pontot]									
3364	TRINITRO-FENOL (PIKRINSAV), legalább 10 tömeg% vízzel NEDVESÍTETT	4.1	D	I	4.1		LQ0	E0	P406	PP24	MP2		
3365	TRINITRO-KLÓR-BENZOL (PIKRIL- KLORID), legalább 10 tömeg% vízzel NEDVESÍTETT	4.1	D	I	4.1		LQ0	E0	P406	PP24	MP2		
3366	TRINITRO-TOLUOL (TROTEL, TNT), legalább 10 tömeg% vízzel NEDVESÍTETT	4.1	D	I	4.1		LQ0	E0	P406	PP24	MP2		
3367	TRINITRO-BENZOL, legalább 10 tömeg% vízzel NEDVESÍTETT	4.1	D	I	4.1		LQ0	E0	P406	PP24	MP2		
3368	TRINITRO-BENZOESAV, legalább 10 tömeg% vízzel NEDVESÍTETT	4.1	D	I	4.1		LQ0	E0	P406	PP24	MP2		
3369	NÁTRIUM-DINITRO-o-KREZOLÁT, legalább 10 tömeg% vízzel NEDVESÍTETT	4.1	DT	I	4.1 + 6.1		LQ0	E0	P406	PP24	MP2		
3370	KARBAMID-NITRÁT, legalább 10 tömeg% vízzel NEDVESÍTETT	4.1	D	I	4.1		LQ0	E0	P406	PP78	MP2		
3371	2-METIL-BUTIRALDEHID	3	F1	II	3		LQ4	E2	P001 IBC02 R001		MP19	T4	TP1
3373	„B” KATEGÓRIÁJÚ BIOLÓGIAI ANYAG	6.2	I4		6.2	319	LQ0	E0	P650			T1	TP1

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
P*BH(M)	TU6 TU38 TE22 TE25 TA4 TT9 TM6	1			CW9 CW10 CW36		263	3355	MÉRGEZŐ, GYÚLÉKONY ROVARIRTÓ GÁZ, M.N.N.
		2			CW24		50	3356	KÉMIAI OXIGÉNFEJLESZTŐ
		2				CE7	33	3357	NITROGLICERIN KEVERÉK, ÉRZÉKETLENÍTETT, FOLYÉKONY, M.N.N., legfeljebb 30 tömeg% nitroglicerín-tartalommal
		2			CW9	CE2	23	3358	HŰTŐGÉPEK, gyúlékony, nem mérgező, cseppfolyósított gáz tartalommal
								3359	GÁZOSÍTÓSZER HATÁSA ALATT ÁLLÓ EGYSÉG
Nem tartozik a RID hatálya alá								3360	SZÁRAZ, NÖVÉNYI EREDETŰ SZÁLAK
L4BH	TU15	2			CW13 CW28 CW31	CE5	68	3361	MÉRGEZŐ, MARÓ KLÓR-SZILÁNOK M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	638	3362	MÉRGEZŐ, MARÓ, GYÚLÉKONY KLÓR-SZILÁNOK, M.N.N.
Nem tartozik a RID hatálya alá [lásd még az 1.1.3.1 b) pontot]								3363	VESZÉLYES ÁRU KÉSZÜLÉKBEN vagy VESZÉLYES ÁRU BERENDEZÉSBEN
		1	W1				40	3364	TRINITRO-FENOL (PIKRINSAV), legalább 10 tömeg% vízzel NEDVESÍTETT
		1	W1				40	3365	TRINITRO-KLÓR-BENZOL (PIKRIL-KLORID), legalább 10 tömeg% vízzel NEDVESÍTETT
		1	W1				40	3366	TRINITRO-TOLUOL (TROTEL, TNT), legalább 10 tömeg% vízzel NEDVESÍTETT
		1	W1				40	3367	TRINITRO-BENZOL, legalább 10 tömeg% vízzel NEDVESÍTETT
		1	W1				40	3368	TRINITRO-BENZOESAV, legalább 10 tömeg% vízzel NEDVESÍTETT
		1	W1		CW13 CW28		46	3369	NÁTRIUM-DINITRO-o-KREZOLÁT, legalább 10 tömeg% vízzel NEDVESÍTETT
		1	W1				40	3370	KARBAMID-NITRÁT, legalább 10 tömeg% vízzel NEDVESÍTETT
LGBF		2				CE7	33	3371	2-METIL-BUTIRALDEHID
L4BH	TU15 TU37					CE14	606	3373	„B” KATEGÓRIÁJÚ BIOLÓGIAI ANYAG

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3373	„B” KATEGÓRIÁJÚ BIOLÓGIAI ANYAG (csak állati eredetű anyagok)	6.2	I4		6.2	319	LQ0	E0	P650			T1 BK1 BK2	TP1
3374	OLDÓSZERMENTES ACETILÉN	2	2F		2.1		LQ0	E0	P200		MP9		
3375	AMMÓNIUM-NITRÁT EMULZIÓ vagy AMMÓNIUM-NITRÁT SZUSZPENZIÓ vagy AMMÓNIUM-NITRÁT GÉL, köztes termék robbantóanyag előállításához, folyékony	5.1	O1	II	5.1	309	LQ0	E2	P099 IBC99		MP2	T1	TP1 TP9 TP17 TP32
3375	AMMÓNIUM-NITRÁT EMULZIÓ vagy AMMÓNIUM-NITRÁT SZUSZPENZIÓ vagy AMMÓNIUM-NITRÁT GÉL, köztes termék robbantóanyag előállításához, szilárd	5.1	O2	II	5.1	309	LQ0	E2	P099 IBC99		MP2	T1	TP1 TP9 TP17 TP32
3376	4-NITRO-FENIL-HIDRAZIN legalább 30 tömeg% vízzel	4.1	D	I	4.1		LQ0	E0	P406	PP26	MP2		
3377	NÁTRIUM-PERBORÁT- MONOHIDRÁT	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1 BK1 BK2	TP33
3378	NÁTRIUM-KARBONÁT- PEROXIHIDRÁT	5.1	O2	II	5.1		LQ11	E2	P002 IBC08	B4	MP10	T3 BK1 BK2	TP33
3378	NÁTRIUM-KARBONÁT- PEROXIHIDRÁT	5.1	O2	III	5.1		LQ12	E1	P002 IBC08 LP02 R001	B3	MP10	T1 BK1 BK2	TP33
3379	FOLYÉKONY, ÉRZÉKETLENÍTETT ROBBANÓANYAG, M.N.N.	3	D	I	3	274 311	LQ0	E0	P099		MP2		
3380	SZILÁRD, ÉRZÉKETLENÍTETT ROBBANÓANYAG, M.N.N.	4.1	D	I	4.1	274 311	LQ0	E0	P099		MP2		
3381	BELÉLEGEZVE MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa	6.1	T1 vagy T4	I	6.1	274	LQ0	E5	P601		MP8 MP17	T22	TP2
3382	BELÉLEGEZVE MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese	6.1	T1 vagy T4	I	6.1	274	LQ0	E5	P602		MP8 MP17	T20	TP2



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15 TU37	-				CE14	606	3373	„B” KATEGÓRIÁJÚ BIOLÓGIAI ANYAG (csak állati eredetű anyagok)
		2			CW9 CW10 CW36	CE3	239	3374	OLDÓSZERMENTES ACETILÉN
LGAV(+)	TU3 TU12 TU39 TE10 TE23 TA1 TA3	2			CW24		50	3375	AMMÓNIUM-NITRÁT EMULZIÓ vagy AMMÓNIUM-NITRÁT SZUSZPENZIÓ vagy AMMÓNIUM-NITRÁT GÉL, köztes termék robbantóanyag előállításához, folyékony
SGAV(+)	TU3 TU12 TU39 TE10 TE23 TA1 TA3	2			CW24		50	3375	AMMÓNIUM-NITRÁT EMULZIÓ vagy AMMÓNIUM-NITRÁT SZUSZPENZIÓ vagy AMMÓNIUM-NITRÁT GÉL, köztes termék robbantóanyag előállításához, szilárd
		1	W1			CE10	40	3376	4-NITRO-FENIL-HIDRAZIN legalább 30 tömeg% vízzel
SGAV	TU3	3		VW8	CW24	CE11	50	3377	NÁTRIUM-PERBORÁT-MONOHIDRÁT
SGAV	TU3	2	W11	VW8	CW24	CE10	50	3378	NÁTRIUM-KARBONÁT-PEROXIHIDRÁT
SGAV	TU3	3		VW8	CW24	CE11	50	3378	NÁTRIUM-KARBONÁT-PEROXIHIDRÁT
		1					33	3379	FOLYÉKONY, ÉRZÉKETLENÍTETT ROBBANÓANYAG, M.N.N.
		1	W1				40	3380	SZILÁRD, ÉRZÉKETLENÍTETT ROBBANÓANYAG, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	3381	BELÉLEGEZVE MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	3382	BELÉLEGEZVE MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3383	BELÉLEGEZVE MÉRGEZŐ, GYÚLÉKONY, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500- szorosa	6.1	TF1	I	6.1 + 3	274	LQ0	E5	P601		MP8 MP17	T22	TP2
3384	BELÉLEGEZVE MÉRGEZŐ, GYÚLÉKONY, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10- szerese	6.1	TF1	I	6.1 + 3	274	LQ0	E5	P602		MP8 MP17	T20	TP2
3385	BELÉLEGEZVE MÉRGEZŐ, VÍZZEL REAKTÍV, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa	6.1	TW1	I	6.1 + 4.3	274	LQ0	E5	P601		MP8 MP17	T22	TP2
3386	BELÉLEGEZVE MÉRGEZŐ, VÍZZEL REAKTÍV, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese	6.1	TW1	I	6.1 + 4.3	274	LQ0	E5	P602		MP8 MP17	T20	TP2
3387	BELÉLEGEZVE MÉRGEZŐ, GYÚJTÓ HATÁSÚ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa	6.1	TO1	I	6.1 + 5.1	274	LQ0	E5	P601		MP8 MP17	T22	TP2
3388	BELÉLEGEZVE MÉRGEZŐ, GYÚJTÓ HATÁSÚ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese	6.1	TO1	I	6.1 + 5.1	274	LQ0	E5	P602		MP8 MP17	T20	TP2
3389	BELÉLEGEZVE MÉRGEZŐ, MARÓ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa	6.1	TC1 vagy TC3	I	6.1 + 8	274	LQ0	E5	P601		MP8 MP17	T22	TP2

RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldeménydarabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	3383	BELÉLEGEZVE MÉRGEZŐ, GYÚLÉKONY, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		663	3384	BELÉLEGEZVE MÉRGEZŐ, GYÚLÉKONY, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		623	3385	BELÉLEGEZVE MÉRGEZŐ, VÍZZEL REAKTÍV, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		623	3386	BELÉLEGEZVE MÉRGEZŐ, VÍZZEL REAKTÍV, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		665	3387	BELÉLEGEZVE MÉRGEZŐ, GYÚJTÓ HATÁSÚ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		665	3388	BELÉLEGEZVE MÉRGEZŐ, GYÚJTÓ HATÁSÚ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		668	3389	BELÉLEGEZVE MÉRGEZŐ, MARÓ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3390	BELÉLEGEZVE MÉRGEZŐ, MARÓ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese	6.1	TC1 vagy TC3	I	6.1 + 8	274	LQ0	E5	P602		MP8 MP17	T20	TP2
3391	PIROFOROS, SZILÁRD, SZERVES FÉMVEGYÜLET	4.2	S5	I	4.2	274	LQ0	E0	P404	PP86	MP2	T21	TP7 TP33
3392	PIROFOROS, FOLYÉKONY, SZERVES FÉMVEGYÜLET	4.2	S5	I	4.2	274	LQ0	E0	P400	PP86	MP2	T21	TP2 TP7
3393	PIROFOROS, VÍZZEL REAKTÍV, SZILÁRD, SZERVES FÉMVEGYÜLET	4.2	SW	I	4.2 + 4.3	274	LQ0	E0	P404	PP86	MP2	T21	TP7 TP33
3394	PIROFOROS, VÍZZEL REAKTÍV, FOLYÉKONY, SZERVES FÉMVEGYÜLET	4.2	SW	I	4.2 + 4.3	274	LQ0	E0	P400	PP86	MP2	T21	TP2 TP7
3395	VÍZZEL REAKTÍV, SZILÁRD, SZERVES FÉMVEGYÜLET	4.3	W2	I	4.3	274	LQ0	E0	P403		MP2	T9	TP7 TP33
3395	VÍZZEL REAKTÍV, SZILÁRD, SZERVES FÉMVEGYÜLET	4.3	W2	II	4.3	274	LQ11	E2	P410 IBC04		MP14	T3	TP33
3395	VÍZZEL REAKTÍV, SZILÁRD, SZERVES FÉMVEGYÜLET	4.3	W2	III	4.3	274	LQ12	E1	P410 IBC06		MP14	T1	TP33

RID-tartály		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		668	3390	BELÉLEGEZVE MÉRGEZŐ, MARÓ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese
L21DH	TU4 TU14 TU22 TU38 TC1 TE21 TE22 TE25 TM1	0	W1				43	3391	PIROFOROS, SZILÁRD, SZERVES FÉMVEGYÜLET
L21DH	TU4 TU14 TU22 TU38 TC1 TE21 TE22 TE25 TM1	0	W1				333	3392	PIROFOROS, FOLYÉKONY, SZERVES FÉMVEGYÜLET
L21DH	TU4 TU14 TU22 TU38 TC1 TE21 TE22 TE25 TM1	0	W1				X432	3393	PIROFOROS, VÍZZEL REAKTÍV, SZILÁRD, SZERVES FÉMVEGYÜLET
L21DH	TU4 TU14 TU22 TU38 TC1 TE21 TE22 TE25 TM1	0	W1				X333	3394	PIROFOROS, VÍZZEL REAKTÍV, FOLYÉKONY, SZERVES FÉMVEGYÜLET
L10DH S10AN	TU4 TU14 TU22 TU38 TE21 TE22 TM2	1	W1		CW23		X423	3395	VÍZZEL REAKTÍV, SZILÁRD, SZERVES FÉMVEGYÜLET
L4DH SGAN	TU14 TE21 TM2	2	W1		CW23	CE10	423	3395	VÍZZEL REAKTÍV, SZILÁRD, SZERVES FÉMVEGYÜLET
L4DH SGAN	TU14 TE21 TM2	3	W1		CW23	CE11	423	3395	VÍZZEL REAKTÍV, SZILÁRD, SZERVES FÉMVEGYÜLET

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3396	VÍZZEL REAKTÍV, GYÚLÉKONY, SZILÁRD, SZERVES FÉMVEGYÜLET	4.3	WF2	I	4.3 + 4.1	274	LQ0	E0	P403		MP2	T9	TP7 TP33
3396	VÍZZEL REAKTÍV, GYÚLÉKONY, SZILÁRD, SZERVES FÉMVEGYÜLET	4.3	WF2	II	4.3 + 4.1	274	LQ11	E2	P410 IBC04		MP14	T3	TP33
3396	VÍZZEL REAKTÍV, GYÚLÉKONY, SZILÁRD, SZERVES FÉMVEGYÜLET	4.3	WF2	III	4.3 + 4.1	274	LQ12	E1	P410 IBC06		MP14	T1	TP33
3397	VÍZZEL REAKTÍV, ÖNMELEGEDŐ, SZILÁRD, SZERVES FÉMVEGYÜLET	4.3	WS	I	4.3 + 4.2	274	LQ0	E0	P403		MP2	T9	TP7 TP33
3397	VÍZZEL REAKTÍV, ÖNMELEGEDŐ, SZILÁRD, SZERVES FÉMVEGYÜLET	4.3	WS	II	4.3 + 4.2	274	LQ11	E2	P410 IBC04		MP14	T3	TP33
3397	VÍZZEL REAKTÍV, ÖNMELEGEDŐ, SZILÁRD, SZERVES FÉMVEGYÜLET	4.3	WS	III	4.3 + 4.2	274	LQ12	E1	P410 IBC06		MP14	T1	TP33
3398	VÍZZEL REAKTÍV, FOLYÉKONY SZERVES FÉMVEGYÜLET	4.3	W1	I	4.3	274	LQ0	E0	P402		MP2	T13	TP2 TP7
3398	VÍZZEL REAKTÍV, FOLYÉKONY, SZERVES FÉMVEGYÜLET	4.3	W1	II	4.3	274	LQ10	E2	P001 IBC01		MP15	T7	TP2 TP7
3398	VÍZZEL REAKTÍV, FOLYÉKONY, SZERVES FÉMVEGYÜLET	4.3	W1	III	4.3	274	LQ13	E1	P001 IBC02		MP15	T7	TP2 TP7
3399	VÍZZEL REAKTÍV, GYÚLÉKONY, FOLYÉKONY SZERVES FÉMVEGYÜLET	4.3	WF1	I	4.3 + 3	274	LQ0	E0	P402		MP2	T13	TP2 TP7
3399	VÍZZEL REAKTÍV, GYÚLÉKONY, FOLYÉKONY, SZERVES FÉMVEGYÜLET	4.3	WF1	II	4.3 + 3	274	LQ10	E2	P001 IBC01		MP15	T7	TP2 TP7
3399	VÍZZEL REAKTÍV, GYÚLÉKONY, FOLYÉKONY, SZERVES FÉMVEGYÜLET	4.3	WF1	III	4.3 + 3	274	LQ13	E1	P001 IBC02 R001		MP15	T7	TP2 TP7
3400	ÖNMELEGEDŐ, SZILÁRD, SZERVES FÉMVEGYÜLET	4.2	S5	II	4.2	274	LQ18	E2	P410 IBC06		MP14	T3	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10DH S10AN	TU4 TU14 TU22 TU38 TE21 TE22 TM2	0	W1		CW23		X423	3396	VÍZZEL REAKTÍV, GYÚLÉKONY, SZILÁRD, SZERVES FÉMVEGYÜLET
L4DH SGAN	TU14 TE21 TM2	0	W1		CW23	CE10	423	3396	VÍZZEL REAKTÍV, GYÚLÉKONY, SZILÁRD, SZERVES FÉMVEGYÜLET
L4DH SGAN	TU14 TE21 TM2	0	W1		CW23	CE11	423	3396	VÍZZEL REAKTÍV, GYÚLÉKONY, SZILÁRD, SZERVES FÉMVEGYÜLET
L10DH S10AN	TU14 TU38 TE21 TE22 TM2	1	W1		CW23		X423	3397	VÍZZEL REAKTÍV, ÖNMELEGEDŐ, SZILÁRD, SZERVES FÉMVEGYÜLET
L4DH SGAN		2	W1		CW23	CE10	423	3397	VÍZZEL REAKTÍV, ÖNMELEGEDŐ, SZILÁRD, SZERVES FÉMVEGYÜLET
L4DH SGAN		3	W1		CW23	CE11	423	3397	VÍZZEL REAKTÍV, ÖNMELEGEDŐ, SZILÁRD, SZERVES FÉMVEGYÜLET
L10DH	TU4 TU14 TU22 TU38 TE21 TE22 TM2	0	W1		CW23		X323	3398	VÍZZEL REAKTÍV, FOLYÉKONY SZERVES FÉMVEGYÜLET
L4DH	TU14 TE21 TM2	0	W1		CW23	CE7	323	3398	VÍZZEL REAKTÍV, FOLYÉKONY, SZERVES FÉMVEGYÜLET
L4DH	TU14 TE21 TM2	0	W1		CW23	CE8	323	3398	VÍZZEL REAKTÍV, FOLYÉKONY. SZERVES FÉMVEGYÜLET
L10DH	TU4 TU14 TU22 TU38 TE21 TE22 TM2	0	W1		CW23		X323	3399	VÍZZEL REAKTÍV, GYÚLÉKONY, FOLYÉKONY SZERVES FÉMVEGYÜLET
L4DH	TU4 TU14 TU22 TE21 TM2	0	W1		CW23	CE7	323	3399	VÍZZEL REAKTÍV, GYÚLÉKONY, FOLYÉKONY, SZERVES FÉMVEGYÜLET
L4DH	TU14 TE21 TM2	0	W1		CW23	CE8	323	3399	VÍZZEL REAKTÍV, GYÚLÉKONY, FOLYÉKONY, SZERVES FÉMVEGYÜLET
L4BN SGAN		2	W1 W12			CE10	40	3400	ÖNMELEGEDŐ, SZILÁRD, SZERVES FÉMVEGYÜLET

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3400	ÖNMELEGEDŐ, SZILÁRD, SZERVES FÉMVEGYÜLET	4.2	S5	III	4.2	274	LQ11	E1	P002 IBC08		MP14	T1	TP33
3401	SZILÁRD ALKÁLIFÉM AMALGÁM	4.3	W2	I	4.3	182 274	LQ0	E0	P403		MP2	T9	TP7 TP33
3402	SZILÁRD ALKÁLIFÖLDFÉM AMALGÁM	4.3	W2	I	4.3	183 274 506	LQ0	E0	P403		MP2	T9	TP7 TP33
3403	SZILÁRD KÁLIUMFÉM ÖTVÖZETEK	4.3	W2	I	4.3		LQ0	E0	P403		MP2	T9	TP7 TP33
3404	SZILÁRD KÁLIUM-NÁTRIUM ÖTVÖZETEK	4.3	W2	I	4.3		LQ0	E0	P403		MP2	T9	TP7 TP33
3405	BÁRIUM-KLORÁT OLDAT	5.1	OT1	II	5.1 + 6.1		LQ10	E2	P504 IBC02		MP2	T4	TP1
3405	BÁRIUM-KLORÁT OLDAT	5.1	OT1	III	5.1 + 6.1		LQ13	E1	P001 IBC02		MP2	T4	TP1
3406	BÁRIUM-PERKLORÁT OLDAT	5.1	OT1	II	5.1 + 6.1		LQ10	E2	P504 IBC02		MP2	T4	TP1
3406	BÁRIUM-PERKLORÁT OLDAT	5.1	OT1	III	5.1 + 6.1		LQ13	E1	P001 IBC02		MP2	T4	TP1
3407	OLDOTT KLORÁT ÉS MAGNÉZIUM- KLORID KEVERÉK	5.1	O1	II	5.1		LQ10	E2	P504 IBC02		MP2	T4	TP1
3407	OLDOTT KLORÁT ÉS MAGNÉZIUM- KLORID KEVERÉK	5.1	O1	III	5.1		LQ13	E1	P504 IBC02		MP2	T4	TP1
3408	ÓLOM-PERKLORÁT OLDAT	5.1	OT1	II	5.1 + 6.1		LQ10	E2	P504 IBC02		MP2	T4	TP1
3408	ÓLOM-PERKLORÁT OLDAT	5.1	OT1	III	5.1 + 6.1		LQ13	E1	P001 IBC02		MP2	T4	TP1
3409	FOLYÉKONY KLÓR-NITRO- BENZOLOK	6.1	T1	II	6.1	279	LQ17	E4	P001 IBC02		MP15	T7	TP2
3410	4-KLÓR-o-TOLUIDIN-HIDROKLORID OLDAT	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 R001		MP19	T4	TP1
3411	béta-NAFTIL-AMIN OLDAT	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
3411	béta-NAFTIL-AMIN OLDAT	6.1	T1	III	6.1		LQ7	E1	P001 IBC02		MP19	T7	TP2
3412	HANGYASAV legalább 10 tömeg%, de legfeljebb 85 tömeg% savtartalommal	8	C3	II	8		LQ22	E2	P001 IBC02		MP15	T7	TP2
3412	HANGYASAV legalább 5 tömeg%, de 10 tömeg%-nál kevesebb savtartalommal	8	C3	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BN SGAN		3	W1			CE11	40	3400	ÖNMELEGEDŐ, SZILÁRD, SZERVES FÉMVEGYÜLET
L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X423	3401	SZILÁRD ALKÁLIFÉM AMALGÁM
L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X423	3402	SZILÁRD ALKÁLIFÖLDFÉM AMALGÁM
L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X423	3403	SZILÁRD KÁLIUMFÉM ÖTVÖZETEK
L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23		X423	3404	SZILÁRD KÁLIUM-NÁTRIUM ÖTVÖZETEK
L4BN	TU3	2			CW24 CW28	CE6	56	3405	BÁRIUM-KLORÁT OLDAT
LGBV	TU3	3			CW24 CW28	CE8	56	3405	BÁRIUM-KLORÁT OLDAT
L4BN	TU3	2			CW24 CW28	CE6	56	3406	BÁRIUM-PERKLORÁT OLDAT
LGBV	TU3	3			CW24 CW28	CE8	56	3406	BÁRIUM-PERKLORÁT OLDAT
L4BN	TU3	2			CW24	CE6	50	3407	OLDOTT KLORÁT ÉS MAGNÉZIUM-KLORID KEVERÉK
LGBV	TU3	3			CW24	CE8	50	3407	OLDOTT KLORÁT ÉS MAGNÉZIUM-KLORID KEVERÉK
L4BN	TU3	2			CW24 CW28	CE6	56	3408	ÓLOM-PERKLORÁT OLDAT
LGBV	TU3	3			CW24 CW28	CE8	56	3408	ÓLOM-PERKLORÁT OLDAT
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	3409	FOLYÉKONY KLÓR-NITRO-BENZOLOK
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	3410	4-KLÓR-o-TOLUIDIN-HIDROKLORID OLDAT
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	3411	béta-NAFTIL-AMIN OLDAT
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	3411	béta-NAFTIL-AMIN OLDAT
L4BN		2				CE6	80	3412	HANGYASAV legalább 10 tömeg%, de legfeljebb 85 tömeg% savtartalommal
L4BN		3				CE8	80	3412	HANGYASAV legalább 5 tömeg%, de 10 tömeg%-nál kevesebb savtartalommal

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- mago- lási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3413	KÁLIUM-CIANID OLDAT	6.1	T4	I	6.1		LQ0	E5	P001		MP8 MP17	T14	TP2
3413	KÁLIUM-CIANID OLDAT	6.1	T4	II	6.1		LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3413	KÁLIUM-CIANID OLDAT	6.1	T4	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28
3414	NÁTRIUM-CIANID OLDAT	6.1	T4	I	6.1		LQ0	E5	P001		MP8 MP17	T14	TP2
3414	NÁTRIUM-CIANID OLDAT	6.1	T4	II	6.1		LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3414	NÁTRIUM-CIANID OLDAT	6.1	T4	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T7	TP2 TP28
3415	NÁTRIUM-FLUORID OLDAT	6.1	T4	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
3416	FOLYÉKONY KLÓR-ACETOFENON	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
3417	SZILÁRD XILIL-BROMID	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3418	2,4-TOLUILÉN-DIAMIN OLDAT	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
3419	SZILÁRD BÓR-TRIFLUORID- ECETSAV KOMPLEX	8	C4	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
3420	SZILÁRD BÓR-TRIFLUORID- PROPIONSÁV KOMPLEX	8	C4	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
3421	KÁLIUM-HIDROGÉN-DIFLUORID OLDAT (kálium-bifluorid)	8	CT1	II	8 + 6.1		LQ22	E2	P001 IBC02		MP15	T7	TP2
3421	KÁLIUM-HIDROGÉN-DIFLUORID OLDAT (kálium-bifluorid)	8	CT1	III	8 + 6.1		LQ7	E1	P001 IBC03 R001		MP19	T4	TP1
3422	KÁLIUM-FLUORID OLDAT	6.1	T4	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
3423	SZILÁRD TETRAMETIL- AMMÓNIUM-HIDROXID	8	C8	II	8		LQ24	E2	P002 IBC08	B4	MP10	T3	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	3413	KÁLIUM-CIANID OLDAT
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	3413	KÁLIUM-CIANID OLDAT
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	3413	KÁLIUM-CIANID OLDAT
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	3414	NÁTRIUM-CIANID OLDAT
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	3414	NÁTRIUM-CIANID OLDAT
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	3414	NÁTRIUM-CIANID OLDAT
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	3415	NÁTRIUM-FLUORID OLDAT
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	3416	FOLYÉKONY KLÓR-ACETOFENON
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3417	SZILÁRD XILIL-BROMID
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	3418	2,4-TOLUILÉN-DIAMIN OLDAT
L4BN SGAN		2	W11			CE10	80	3419	SZILÁRD BÓR-TRIFLUORID- ECETSAV KOMPLEX
L4BN SGAN		2	W11			CE10	80	3420	SZILÁRD BÓR-TRIFLUORID- PROPIONSAV KOMPLEX
L4DH	TU14 TE17 TE21 TT4	2			CW13 CW28	CE6	86	3421	KÁLIUM-HIDROGÉN-DIFLUORID OLDAT (kálium-bifluorid)
L4DH	TU14 TE21	3			CW13 CW28	CE8	86	3421	KÁLIUM-HIDROGÉN-DIFLUORID OLDAT (kálium-bifluorid)
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	3422	KÁLIUM-FLUORID OLDAT
L4BN SGAN		2	W11			CE10	80	3423	SZILÁRD TETRAMETIL- AMMÓNIUM-HIDROXID

UN szám	Megnevezés és leírás	Osztály	Oszta- lyozási kód	Csoma- golási csoport	Bárcák	Különle- ges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztartáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3424	AMMÓNÍUM-DINITRO-o-KREZOLÁT OLDAT	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
3424	AMMÓNÍUM-DINITRO-o-KREZOLÁT OLDAT	6.1	T1	III	6.1		LQ7	E1	P001 IBC02		MP19	T7	TP2
3425	SZILÁRD BRÓM-ECETSAV	8	C4	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
3426	AKRILAMID OLDAT	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
3427	SZILÁRD KLÓR-BENZIL-KLORIDOK	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3428	SZILÁRD 3-KLÓR-4-METIL-FENIL- IZOCIANÁT	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3429	FOLYÉKONY KLÓR-TOLUIDINEK	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
3430	FOLYÉKONY XILENOLOK	6.1	T1	II	6.1		LQ17	E4	P001 IBC02		MP15	T7	TP2
3431	SZILÁRD NITRO-BENZO- TRIFLUORIDOK	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3432	SZILÁRD POLIKLÓROZOTT BIFENILEK	9	M2	II	9	305	LQ25	E2	P906 IBC08	B4	MP10	T3	TP33
3434	FOLYÉKONY NITRO-KREZOLOK	6.1	T1	III	6.1		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
3436	SZILÁRD HEXAFLUOR-ACETON- HIDRÁT	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3437	SZILÁRD KLÓR-KREZOLOK	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3438	SZILÁRD alfa-METIL-BENZIL- ALKOHOL	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3439	MÉRGEZŐ, SZILÁRD NITRILEK, M.N.N.	6.1	T2	I	6.1	274	LQ0	E5	P002 IBC07		MP18	T6	TP33
3439	MÉRGEZŐ, SZILÁRD NITRILEK, M.N.N.	6.1	T2	II	6.1	274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	3424	AMMÓNIUM-DINITRO-o-KREZOLÁT OLDAT
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	3424	AMMÓNIUM-DINITRO-o-KREZOLÁT OLDAT
L4BN SGAN		2	W11			CE10	80	3425	SZILÁRD BRÓM-ECETSAV
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	3426	AKRILAMID OLDAT
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	3427	SZILÁRD KLÓR-BENZIL-KLORIDOK
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3428	SZILÁRD 3-KLÓR-4-METIL-FENIL-IZOCIANÁT
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	3429	FOLYÉKONY KLÓR-TOLUIDINEK
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	3430	FOLYÉKONY XILENOLOK
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3431	SZILÁRD NITRO-BENZO-TRIFLUORIDOK
L4BH S4AH	TU15	0	W11	VW15	CW13 CW28 CW31	CE9	90	3432	SZILÁRD POLIKLÓROZOTT BIFENILEK
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	3434	FOLYÉKONY NITRO-KREZOLOK
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3436	SZILÁRD HEXAFLUOR-ACETON-HIDRÁT
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3437	SZILÁRD KLÓR-KREZOLOK
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	3438	SZILÁRD alfa-METIL-BENZIL-ALKOHOL
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66	3439	MÉRGEZŐ, SZILÁRD NITRILEK, M.N.N.
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3439	MÉRGEZŐ, SZILÁRD NITRILEK, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3439	MÉRGEZŐ, SZILÁRD NITRILEK, M.N.N.	6.1	T2	III	6.1	274	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3440	FOLYÉKONY SZELÉNVEGYÜLET, M.N.N.	6.1	T4	I	6.1	274 563	LQ0	E5	P001		MP8 MP17	T14	TP2 TP27
3440	FOLYÉKONY SZELÉNVEGYÜLET, M.N.N.	6.1	T4	II	6.1	274 563	LQ17	E4	P001 IBC02		MP15	T11	TP2 TP27
3440	FOLYÉKONY SZELÉNVEGYÜLET, M.N.N.	6.1	T4	III	6.1	274 563	LQ7	E1	P001 IBC03 R001		MP19	T7	TP1 TP28
3441	SZILÁRD KLÓR-DINITRO- BENZOLOK	6.1	T2	II	6.1	279	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3442	SZILÁRD DIKLÓR-ANILINEK	6.1	T2	II	6.1	279	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3443	SZILÁRD DINITRO-BENZOLOK	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3444	SZILÁRD NIKOTIN-HIDROKLORID	6.1	T2	II	6.1	43	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3445	SZILÁRD NIKOTIN-SZULFÁT	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3446	SZILÁRD NITRO-TOLUOLOK	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3447	SZILÁRD NITRO-XILOLOK	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3448	SZILÁRD KÖNNYGÁZ ANYAG, M.N.N.	6.1	T2	I	6.1	274	LQ0	E5	P002		MP18	T6	TP33
3448	SZILÁRD KÖNNYGÁZ ANYAG, M.N.N.	6.1	T2	II	6.1	274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3449	SZILÁRD BRÓM-BENZIL-CIANIDOK	6.1	T2	I	6.1	138	LQ0	E5	P002		MP18	T6	TP33
3450	SZILÁRD DIFENIL-KLÓR-ARZIN	6.1	T3	I	6.1		LQ0	E5	P002 IBC07		MP18	T6	TP33
3451	SZILÁRD TOLUIDINEK	6.1	T2	II	6.1	279	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	3439	MÉRGEZŐ, SZILÁRD NITRILEK, M.N.N.
L10CH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	3440	FOLYÉKONY SZELENVEGYÜLET, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE5	60	3440	FOLYÉKONY SZELENVEGYÜLET, M.N.N.
L4BH	TU15	2			CW13 CW28 CW31	CE8	60	3440	FOLYÉKONY SZELENVEGYÜLET, M.N.N.
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3441	SZILÁRD KLÓR-DINITRO-BENZOLOK
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3442	SZILÁRD DIKLÓR-ANILINEK
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3443	SZILÁRD DINITRO-BENZOLOK
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3444	SZILÁRD NIKOTIN-HIDROKLORID
SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3445	SZILÁRD NIKOTIN-SZULFÁT
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3446	SZILÁRD NITRO-TOLUOLOK
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3447	SZILÁRD NITRO-XILOLOK
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1			CW13 CW28 CW31		66	3448	SZILÁRD KÖNNYGÁZ ANYAG, M.N.N.
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3448	SZILÁRD KÖNNYGÁZ ANYAG, M.N.N.
L10CH S10AH	TU15 TU38 TE22	1			CW13 CW28 CW31		66	3449	SZILÁRD BRÓM-BENZIL-CIANIDOK
L10CH S10AH	TU15 TU38 TE22	1	W10 W12		CW13 CW28 CW31		66	3450	SZILÁRD DIFENIL-KLÓR-ARZIN
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3451	SZILÁRD TOLUIDINEK

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3452	SZILÁRD XILIDINEK	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3453	SZILÁRD FOSZFORSÁV	8	C2	III	8		LQ24	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3454	SZILÁRD DINITRO-TOLUOLOK	6.1	T2	II	6.1		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3455	SZILÁRD KREZOLOK	6.1	TC2	II	6.1 + 8		LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3456	SZILÁRD NITROZILKÉNSÁV	8	C2	II	8		LQ23	E2	P002 IBC08	B4	MP10	T3	TP33
3457	SZILÁRD KLÓR-NITRO-TOLUOLOK	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3458	SZILÁRD NITRO-ANIZOLOK	6.1	T2	III	6.1	279	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3459	SZILÁRD NITRO-BRÓM-BENZOLOK	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3460	SZILÁRD N-ETIL-BENZIL- TOLUIDINEK	6.1	T2	III	6.1		LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3462	ÉLŐ SZERVEZETEKBŐL KIVONT SZILÁRD TOXINOK, M.N.N.	6.1	T2	I	6.1	210 274	LQ0	E5	P002 IBC07		MP18	T6	TP33
3462	ÉLŐ SZERVEZETEKBŐL KIVONT SZILÁRD TOXINOK, M.N.N.	6.1	T2	II	6.1	210 274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3462	ÉLŐ SZERVEZETEKBŐL KIVONT SZILÁRD TOXINOK, M.N.N.	6.1	T2	III	6.1	210 274	LQ9	E1	P002 IBC08 R001	B3	MP10	T1	TP33
3463	PROPIONSAV legalább 90 tömeg% savtartalommal	8	CF1	II	8 + 3		LQ22	E2	P001 IBC02		MP15	T7	TP2
3464	MÉRGEZŐ, SZILÁRD, SZERVES FOSZFORVEGYÜLET, M.N.N.	6.1	T2	I	6.1	43 274	LQ0	E5	P002 IBC07		MP18	T6	TP33
3464	MÉRGEZŐ, SZILÁRD, SZERVES FOSZFORVEGYÜLET, M.N.N.	6.1	T2	II	6.1	43 274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3464	MÉRGEZŐ, SZILÁRD, SZERVES FOSZFORVEGYÜLET, M.N.N.	6.1	T2	III	6.1	43 274	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33



RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3452	SZILÁRD XILIDINEK
L4BN SGAV		3		VW9		CE11	80	3453	SZILÁRD FOSZFORSÁV
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3454	SZILÁRD DINITRO-TOLUOLOK
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	68	3455	SZILÁRD KREZOLOK
L4BN SGAN		2	W11			CE10	X80	3456	SZILÁRD NITROZILKÉNSÁV
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	3457	SZILÁRD KLÓR-NITRO-TOLUOLOK
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	3458	SZILÁRD NITRO-ANIZOLOK
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	3459	SZILÁRD NITRO-BRÓM-BENZOLOK
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	3460	SZILÁRD N-ETIL-BENZIL-TOLUIDINEK
L10CH S10AH	TU15 TU38 TE22	1	W10 W12		CW13 CW28 CW31		66	3462	ÉLŐ SZERVEZETEKBŐL KIVONT SZILÁRD TOXINOK, M.N.N.
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3462	ÉLŐ SZERVEZETEKBŐL KIVONT SZILÁRD TOXINOK, M.N.N.
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	3462	ÉLŐ SZERVEZETEKBŐL KIVONT SZILÁRD TOXINOK, M.N.N.
L4BN		2				CE6	83	3463	PROPIONSÁV legalább 90 tömeg% savtartalommal
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66	3464	MÉRGEZŐ, SZILÁRD, SZERVES FOSZFORVEGYÜLET, M.N.N.
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3464	MÉRGEZŐ, SZILÁRD, SZERVES FOSZFORVEGYÜLET, M.N.N.
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	3464	MÉRGEZŐ, SZILÁRD, SZERVES FOSZFORVEGYÜLET, M.N.N.

UN szám	Megnevezés és leírás	Osztály	Osztályozási kód	Csomagolási csoport	Bárcák	Különleges előírások	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru-konténer	
									Csomagolási utasítások	Különleges csomagolási előírások	Egybecsomagolási előírások		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3465	SZILÁRD, SZERVES ARZÉNEGYÜLET, M.N.N.	6.1	T3	I	6.1	274	LQ0	E5	P002 IBC07		MP18	T6	TP33
3465	SZILÁRD, SZERVES ARZÉNEGYÜLET, M.N.N.	6.1	T3	II	6.1	274	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3465	SZILÁRD, SZERVES ARZÉNEGYÜLET, M.N.N.	6.1	T3	III	6.1	274	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3466	SZILÁRD FÉM-KARBONILOK, M.N.N.	6.1	T3	I	6.1	274 562	LQ0	E5	P002 IBC07		MP18	T6	TP33
3466	SZILÁRD FÉM-KARBONILOK, M.N.N.	6.1	T3	II	6.1	274 562	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3466	SZILÁRD FÉM-KARBONILOK, M.N.N.	6.1	T3	III	6.1	274 562	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3467	MÉRGEZŐ, SZILÁRD, SZERVES FÉMEGYÜLET, M.N.N.	6.1	T3	I	6.1	274 562	LQ0	E5	P002 IBC07		MP18	T6	TP33
3467	MÉRGEZŐ, SZILÁRD, SZERVES FÉMEGYÜLET, M.N.N.	6.1	T3	II	6.1	274 562	LQ18	E4	P002 IBC08	B4	MP10	T3	TP33
3467	MÉRGEZŐ, SZILÁRD, SZERVES FÉMEGYÜLET, M.N.N.	6.1	T3	III	6.1	274 562	LQ9	E1	P002 IBC08 LP02 R001	B3	MP10	T1	TP33
3468	HIDROGÉN FÉM-HIDRID TÁROLÓ RENDSZERBEN vagy HIDROGÉN KÉSZÜLEKBEN LEVŐ FÉM-HIDRID TÁROLÓ RENDSZERBEN vagy HIDROGÉN KÉSZÜLEKKEL EGYBESOMAGOLT FÉM-HIDRID TÁROLÓ RENDSZERBEN	2	1F		2.1	321	LQ0	E0	P099		MP9		
3469	GYÚLÉKONY, MARÓ FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy GYÚLÉKONY, MARÓ FESTÉK SEGÉDANYAG (beleértve a festékhígítót vagy oldószert)	3	FC	I	3 + 8	163	LQ3	E0	P001		MP7 MP17	T11	TP2 TP27

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66	3465	SZILÁRD, SZERVES ARZÉNEGYÜLET, M.N.N.
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3465	SZILÁRD, SZERVES ARZÉNEGYÜLET, M.N.N.
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	3465	SZILÁRD, SZERVES ARZÉNEGYÜLET, M.N.N.
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66	3466	SZILÁRD FÉM-KARBONILOK, M.N.N.
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3466	SZILÁRD FÉM-KARBONILOK, M.N.N.
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	3466	SZILÁRD FÉM-KARBONILOK, M.N.N.
L10CH S10AH	TU14 TU15 TU38 TE21 TE22	1	W10 W12		CW13 CW28 CW31		66	3467	MÉRGEZŐ, SZILÁRD, SZERVES FÉMVEGYÜLET, M.N.N.
L4BH SGAH	TU15	2	W11		CW13 CW28 CW31	CE9	60	3467	MÉRGEZŐ, SZILÁRD, SZERVES FÉMVEGYÜLET, M.N.N.
L4BH SGAH	TU15	2		VW9	CW13 CW28 CW31	CE11	60	3467	MÉRGEZŐ, SZILÁRD, SZERVES FÉMVEGYÜLET, M.N.N.
		2			CW9 CW10 CW36	CE3	23	3468	HIDROGÉN FÉM-HIDRID TÁROLÓ RENDSZERBEN vagy HIDROGÉN KÉSZÜLEKBEN LEVŐ FÉM-HIDRID TÁROLÓ RENDSZERBEN vagy HIDROGÉN KÉSZÜLEKKEL EGYBECSOMAGOLT FÉM-HIDRID TÁROLÓ RENDSZERBEN
L10CH	TU14 TU38 TE21 TE22	1					338	3469	GYÚLÉKONY, MARÓ FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy GYÚLÉKONY, MARÓ FESTÉK SEGÉDANYAG (beleértve a festékhígítót vagy oldószert)

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3469	GYÚLÉKONY, MARÓ FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy GYÚLÉKONY, MARÓ FESTÉK SEGÉDANYAG (beleértve a festékhígítót vagy oldószert)	3	FC	II	3 + 8	163	LQ4	E2	P001 IBC02		MP19	T7	TP2 TP8 TP28
3469	GYÚLÉKONY, MARÓ FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy GYÚLÉKONY, MARÓ FESTÉK SEGÉDANYAG (beleértve a festékhígítót vagy oldószert)	3	FC	III	3 + 8	163	LQ7	E1	P001 IBC03 R001		MP19	T4	TP1 TP29
3470	MARÓ, GYÚLÉKONY FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy MARÓ, GYÚLÉKONY FESTÉK SEGÉDANYAG (beleértve a festékhígítót vagy oldószert)	8	CF1	II	8 + 3	163	LQ22	E2	P001 IBC02		MP15	T7	TP2 TP8 TP28
3471	HIDROGÉN-DIFLUORIDOK OLDATA M.N.N.	8	CT1	II	8 + 6.1		LQ22	E2	P001 IBC02		MP15	T7	TP2
3471	HIDROGÉN-DIFLUORIDOK OLDATA M.N.N.	8	CT1	III	8 + 6.1		LQ7	E1	P001 IBC03 R001		MP19	T4	TP1
3472	FOLYÉKONY KROTONSAV	8	C3	III	8		LQ7	E1	P001 IBC03 LP01 R001		MP19	T4	TP1
3473	ÜZEMANYAGCELLA KAZETTA vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBECOMAGOLVA, gyúlékony folyadék tartalommal	3	F1		3	328	LQ13	E0	P004				
3474	1-HIDROXIBENZOTRIAZOL, VÍZMENTES, legalább 20 tömeg% vízzel NEDVESÍTETT	4.1	D	I	4.1		LQ0	E0	P406	PP48	MP2		
3475	ETANOL ÉS MOTORBENZIN KEVERÉKE vagy ETANOL ÉS BENZIN KEVERÉKE vagy ETANOL ÉS GAZOLIN KEVERÉKE, 10%-nál több etanoltartalommal	3	F1	II	3	333	LQ4	E2	P001 IBC02		MP19	T4	TP1

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
L4BH		2				CE7	338	3469	GYÚLÉKONY, MARÓ FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy GYÚLÉKONY, MARÓ FESTÉK SEGÉDANYAG (beleértve a festékhígítót vagy oldószert)
L4BN		3				CE4	38	3469	GYÚLÉKONY, MARÓ FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy GYÚLÉKONY, MARÓ FESTÉK SEGÉDANYAG (beleértve a festékhígítót vagy oldószert)
L4BN		2				CE6	83	3470	MARÓ, GYÚLÉKONY FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist) vagy MARÓ, GYÚLÉKONY FESTÉK SEGÉDANYAG (beleértve a festékhígítót vagy oldószert)
L4DH	TU14 TE17 TE21 TT4	2			CW13 CW28	CE6	86	3471	HIDROGÉN-DIFLUORIDOK OLDATA M.N.N.
L4DH	TU14 TE21	3			CW13 CW28	CE8	86	3471	HIDROGÉN-DIFLUORIDOK OLDATA M.N.N.
L4BN		3				CE8	80	3472	FOLYÉKONY KROTONSAV
		3				CE7	30	3473	ÜZEMANYAGCELLA KAZETTA vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLEKBEN vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLEKKEL EGYBECSOMAGOLVA, gyúlékony folyadék tartalommal
		1	W1				40	3474	1-HIDROXIBENZOTRIAZOL, VÍZMENTES, legalább 20 tömeg% vízzel NEDVESÍTETT
LGBF		2				CE7	33	3475	ETANOL ÉS MOTORBENZIN KEVERÉKE vagy ETANOL ÉS BENZIN KEVERÉKE vagy ETANOL ÉS GAZOLIN KEVERÉKE, 10%-nál több etanoltartalommal

UN szám	Megnevezés és leírás	Osztály	Osztá- lyozási kód	Csoma- golási csoport	Bárcák	Külön- leges előírá- sok	Korlátozott és engedményes mennyiség		Csomagolóeszköz			Mobil tartány és ömlesztettáru- konténer	
									Csoma- golási utasítások	Külön- leges cso- magolási előírások	Egybe- csomago- lási előírások	Utasítá- sok	Különleges előírások
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4.6 / 3.5.1.2		4.1.4	4.1.4	4.1.10	4.2.5.2, 7.3.2	4.2.5.3
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)
3476	ÜZEMANYAGCELLA KAZETTA vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBECOMAGOLVA, vízzel reaktív anyag tartalommal	4.3	W3		4.3	328 334	LQ10 LQ11	E0	P004				
3477	ÜZEMANYAGCELLA KAZETTA vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBECOMAGOLVA, maró anyag tartalommal	8	C11		8	328 334	LQ12 LQ13	E0	P004				
3478	ÜZEMANYAGCELLA KAZETTA vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBECOMAGOLVA, gyúlékony, cseppfolyósított gáz tartalommal	2	6F		2.1	328 338	LQ1	E0	P004				
3479	ÜZEMANYAGCELLA KAZETTA vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBECOMAGOLVA, fémhidridben lévő hidrogén-tartalommal	2	6F		2.1	328 339	LQ1	E0	P004				
3480	LÍTIUMION AKKUMULÁTOROK (beleértve a lítiumion polimer akkumulátorokat is)	9	M4	II	9	188 230 310 636	LQ0	E0	P903 P903a P903b				
3481	LÍTIUMION AKKUMULÁTOROK KÉSZÜLÉKBEN vagy LÍTIUMION AKKUMULÁTOROK KÉSZÜLÉKKEL EGYBECOMAGOLVA (beleértve a lítiumion polimer akkumulátorokat is)	9	M4	II	9	188 230 636	LQ0	E0	P903 P903a P903b				

RID-tartány		Szállítási kategória	Különleges előírások a fuvarozásra			Expressz-áru	Veszélyt jelölő számok	UN szám	Megnevezés és leírás
Tartánykód	Különleges előírások		Különleges előírások a küldemény-darabokra	Különleges előírások az ömlesztett fuvarozásra	Különleges előírások az árukezelésre, be- és kirakásra				
4.3	4.3.5, 6.8.4	1.1.3.1 c)	7.2.4	7.3.3	7.5.11	7.6	5.3.2.3		3.1.2
(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)	(1)	(2)
		3	W1		CW23	CE2	423	3476	ÜZEMANYAGCELLA KAZETTA vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBECSOMAGOLVA, vízzel reaktív anyag tartalommal
		3				CE8	80	3477	ÜZEMANYAGCELLA KAZETTA vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBECSOMAGOLVA, maró anyag tartalommal
		2			CW9 CW12	CE3	23	3478	ÜZEMANYAGCELLA KAZETTA vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBECSOMAGOLVA, gyúlékony, cseppfolyósított gáz tartalommal
		2			CW9 CW12	CE3	23	3479	ÜZEMANYAGCELLA KAZETTA vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN vagy ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBECSOMAGOLVA, fémhidridben lévő hidrogén-tartalommal
		2				CE2	90	3480	LÍTIUMION AKKUMULÁTOROK (beleértve a lítiumion polimer akkumulátorokat is)
		2				CE2	90	3481	LÍTIUMION AKKUMULÁTOROK KÉSZÜLÉKBEN vagy LÍTIUMION AKKUMULÁTOROK KÉSZÜLÉKKEL EGYBECSOMAGOLVA (beleértve a lítiumion polimer akkumulátorokat is)

### 3.2.2 „B” táblázat: A veszélyes áruk betűrendes felsorolása

Az anyagok és tárgyak neve abc sorrendben van feltüntetve. Az arab számok és az előtagok, mint „o-”, „m-”, „p-”, „n-”, „szek-”, „terc-”, „N-”, „alfa-”, „béta-”, „omega-”, „cisz-”, „transz-” nincsenek figyelembe véve. A „bisz-” és „izo-” előtagok azonban az abc szerinti sorrendnél figyelembe vannak véve.

„NHM kód” (Nomenclature Harmonisée Marchandises – Harmonizált árucikkjegyzék)

Ebben az oszlopban az árunak a Harmonizált Árucikkjegyzék (UIC 221. sz. Döntvény 3. melléklete) szerinti NHM pozíciószáma van megadva. Mivel a veszélyes árukhoz az NHM pozíciószámok olyan alapelvek szerint vannak hozzárendelve, amelyek a RID besorolási eljárásától eltérőek, ezért nem mindig lehet a RID anyagmegnevezéshez egyetlen NHM pozíciószámot hozzárendelni. Ez különösen érvényes a gyűjtőmegnevezésekre és az m.n.n. tételekre. Ezekben az esetekben a helyes NHM pozíciószám csak akkor található meg, ha az áru kémiai vagy műszaki megnevezése ismert. Ha a helyes NHM pozíciószám nem adható meg teljes egészében, a hiányzó számok helyén plusz („+”) jelek állnak. Azokban az esetekben, amikor egy anyaghoz több NHM pozíciószám vehető számításba, az oszlopban két alkalmas NHM pozíciószám található ahol is az első helyen szereplő szám a gyakrabban alkalmazhatót jelöli.

Az OTIF Titkársága az NHM kódhoz való hozzárendelést a lehető legnagyobb gondossággal végzi, ennek ellenére nem garantálható, hogy a tartalmi és a technikai részletek között nem akad hiba.

Az NHM kódot tartalmazó oszlop nem része a jogszabálynak.



Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
A, A0, A01, A02, A1 keverék: lásd SZÉNHIDROGÉN-GÁZ KEVERÉK, CSEPPFOLYÓSÍTOTT, M.N.N.				
A TÍPUSÚ ROBBANTÓANYAG	1.1D	0081		360100
ACETÁL	3	1088		291100
ACETALDEHID	3	1089		291212
ACETALDEHID-AMMÓNIA	9	1841		292211
ACETALDEHID-OXIM	3	2332		292800
Acetil-aceton: lásd 2,4-PENTÁNDION				
ACETIL-BROMID	8	1716		291590
ACETIL-JODID	8	1898		291590
ACETIL-KLORID	3	1717		291590
ACETIL-METIL-KARBINOL	3	2621		291440
ACETILÉN, OLDÓSZERMENTES	2	3374		290129
ACETILÉN, OLDOTT	2	1001		290129
Acetilén-tetrabromid: lásd TETRABRÓM-ETÁN				
Acetilén-tetraklorid: lásd 1,1,2,2-TETRAKLÓR-ETÁN				
Acetoin: lásd ACETIL-METIL-KARBINOL				
ACETON	3	1090		291411
ACETON-CIÁNHIDRIN, STABILIZÁLT	6.1	1541		292690
ACETON OLAJOK	3	1091		380700
ACETONITRIL	3	1648		292690
ADIPONITRIL	6.1	2205		292690
AEROSZOLOK	2	1950		++++++
AKKUMULÁTOR FOLYADÉK, LÚGOS	8	2797		2815++
AKKUMULÁTOR FOLYADÉK, SAVAS	8	2796		280700
AKKUMULÁTORRAL HAJTOTT JÁRMŰ	9	3171	Nem tartozik a RID hatálya alá	++++++
AKKUMULÁTORRAL HAJTOTT KÉSZÜLÉK	9	3171	Nem tartozik a RID hatálya alá	++++++
AKKUMULÁTORTELEPEK, KIFOLYÁSBIZTOS, NEDVES, elektromosság tárolására	8	2800		8507++
AKKUMULÁTORTELEPEK, NEDVES, LÚGOS elektromosság tárolására	8	2795		8507++
AKKUMULÁTORTELEPEK, NEDVES, SAVAS elektromosság tárolására	8	2794		8507++
AKKUMULÁTORTELEPEK, SZILÁRD KÁLIUM-HIDROXID TARTALMÚ, SZÁRAZZ, elektromosság tárolására	8	3028		8507++
AKNÁK robbanótöltettel	1.1F 1.1D 1.2D 1.2F	0136 0137 0138 0294		930690
AKRIDIN	6.1	2713		293399
AKRILAMID OLDAT	6.1	3426		292419
AKRILAMID, SZILÁRD	6.1	2074		292419
AKRILNITRIL, STABILIZÁLT	3	1093		292610
AKRILSAV, STABILIZÁLT	8	2218		291611
AKROLEIN DIMER, STABILIZÁLT	3	2607		293299
AKROLEIN, STABILIZÁLT	6.1	1092		291219
Aktinolit: lásd FEHÉR AZBESZT				
AKTÍV SZÉN	4.2	1362		380210
Alapozó festékek jármű karosszériához: lásd BEVONÓ OLDAT				
ALDEHIDEK, GYÚLÉKONY, MÉRGEZŐ, M.N.N.	3	1988		2912++
ALDEHIDEK, M.N.N.	3	1989		2912++
ALDOL	6.1	2839		291230
ALKÁLIFÉM-ALKOHOLÁTOK, MARÓ, ÖNMELEGEDŐ, M.N.N.	4.2	3206		290519
ALKÁLIFÉM AMALGÁM, FOLYÉKONY	4.3	1389		285300
ALKÁLIFÉM AMALGÁM, SZILÁRD	4.3	3401		285300
ALKÁLIFÉM AMIDOK	4.3	1390		285300
ALKÁLIFÉM DISZPERZIÓ	4.3	1391		280519
ALKÁLIFÉM ÖTVÖZETEK, FOLYÉKONY, M.N.N.	4.3	1421		280519
Alkálifém-dinitro-fenolátok: lásd DINITRO-FENOLÁTOK				

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
ALKÁLIFÖLDFÉM-ALKOHOLÁTOK, M.N.N.	4.2	3205		290519
ALKÁLIFÖLDFÉM AMALGÁM, FOLYÉKONY	4.3	1392		285300
ALKÁLIFÖLDFÉM AMALGÁM, SZILÁRD	4.3	3402		285300
ALKÁLIFÖLDFÉM DISZPERZIÓ	4.3	1391		280519
ALKÁLIFÖLDFÉM ÖTVÖZET, M.N.N.	4.3	1393		280519
ALKALOIDA SÓK, FOLYÉKONY, M.N.N.	6.1	3140		2939++
ALKALOIDA SÓK, SZILÁRD, M.N.N.	6.1	1544		2939++
ALKALOIDOK, FOLYÉKONY, M.N.N.	6.1	3140		2939++
ALKALOIDOK, SZILÁRD, M.N.N.	6.1	1544		2939++
ALKIL-FENOLOK, FOLYÉKONY, M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve)	8	3145		290719
ALKIL-FENOLOK, SZILÁRD, M.N.N. (a C <sub>2</sub> -C <sub>12</sub> homológokat beleértve)	8	2430		290719
ALKIL-KÉNSAVAK	8	2571		290410
ALKIL-SZULFONSAVAK, FOLYÉKONY, 5%-nál több szabad kénsav-tartalommal	8	2584		290410
ALKIL-SZULFONSAVAK, FOLYÉKONY, legfeljebb 5% szabad kénsav-tartalommal	8	2586		290410
ALKIL-SZULFONSAVAK, SZILÁRD, 5%-nál több szabad kénsav-tartalommal	8	2583		290410
ALKIL-SZULFONSAVAK, SZILÁRD, legfeljebb 5% szabad kénsav-tartalommal	8	2585		290410
ALKOHOLÁTOK OLDATA, M.N.N., alkoholban	3	3274		290519
ALKOHOLOK, GYŰLÉKONY, MÉRGEZŐ, M.N.N.	3	1986		2905++
ALKOHOLOK, M.N.N.	3	1987		2905++
ALKOHOLOS ITALOK, 24 tf.%-nál több alkoholtartalommal	3	3065		2208++
ÁLLATI EREDETŰ SZÁLAK vagy SZÖVETEK, M.N.N., olajjal	4.2	1373		5+++++
ÁLLATI EREDETŰ SZÁLAK, égett, nedves vagy vizes	4.2	1372	Nem tartozik a RID hatálya alá	5+++++
ALLIL-ACETÁT	3	2333		291539
ALLIL-ALKOHOL	6.1	1098		290529
ALLIL-AMIN	6.1	2334		292119
ALLIL-BROMID	3	1099		290339
ALLIL-ETIL-ÉTER	3	2335		290919
ALLIL-FORMIÁT	3	2336		291513
ALLIL-GLICIDIL-ÉTER	3	2219		291090
ALLIL-IZOTIOCIANÁT, STABILIZÁLT	6.1	1545		293090
ALLIL-JODID	3	1723		290339
ALLIL-KLÓR-FORMIÁT	6.1	1722		291590
ALLIL-KLORID	3	1100		290329
ALLIL-TRIKLÓR-SZILÁN, STABILIZÁLT	8	1724		293100
ALUMÍNIUM-BÓR-HIDRID	4.2	2870		285000
ALUMÍNIUM-BÓR-HIDRID KÉSZÜLÉKEKBEN	4.2	2870		285000
ALUMÍNIUM-BROMID OLDAT	8	2580		282759
ALUMÍNIUM-BROMID, VÍZMENTES	8	1725		282759
ALUMÍNIUMFELDOLGOZÁSI MELLÉKTERMÉKEK	4.3	3170		262040
ALUMÍNIUM-FERROSZILÍCIUM POR	4.3	1395		760120
ALUMÍNIUM-FOSZFID	4.3	1397		284800
ALUMÍNIUM-FOSZFID PESZTICID	6.1	3048		380810
ALUMÍNIUM-HIDRID	4.3	2463		285000
ALUMÍNIUM-KARBID	4.3	1394		284990
ALUMÍNIUM-KLORID OLDAT	8	2581		282732
ALUMÍNIUM-KLORID, VÍZMENTES	8	1726		282732
ALUMÍNIUM-NITRÁT	5.1	1438		283429
ALUMÍNIUMPOR, BEVONAT NÉLKÜL	4.3	1396		760310
ALUMÍNIUMPOR, BEVONT	4.1	1309		760310
ALUMÍNIUM-REZINÁT	4.1	2715		380620
ALUMÍNIUM-SZILÍCIUM POR BEVONAT NÉLKÜL	4.3	1398		285000
ALUMÍNIUM ÚJRAOLVASZTÁSI MELLÉKTERMÉKEK	4.3	3170		262040
AMIL-ACETÁTOK	3	1104		291539
AMIL-AMIN	3	1106		292119
AMIL-BUTIRÁTOK	3	2620		291590

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
AMIL-FORMIÁTOK	3	1109		291513
Amil-foszfátok: lásd FOSZFORSÁV-MONOAMIL-ÉSZTER				
AMIL-KLORID	3	1107		290319
AMIL-MERKAPTÁNOK	3	1111		293090
n-AMIL-METIL-KETON	3	1110		291419
AMIL-NITRÁT	3	1112		292090
AMIL-NITRIT	3	1113		292090
AMIL-TRIKLÓR-SZILÁN	8	1728		293100
n-AMILÉN	3	1108		290129
2-AMINO-5-DIETIL-AMINO-PENTÁN	6.1	2946		292129
2-AMINO-4,6-DINITRO-FENOL, legalább 20 tömeg% vízzel NEDVESÍTETT	4.1	3317		292229
N-AMINO-ETIL-PIPERAZIN	8	2815		293399
2-(2-AMINO-ETOXI)-ETANOL	8	3055		292250
AMINO-FENOLOK (o-, m-, p-)	6.1	2512		292229
2-AMINO-4-KLÓR-FENOL	6.1	2673		292229
AMINO-PIRIDINEK (o-, m-, p-)	6.1	2671		293339
AMINOK, FOLYÉKONY, MARÓ, GYÚLÉKONY, M.N.N.	8	2734		2921++
AMINOK, FOLYÉKONY, MARÓ, M.N.N.	8	2735		2921++
AMINOK, GYÚLÉKONY, MARÓ, M.N.N.	3	2733		2921++
AMINOK, SZILÁRD, MARÓ, M.N.N.	8	3259		2921++
AMMÓNIA MŰTRÁGYA OLDAT szabad ammóniatartalommal	2	1043		281420 310510
AMMÓNIA OLDAT, vizes, relatív sűrűség 15 °C-on 0,880 és 0,957 között, 10%-nál több, de legfeljebb 35% ammóniatartalommal	8	2672		281420
AMMÓNIA OLDAT, vizes, relatív sűrűség 15 °C-on kisebb, mint 0,880, 35%-nál több, de legfeljebb 50% ammóniatartalommal	2	2073		281420
AMMÓNIA OLDAT, vizes, relatív sűrűség 15 °C-on kisebb, mint 0,880, 50%-nál több ammóniatartalommal	2	3318		281420
AMMÓNIA, VÍZMENTES	2	1005		281410
AMMÓNIUM-ARZENÁT	6.1	1546		284290
Ammónium-biszulfát: lásd AMMÓNIUM-HIDROGÉN-SZULFÁT				
AMMÓNIUM-DIKROMÁT	5.1	1439		284150
AMMÓNIUM-DINITRO-o-KREZOLÁT OLDAT	6.1	3424		290899
AMMÓNIUM-DINITRO-o-KREZOLÁT, SZILÁRD	6.1	1843		290899
AMMÓNIUM-FLUORID	6.1	2505		282619
AMMÓNIUM-FLUORO-SZILIKÁT	6.1	2854		282690
AMMÓNIUM-HIDROGÉN-DIFLUORID OLDAT	8	2817		282619
AMMÓNIUM-HIDROGÉN-DIFLUORID, SZILÁRD	8	1727		282619
AMMÓNIUM-HIDROGÉN-SZULFÁT (ammónium-biszulfát)	8	2506		283329
AMMÓNIUM-METAVANADÁT	6.1	2859		284190
AMMÓNIUM-NITRÁT 0,2%-nál több gyúlékony anyag tartalommal, beleértve a szénegyenértékben kifejezett szerves anyagokat is, minden más adalékanyagot kizárva	1.1D	0222		310230
AMMÓNIUM-NITRÁT legfeljebb 0,2% összes éghető anyaggal, beleértve bármely szerves anyagot szénegyenértékre számítva, bármilyen más hozzáadott anyagot kizárva	5.1	1942		310230
AMMÓNIUM-NITRÁT ALAPÚ MŰTRÁGYA	5.1	2067		310520
AMMÓNIUM-NITRÁT ALAPÚ MŰTRÁGYA, amely nitrogén/ foszfát, nitrogén/kálsó vagy nitrogén/ foszfát/kálsó típusú műtrágya egynemű keveréke legfeljebb 70% ammónium-nitrát tartalommal és legfeljebb 0,4% összes éghető anyag tartalommal (beleértve bármilyen szerves anyagot szénegyenértékre átszámítva) vagy legfeljebb 45% ammónium-nitrát tartalommal és korlátlan éghető anyag tartalommal	5.1	2071	Nem tartozik a RID hatálya alá	310520
AMMÓNIUM-NITRÁT EMULZIÓ, köztes termék robbantóanyag előállításához, folyékony vagy szilárd	5.1	3375		360200
AMMÓNIUM-NITRÁT, FOLYÉKONY (forró, tömény oldat, 80%-nál nagyobb, de legfeljebb 93% koncentrációval)	5.1	2426		310230
AMMÓNIUM-NITRÁT GÉL, köztes termék robbantóanyag előállításához, folyékony vagy szilárd	5.1	3375		360200

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
AMMÓNIUM-NITRÁT SZUSZPENZIÓ, köztes termék robbantóanyag előállításához, folyékony vagy szilárd	5.1	3375		360200
AMMÓNIUM-PERKLOORÁT	1.1D 5.1	0402 1442		282990
AMMÓNIUM-PERSZULFÁT	5.1	1444		283340
AMMÓNIUM-PIKRÁT, legalább 10 tömeg% vízzel NEDVESÍTETT	4.1	1310		290899
AMMÓNIUM-PIKRÁT, száraz vagy 10 tömeg%-nál kevesebb vízzel nedvesített	1.1D	0004		290899
AMMÓNIUM-POLISZULFID OLDAT	8	2818		283090
AMMÓNIUM-POLIVANADÁT	6.1	2861		284190
AMMÓNIUM-SZULFID OLDAT	8	2683		283090
AMORF FOSZFOR	4.1	1338		280470
AMORF SZILÍCIUMPOR	4.1	1346		280461 280469
Amozit: lásd BARNA AZBESZT				
ANILIN	6.1	1547		292141
ANILIN-HIDROKLORID	6.1	1548		292141
ANIZIDINEK	6.1	2431		292229
ANIZOIL-KLORID	8	1729		291899
ANIZOL (fenil-metil-éter)	3	2222		290930
ANTIMON-KÁLIUM-TARTARÁT	6.1	1551		291813
ANTIMON-LAKTÁT	6.1	1550		291811
ANTIMON-PENTAFLUORID	8	1732		282619
ANTIMON-PENTAKLORID, FOLYÉKONY	8	1730		282739
ANTIMON-PENTAKLORID OLDAT	8	1731		282739
ANTIMON-TRIKLORID	8	1733		282739
ANTIMONPOR	6.1	2871		811010
ANTIMONVEGYÜLET, SZERVETLEN, FOLYÉKONY, M.N.N.	6.1	3141		28++++
ANTIMONVEGYÜLET, SZERVETLEN, SZILÁRD, M.N.N.	6.1	1549		28++++
Antofillit: lásd FEHÉR AZBESZT				
ARGON, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT	2	1951		280421
ARGON, SŰRÍTETT	2	1006		280421
ARIL-SZULFONSAVAK, FOLYÉKONY, 5%-nál több szabad kénsavtartalommal	8	2584		290410
ARIL-SZULFONSAVAK, FOLYÉKONY, legfeljebb 5% szabad kénsav-tartalommal	8	2586		290410
ARIL-SZULFONSAVAK, SZILÁRD, 5%-nál több szabad kénsav-tartalommal	8	2583		290410
ARIL-SZULFONSAVAK, SZILÁRD, legfeljebb 5% szabad kénsav-tartalommal	8	2585		290410
AROMÁS KIVONATOK, FOLYÉKONY	3	1169		3301++
AROMÁS NITROVEGYÜLETEK DEFLAGRÁLÓ FÉMSÓI, M.N.N.	1.3C	0132		290899
ARZÉN	6.1	1558		280480
ARZÉN-BROMID	6.1	1555		281290
ARZÉN PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)	3	2760		3808++
ARZÉN PESZTICID, FOLYÉKONY, MÉRGEZŐ	6.1	2994		3808++
ARZÉN PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C)	6.1	2993		3808++
ARZÉN PESZTICID, SZILÁRD, MÉRGEZŐ	6.1	2759		3808++
ARZÉN-PENTOXID	6.1	1559		282590
Arzén-szulfidok, m.n.n.: lásd ARZÉNVEGYÜLET, FOLYÉKONY vagy SZILÁRD, M.N.N.				
ARZÉN-TRIKLORID	6.1	1560		281210
ARZÉN-TRIOXID	6.1	1561		282590
Arzenátok, szervetlen, m.n.n.: lásd ARZÉNVEGYÜLET, FOLYÉKONY vagy SZILÁRD, M.N.N.				
Arzenitek, szervetlen, m.n.n.: lásd ARZÉNVEGYÜLET, FOLYÉKONY vagy SZILÁRD, M.N.N.				
ARZÉNPOR	6.1	1562		280480
ARZÉNSAV, FOLYÉKONY	6.1	1553		281119
ARZÉNSAV, SZILÁRD	6.1	1554		281119

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
ARZÉNVEGYÜLET, FOLYÉKONY, M.N.N., szerves, pl.: arzenátok, m.n.n.; arzenitek, m.n.n.; arzén-szulfidok, m.n.n.	6.1	1556		28++++
ARZÉNVEGYÜLET, SZERVES, FOLYÉKONY, M.N.N.	6.1	3280		293100
ARZÉNVEGYÜLET, SZERVES, SZILÁRD, M.N.N.	6.1	3465		293100
ARZÉNVEGYÜLET, SZILÁRD, M.N.N., szerves, pl.: arzenátok, m.n.n.; arzenitek, m.n.n.; arzén-szulfidok, m.n.n.	6.1	1557		28++++
ARZIN	2	2188		285000
AZBESZT: lásd BARNA AZBESZT, FEHÉR AZBESZT, KÉK AZBESZT				
AZO-DIKARBONAMID	4.1	3242		292700
B, B1, B2 keverék: lásd SZÉNHIIDROGÉN-GÁZ KEVERÉK, CSEPPFOLYÓSÍTOTT, M.N.N.				
B TÍPUSÚ, FOLYÉKONY SZERVES PEROXID	5.2	3101		29++++
B TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL	5.2	3111	A fuvarozásból ki van zárva	
B TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG	4.1	3221		+++++
B TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL	4.1	3231	A fuvarozásból ki van zárva	
B TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG	4.1	3222		+++++
B TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL	4.1	3232	A fuvarozásból ki van zárva	
B TÍPUSÚ ROBBANTÓANYAG	1	0082 0331		360200
B TÍPUSÚ, SZILÁRD SZERVES PEROXID	5.2	3102		29++++
B TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL	5.2	3112	A fuvarozásból ki van zárva	
BÁRIUM	4.3	1400		280519
BÁRIUM-AZID, legalább 50 tömeg% vízzel NEDVESÍTETT	4.1	1571		285000
BÁRIUM-AZID, száraz vagy 50 tömeg%-nál kevesebb vízzel nedvesített	1.1A	0224	A fuvarozásból ki van zárva	
BÁRIUM-BROMÁT	5.1	2719		282990
BÁRIUM-CINANID	6.1	1565		283719
BÁRIUM-HIPOKLORIT 22%-nál több szabad klórtartalommal	5.1	2741		282890
BÁRIUM-KLORÁT OLDAT	5.1	3405		282919
BÁRIUM-KLORÁT, SZILÁRD	5.1	1445		282919
BÁRIUM-NITRÁT	5.1	1446		283429
BÁRIUM-OXID	6.1	1884		281640
BÁRIUM ÖTVÖZETEK, PIROFOROS	4.2	1854		280519
BÁRIUM-PERKLORÁT OLDAT	5.1	3406		282990
BÁRIUM-PERKLORÁT, SZILÁRD	5.1	1447		282990
BÁRIUM-PERMANGANÁT	5.1	1448		284169
BÁRIUM-PEROXID	5.1	1449		281640
BÁRIUMVEGYÜLET, M.N.N.	6.1	1564		+++++
BARNA AZBESZT (amozit)	9	2212		252490
BELÉLEGEZVE MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese	6.1	3382		+++++
BELÉLEGEZVE MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa	6.1	3381		+++++
BELÉLEGEZVE MÉRGEZŐ, GYÚJTÓ HATÁSÚ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese	6.1	3388		+++++
BELÉLEGEZVE MÉRGEZŐ, GYÚJTÓ HATÁSÚ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa	6.1	3387		+++++
BELÉLEGEZVE MÉRGEZŐ, GYÚLÉKONY, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese	6.1	3384		+++++

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
BELÉLEGEZVE MÉRGEZŐ, GYÚLÉKONY, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa	6.1	3383		++++++
BELÉLEGEZVE MÉRGEZŐ, MARÓ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese	6.1	3390		++++++
BELÉLEGEZVE MÉRGEZŐ, MARÓ, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa	6.1	3389		++++++
BELÉLEGEZVE MÉRGEZŐ, VÍZZEL REAKTÍV, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 1000 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 10-szerese	6.1	3386		++++++
BELÉLEGEZVE MÉRGEZŐ, VÍZZEL REAKTÍV, FOLYÉKONY ANYAG, M.N.N., melynek mérgezőképessége belélegzés esetén legfeljebb 200 ml/m <sup>3</sup> és telített gőzének koncentrációja legalább az LC <sub>50</sub> 500-szorosa	6.1	3385		++++++
BELSŐÉGÉSŰ MOTOR	9	3166	Nem tartozik a RID hatálya alá	8407++ 870+++
BENZALDEHID	9	1990		291221
BENZIDIN	6.1	1885		292159
BENZIL-BROMID	6.1	1737		290369
BENZIL-DIMETIL-AMIN	8	2619		292149
BENZILIDÉN-KLORID	6.1	1886		290369
BENZIL-JODID	6.1	2653		290369
BENZIL-KLÓR-FORMIÁT	8	1739		291590
BENZIL-KLORID	6.1	1738		290369
BENZIN	3	1203		272+00
BENZO-TRIFLUORID	3	2338		290369
BENZO-TRIKLORID ((triklór-metil)-benzol)	8	2226		290369
BENZOIL-KLORID	8	1736		291632
BENZOKINON	6.1	2587		291469
BENZOL	3	1114		290220 270710
BENZOL-SZULFONIL-KLORID	8	2225		290490
BENZONITRIL	6.1	2224		292690
BERILLIUM-NITRÁT	5.1	2464		283429
BERILLIUMPOR	6.1	1567		811212
BERILLIUMVEGYÜLET, M.N.N.	6.1	1566		28++++
BEVONÓ OLDAT (beleértve az ipari vagy más célokra használt felületkezelő vagy bevonóanyagokat, pl. alapozó festékeket jármű karosszériához, hordóbélelő anyagokat)	3	1139		3208++
BHUSA	4.1	1327	Nem tartozik a RID hatálya alá	121300
BICIKLO-[2.2.1]-HEPTA-2,5-DIÉN, STABILIZÁLT (2,5- NORBORNADIÉN, STABILIZÁLT)	3	2251		290219
(BIO)GYÓGYÁSZATI HULLADÉK, M.N.N.	6.2	3291		382530
BIPIRIDILIUM PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)	3	2782		380893
BIOLÓGIAI ANYAG, „B” KATEGÓRIÁJÚ	6.2	3373		++++++
BIPIRIDILIUM PESZTICID, FOLYÉKONY, MÉRGEZŐ	6.1	3016		380893
BIPIRIDILIUM PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C)	6.1	3015		380893
BIPIRIDILIUM PESZTICID, SZILÁRD, MÉRGEZŐ	6.1	2781		380893
BISZULFÁTOK VIZES OLDATAI	8	2837		283329
B KATEGÓRIÁJÚ BIOLÓGIAI ANYAG	6.2	3373		++++++
BISZULFITOK, VIZES OLDAT, M.N.N.	8	2693		283220
Bitumen: lásd KÁTRÁNYOK, FOLYÉKONY				
Bitumen, hígított, 100 °C-on vagy magasabb hőmérsékleten, de a lobbanáspont alatti hőmérsékleten; lásd	9	3257		271320



Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
Bitumen, hígított, 60 °C feletti lobbanásponttal, a lobbanásponton vagy magasabb hőmérsékleten; lásd	3	3256		271320
Bitumen, hígított, lobbanáspont legfeljebb 60 °C; lásd	3	1999		271500
BIZTONSÁGI GYUFA (levél, kártya, doboz formában)	4.1	1944		360500
BIZTONSÁGI GYÚJTÓZSINÓR	1.4S	0105		360300
BIZTONSÁGI ÖV ELŐFESZÍTŐ	1.4S 9	0503 3268		870895
BOMBÁK, FÜSTFEJLESZTŐ, NEM ROBBANÓ, maró folyadékkal, gyújtószerkezet nélkül	8	2028		930690
BOMBÁK GYÚLÉKONY FOLYADÉK TARTALOMMAL, robbanótöltettel	1.1J 1.2J	0399 0400		930690
BOMBÁK, NEM ROBBANÓ, FÜSTFEJLESZTŐ, maró folyadékkal, gyújtószerkezet nélkül	8	2028		930690
BOMBÁK robbanótöltettel	1.1F 1.1D 1.2D 1.2F	0033 0034 0035 0291		930690
BOMBÁK VILLANÓFÉNY TÖLTETTEL	1.1F 1.1D 1.2G 1.3G	0037 0038 0039 0299		930690
BORNEOL	4.1	1312		290619
BÓR-TRIBROMID	8	2692		281290
BÓR-TRIFLUORID	2	1008		281290
BÓR-TRIFLUORID-DIETIL-ÉTERÁT	8	2604		294200
BÓR-TRIFLUORID-DIHIDRÁT	8	2851		294200
BÓR-TRIFLUORID-DIMETIL-ÉTER	4.3	2965		294200
BÓR-TRIFLUORID-ECETSAV KOMPLEX, FOLYÉKONY	8	1742		294200
BÓR-TRIFLUORID-ECETSAV KOMPLEX, SZILÁRD	8	3419		294200
Bór-triflurid-éter komplex: lásd BÓR-TRIFLUORID-DIETIL-ÉTERÁT				
BÓR-TRIFLUORID-PROPIONSÁV KOMPLEX, FOLYÉKONY	8	1743		294200
BÓR-TRIFLUORID-PROPIONSÁV KOMPLEX, SZILÁRD	8	3420		294200
BÓR-TRIKLORID	2	1741		281210
BRÓM	8	1744		280130
BRÓM-ACETIL-BROMID	8	2513		291590
BRÓM-ACETON	6.1	1569		291470
BROMÁTOK, SZERVETLEN, M.N.N.	5.1	1450		282990
BROMÁTOK, SZERVETLEN, VIZES OLDATA, M.N.N.	5.1	3213		282990
BRÓM-BENZIL-CIANIDOK, FOLYÉKONY	6.1	1694		292690
BRÓM-BENZIL-CIANIDOK, SZILÁRD	6.1	3449		292690
BRÓM-BENZOL	3	2514		290369
1-BRÓM-BUTÁN	3	1126		290339
2-BRÓM-BUTÁN	3	2339		290339
BRÓM-ECETSAV OLDAT	8	1938		291590
BRÓM-ECETSAV, SZILÁRD	8	3425		291590
2-BRÓM-ETIL-ETIL-ÉTER	3	2340		290919
BRÓM-HIDROGÉNSÁV	8	1788		281119
BRÓM-KLÓR-DIFLUOR-METÁN (R 12B1 HÚTÓGÁZ)	2	1974		290346
BRÓM-KLORID	2	2901		281210
BRÓM-KLÓR-METÁN	6.1	1887		290349
1-BRÓM-3-KLÓR-PROPÁN	6.1	2688		290349
1-BRÓM-3-METIL-BUTÁN	3	2341		290339
BRÓM-METIL-PROPÁNOK	3	2342		290339
2-BRÓM-2-NITRO-1,3-PROPÁNDIOL	4.1	3241		290559
BROMOFORM	6.1	2515		290339
BRÓM OLDAT	8	1744		280130
BRÓM-PENTAFLUORID	5.1	1745		281290
2-BRÓM-PENTÁN	3	2343		290339
BRÓM-PROPÁNOK	3	2344		290339
BRÓM-PROPIN	3	2345		290339
BRÓM-TRIFLUOR-ETILÉN	2	2419		290347
BRÓM-TRIFLUORID	5.1	1746		281290

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
BRÓM-TRIFLUOR-METÁN (R 13B1 HŰTŐGÁZ)	2	1009		290346
BRUCIN	6.1	1570		293999
BUTADIÉNEK KEVERÉKE, STABILIZÁLT, amelynek gőznyomása 70 °C-on nem haladja meg az 1,1 MPa-t (11 bar-t) és sűrűsége 50 °C-on legalább 0,525 kg/l	2	1010		271114 290124
BUTADIÉNEK ÉS SZÉNHDROGÉN KEVERÉKE, STABILIZÁLT, amelynek gőznyomása 70 °C-on nem haladja meg az 1,1 MPa-t (11 bar-t) és sűrűsége 50 °C-on legalább 0,525 kg/l	2	1010		271114 290124
BUTÁN	2	1011		271113 290110
BUTÁNDION (diacetil)	3	2346		291419
BUTANOLOK	3	1120		290514 290513
1-BUTÉN	2	1012		290123
cisz-2-BUTÉN	2	1012		290123
transz-2-BUTÉN	2	1012		290123
BUTÉN KEVERÉK	2	1012		271114 290123
BUTIL-ACETÁTOK	3	1123		291533 291539
BUTIL-AKRILÁTOK, STABILIZÁLT	3	2348		291612
n-BUTIL-AMIN	3	1125		292119
N-BUTIL-ANILIN	6.1	2738		292142
BUTIL-BENZOLOK	3	2709		290290
n-Butil-bromid: lásd 1-BRÓM-BUTÁN	3	3022		
terc-BUTIL-CIKLOHEXIL-KLÓR-FORMIÁT	6.1	2747		291590
1,2-BUTILÉN-OKSID, STABILIZÁLT	3	3022		291090
n-BUTIL-FORMIÁT	3	1128		291513
terc-BUTIL-HIPOKLORIT	4.2	3255	A fuvarozásból ki van zárva	
N,n-BUTIL-IMIDAZOL	6.1	2690		293329
n-BUTIL-IZOCIANÁT	6.1	2485		292910
terc-BUTIL-IZOCIANÁT	6.1	2484		292910
n-BUTIL-KLÓR-FORMIÁT	6.1	2743		291590
Butil-klorid: lásd KLÓR-BUTÁNOK				
BUTIL-MERKAPTÁN	3	2347		293090
n-BUTIL-METAKRILÁT, STABILIZÁLT	3	2227		291614
BUTIL-METIL-ÉTER	3	2350		290919
BUTIL-NITRITEK	3	2351		292090
BUTIL-PROPIONÁTOK	3	1914		291550
BUTIL-TOLUOLOK	6.1	2667		290290
BUTIL-TRIKLÓR-SZILÁN	8	1747		293100
5-terc-BUTIL-2,4,6-TRINITRO-m-XILOL (XILOLMÓSZUSZ)	4.1	2956		290420
BUTIL-VINIL-ÉTER, STABILIZÁLT	3	2352		290919
2-Butin: lásd KROTONILÉN				
BUTIN-1,4-DIOL	6.1	2716		290539
BUTIRALDEHID	3	1129		291219
BUTIRALDOXIM	3	2840		292800
BUTIRIL-KLORID	3	2353		291590
BUTIRONITRIL	3	2411		292690
C keverék: lásd SZÉNHDROGÉN-GÁZ KEVERÉK, CSEPPFOLYÓSÍTOTT, M.N.N.				
C TÍPUSÚ, FOLYÉKONY SZERVES PEROXID	5.2	3103		29++++
C TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL	5.2	3113	A fuvarozásból ki van zárva	
C TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG	4.1	3223		+++++
C TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL	4.1	3233	A fuvarozásból ki van zárva	
C TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG	4.1	3224		+++++
C TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL	4.1	3234	A fuvarozásból ki van zárva	
C TÍPUSÚ ROBBANTÓANYAG	1.1D	0083		360200
C TÍPUSÚ, SZILÁRD SZERVES PEROXID	5.2	3104		29++++



Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
C TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKET-SZABÁLYOZÁSSAL	5.2	3114	A fuvarozásból ki van zárva	
CELLULOID, blokk, rúd, tekercs, lemez, cső, stb. formában, a hulladékok kivételével	4.1	2000		391220
CELLULOID HULLADÉK	4.2	2002		391590
CÉRIUM, forgács vagy homokkal szennyezett por	4.3	3078		280530
CÉRIUM lemezek, rudak vagy öntecsek	4.1	1333		280530
CÉZIUM	4.3	1407		280519
CÉZIUM-HIDROXID	8	2682		282590
CÉZIUM-HIDROXID OLDAT	8	2681		282590
CÉZIUM-NITRÁT	5.1	1451		283429
CIÁN-BROMID	6.1	1889		285300
CIÁN-HIDROGÉNSAV VIZES OLDAT legfeljebb 20% hidrogén-cianid tartalommal	6.1	1613		281119
CIANID OLDAT, M.N.N.	6.1	1935		283719
CIANIDOK, SZERVETLEN, SZILÁRD, M.N.N.	6.1	1588		283719
CIANUR-KLORID	8	2670		293369
CIKLOBUTÁN	2	2601		290219
CIKLOBUTIL-KLÓR-FORMIÁT	6.1	2744		291590
1,5,9-CIKLODODEKATRIÉN	6.1	2518		290219
CIKLOHEPTÁN	3	2241		290219
CIKLOHEPTATRIÉN	3	2603		290219
CIKLOHEPTÉN	3	2242		290219
CIKLOHEXÁN	3	1145		290211
CIKLOHEXANON	3	1915		291422
CIKLOHEXÉN	3	2256		290219
CIKLOHEXENIL-TRIKLÓR-SZILÁN	8	1762		293100
CIKLOHEXIL-ACETÁT	3	2243		291539
CIKLOHEXIL-AMIN	8	2357		292130
CIKLOHEXIL-IZOCIANÁT	6.1	2488		292910
CIKLOHEXIL-MERKAPTÁN	3	3054		293090
CIKLOHEXIL-TRIKLÓR-SZILÁN	8	1763		293100
CIKLONIT, DESZENZIBILIZÁLT	1.1D	0483		293369
CIKLONIT legalább 15 tömeg% vízzel NEDVESÍTETT	1.1D	0072		293369
CIKLONIT ÉS CIKLOTETRAMETILÉN-TETRANITRAMIN KEVERÉKE, legalább 15 tömeg% vízzel NEDVESÍTETT vagy legalább 10 tömeg% flegmatizálószerrel DESZENZIBILIZÁLT	1.1D	0391		293369
CIKLONIT ÉS HMX KEVERÉKE, legalább 15 tömeg% vízzel NEDVESÍTETT vagy legalább 10 tömeg% flegmatizálószerrel DESZENZIBILIZÁLT	1.1D	0391		293369
CIKLONIT ÉS OKTOGÉN KEVERÉKE, legalább 15 tömeg% vízzel NEDVESÍTETT vagy legalább 10 tömeg% flegmatizálószerrel DESZENZIBILIZÁLT	1.1D	0391		293369
CIKLOOKTADIÉNEK	3	2520		290219
CIKLOOKTADIÉN-FOSZFINEK	4.2	2940		293100
CIKLOOKTATETRAÉN	3	2358		290219
CIKLOPENTÁN	3	1146		290219
CIKLOPENTANOL	3	2244		290619
CIKLOPENTANON	3	2245		291429
CIKLOPENTÉN	3	2246		290219
CIKLOPROPÁN	2	1027		290219
CIKLOTETRAMETILÉN-TETRANITRAMIN (OKTOGÉN, HMX), DESZENZIBILIZÁLT	1.1D	0484		293369
CIKLOTETRAMETILÉN-TETRANITRAMIN (OKTOGÉN, HMX), legalább 15 tömeg% vízzel NEDVESÍTETT	1.1D	0226		293369
CIKLOTRIMETILÉN-TRINITRAMIN (CIKLONIT, HEXOGÉN, RDX), DESZENZIBILIZÁLT	1.1D	0483		293369
CIKLOTRIMETILÉN-TRINITRAMIN (CIKLONIT, HEXOGÉN, RDX), legalább 15 tömeg% vízzel NEDVESÍTETT	1.1D	0072		293369
CIKLOTRIMETILÉN-TRINITRAMIN (CIKLONIT; HEXOGÉN; RDX) ÉS CIKLOTETRAMETILÉN-TETRANITRAMIN (OKTOGÉN; HMX) KEVERÉKE, legalább 15 tömeg% vízzel NEDVESÍTETT vagy legalább 10 tömeg% flegmatizálószerrel DESZENZIBILIZÁLT	1.1D	0391		293369

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
CIMOLOK (Metil-izopropil-benzolok)	3	2046		290270
CINK-AMMÓNIUM-NITRIT	5.1	1512		283410
CINK-ARZENÁT	6.1	1712		284290
CINK-ARZENÁT ÉS CINK-ARZENIT KEVERÉK	6.1	1712		284290
CINK-ARZENIT	6.1	1712		284290
CINK-BROMÁT	5.1	2469		282990
CINK-CIANID	6.1	1713		283719
CINK-DITIONIT (CINK-HIPODISZULFIT)	9	1931		283190
CINK-FLUORO-SZILIKÁT	6.1	2855		282690
CINK-FOSZFID	4.3	1714		284800
CINKHAMUK	4.3	1435		262019
CINK-HIPODISZULFIT	9	1931		283190
CINK-KLORÁT	5.1	1513		282919
CINK-KLORID OLDAT	8	1840		282739
CINK-KLORID, VÍZMENTES	8	2331		282739
CINK-NITRÁT	5.1	1514		283429
CINK-PERMANGANÁT	5.1	1515		284169
CINK-PEROXID	5.1	1516		281700
CINKPOR	4.3	1436		790310
CINKPÚDER	4.3	1436		790310
CINK-REZINÁT	4.1	2714		380620
CIRKÓNIUM GYÚLÉKONY FOLYADÉKBAN SZUSZPENDÁLVA	3	1308		810920
CIRKÓNIUM HULLADÉK	4.2	1932		810930
CIRKÓNIUM, SZÁRAZ, lemez, szalag vagy huzal formában	4.2	2009		810990
CIRKÓNIUM, SZÁRAZ, tekercselt huzal, megmunkált lemezek, szalag (254 mikronnál vékonyabb, de legalább 18 mikron vastag) formában	4.1	2858		810990
CIRKÓNIUM-HIDRID	4.1	1437		285000
CIRKÓNIUM-NITRÁT	5.1	2728		283429
CIRKÓNIUM-PIKRAMÁT, legalább 20 tömeg% vízzel NEDVESÍTETT	4.1	1517		292229
CIRKÓNIUM-PIKRAMÁT, száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített	1.3C	0236		292229
CIRKÓNIUMPOR, legalább 25% vízzel NEDVESÍTETT	4.1	1358		810920
CIRKÓNIUMPOR, SZÁRAZ	4.2	2008		810920
CIRKÓNIUM-TETRAKLORID	8	2503		282739
CSEPPFOLYÓSÍTOTT GÁZ, GYÚJTÓ HATÁSÚ, M.N.N.	2	3157		+++++
CSEPPFOLYÓSÍTOTT GÁZ, GYÚLÉKONY, M.N.N.	2	3161		+++++
CSEPPFOLYÓSÍTOTT GÁZ, M.N.N.	2	3163		+++++
CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, M.N.N.	2	3307		+++++
CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, MARÓ, M.N.N.	2	3310		+++++
CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚLÉKONY, M.N.N.	2	3160		+++++
CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚLÉKONY, MARÓ, M.N.N.	2	3309		+++++
CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, M.N.N.	2	3162		+++++
CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, MARÓ, M.N.N.	2	3308		+++++
CSEPPFOLYÓSÍTOTT GÁZ, nem gyúlékony, nitrogén, szén-dioxid vagy levegő alatt	2	1058		+++++
D TÍPUSÚ, FOLYÉKONY SZERVES PEROXID	5.2	3105		29++++
D TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL	5.2	3115	A fuvarozásból ki van zárva	
D TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG	4.1	3225		+++++
D TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL	4.1	3235	A fuvarozásból ki van zárva	
D TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG	4.1	3226		+++++
D TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL	4.1	3236	A fuvarozásból ki van zárva	
D TÍPUSÚ ROBBANTÓANYAG	1.1D	0084		360200
D TÍPUSÚ, SZILÁRD SZERVES PEROXID	5.2	3106		29++++
D TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL	5.2	3116	A fuvarozásból ki van zárva	

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
DEKABORÁN	4.1	1868		285000
DEKAHIDRO-NAFTALIN	3	1147		290219
n-DEKÁN	3	2247		290110
DETONÁTORSZERKEZETEK robbantáshoz, NEMVILLAMOS	1.1B 1.4B 1.4S	0360 0361 0500		360300
DEUTÉRIUM, SÚRÍTETT	2	1957		284590
Diacetil: lásd BUTÁNDION				
DIACETON-ALKOHOL	3	1148		291440
DIALLIL-AMIN	3	2359		292119
DIALLIL-ÉTER	3	2360		290919
DI-n-AMIL-AMIN	3	2841		292119
4,4'-DIAMINO-DIFENIL-METÁN	6.1	2651		292159
DIAZO-DINITRO-FENOL, legalább 40 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT	1.1A	0074	A fuvarozásból ki van zárva	
DIBENZIL-DIKLÓR-SZILÁN	8	2434		293100
DIBORÁN	2	1911		285000
1,2-DIBRÓM-3-BUTANON	6.1	2648		291470
DIBRÓM-DIFLUOR-METÁN	9	1941		290347
1,2-dibróm-etán: lásd ETILÉN-DIBROMID				
DIBRÓM-KLÓR-PROPÁNOK	6.1	2872		290349
DIBRÓM-METÁN	6.1	2664		290339
DI-n-BUTILAMIN	8	2248		292119
DIBUTIL-AMINO-ETANOL	6.1	2873		292219
DIBUTIL-ÉTEREK	3	1149		290919
DICIÁN	2	1026		292690
DICKLOHEXIL-AMIN	8	2565		292130
DICKLOHEXIL-AMMÓNIUM-NITRIT	4.1	2687		292130
DICKLOPENTADIÉN	3	2048		290219
1,2-DI(DIMETIL-AMINO)-ETÁN	3	2372		292129
DIDÍMIUM-NITRÁT	5.1	1465		283429
DIETIL-AMIN	3	1154		292119
2-DIETIL-AMINO-ETANOL	8	2686		292219
DIETIL-AMINO-PROPIL-AMIN	3	2684		292129
N,N-DIETIL-ANILIN	6.1	2432		292142
DIETIL-BENZOLÓK	3	2049		290290
DIETIL-DIKLÓR-SZILÁN	8	1767		293100
DIETILÉN-GLIKOL-DINITRÁT, legalább 25 tömeg% nem illó, vízben oldhatatlan flegmatizálószerrel DESZENZIBILIZÁLT	1.1D	0075		292090
DIETILÉN-TRIAMIN	8	2079		292129
DIETIL-ÉTER (ETIL-ÉTER)	3	1155		290911
N,N-DIETIL-ETILÉN-DIAMIN	8	2685		292129
DIETIL-KARBONÁT	3	2366		292090
DIETIL-KETON	3	1156		291419
DIETIL-SZULFÁT	6.1	1594		292090
DIETIL-SZULFID	3	2375		293090
DIETIL-TIOFOSZFORIL-KLORID	8	2751		292019
1,1-Dietoxi-etán: lásd ACETÁL				
1,2-Dietoxi-etán: lásd ETILÉN-GLIKOL-DIETIL-ÉTER				
DIETOXI-METÁN	3	2373		291100
3,3-DIETOXI-PROPÉN	3	2374		291100
DIFENIL-AMIN-KLÓR-ARZIN	6.1	1698		293499
DIFENIL-BRÓM-METÁN	8	1770		290369
DIFENIL-DIKLÓR-SZILÁN	8	1769		293100
DIFENIL-KLÓR-ARZIN, FOLYÉKONY	6.1	1699		293100
DIFENIL-KLÓR-ARZIN, SZILÁRD	6.1	3450		293100
1,1-DIFLUOR-ETÁN (R 152a HŰTŐGÁZ)	2	1030		290339
1,1-DIFLUOR-ETILÉN (R 1132a HŰTŐGÁZ)	2	1959		290339
DIFLUOR-METÁN (R 32 HŰTŐGÁZ)	2	3252		290339
DIFLUORO-FOSZFORSAV, VÍZMENTES	8	1768		281119
2,3-DIHDRO-PIRÁN	3	2376		293299
DIIZOBUTIL-AMIN	3	2361		292119

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
DIIZOBUTILÉN IZOMEREK KEVERÉKE	3	2050		290129
DIIZOBUTIL-KETON	3	1157		291419
DIIZOPROPIL-AMIN	3	1158		292119
DIIZOPROPIL-ÉTER	3	1159		290919
DIKETÉN, STABILIZÁLT	6.1	2521		293229
DIKLÓR-ACETIL-KLORID	8	1765		291590
1,3-DIKLÓR-ACETON	6.1	2649		291470
DIKLÓR-ANILINEK, FOLYÉKONY	6.1	1590		292142
DIKLÓR-ANILINEK, SZILÁRD	6.1	3442		292142
o-DIKLÓR-BENZOL	6.1	1591		290361
2,2'-DIKLÓR-DIETIL-ÉTER	6.1	1916		290919
DIKLÓR-DIFLUOR-METÁN (R 12 HŰTŐGÁZ)	2	1028		290342
DIKLÓR-DIFLUOR-METÁN ÉS 1,1-DIFLUOR-ETÁN AZEOTROP KEVERÉK kb. 74% diklór-difluor-metán tartalommal (R 500 HŰTŐGÁZ)	2	2602		382479
DIKLÓR-DIMETIL-ÉTER, SZIMMETRIKUS	6.1	2249	A fuvarozásból ki van zárva	
DIKLÓR-ECETSAV	8	1764		291540
1,1-DIKLÓR-ETÁN	3	2362		290319
1,2-DIKLÓR-ETÁN	3	1184		290315
1,1-Diklór-etilén: lásd VINILIDÉN-KLORID, STABILIZÁLT				
1,2-DIKLÓR-ETILÉN	3	1150		290329
DIKLÓR-FENIL-IZOCIANÁTOK	6.1	2250		292910
DIKLÓR-FENIL-TRIKLÓR-SZILÁN	8	1766		293100
DIKLÓR-FLUOR-METÁN (R 21 HŰTŐGÁZ)	2	1029		290349
alfa-Diklór-hidrin: lásd 1,3-DIKLÓR-2-PROPANOL				
DIKLÓR-IZOCIANURSAV SÓK, SZÁRAZ	5.1	2465		293369
DIKLÓR-IZOCIANURSAV, SZÁRAZ	5.1	2465		293369
DIKLÓR-IZOPROPIL-ÉTER	6.1	2490		290919
DIKLÓR-METÁN (metilén-klorid)	6.1	1593		290312
1,1-DIKLÓR-1-NITRO-ETÁN	6.1	2650		290490
DIKLÓR-PENTÁNOK	3	1152		290319
1,2-DIKLÓR-PROPÁN	3	1279		290319
1,3-DIKLÓR-2-PROPANOL	6.1	2750		290559
DIKLÓR-PROPÉNEK	3	2047		290329
DIKLÓR-SZILÁN	2	2189		281210
1,2-DIKLÓR-1,1,2,2-TETRAFLUOR-ETÁN (R 114 HŰTŐGÁZ)	2	1958		290344
DIMETIL-AMIN VIZES OLDAT	3	1160		292111
DIMETIL-AMIN, VÍZMENTES	2	1032		292111
2-DIMETIL-AMINO-ACETONITRIL	3	2378		292690
2-DIMETIL-AMINO-ETANOL	8	2051		292219
2-DIMETIL-AMINO-ETIL-AKRILÁT	6.1	3302		292219
2-DIMETIL-AMINO-ETIL-METAKRILÁT	6.1	2522		292219
N,N-DIMETIL-ANILIN	6.1	2253		292142
2,3-DIMETIL-BUTÁN	3	2457		290110
1,3-DIMETIL-BUTIL-AMIN	3	2379		292119
DIMETIL-CIKLOHEXÁNOK	3	2263		290219
N,N-DIMETIL-CIKLOHEXIL-AMIN	8	2264		292130
DIMETIL-DIETOXI-SZILÁN	3	2380		293100
DIMETIL-DIKLÓR-SZILÁN	3	1162		293100
DIMETIL-DIOXÁNOK	3	2707		293299
DIMETIL-DISZULFID	3	2381		293090
DIMETIL-ÉTER	2	1033		290919
N,N-DIMETIL-FORMAMID	3	2265		292419
DIMETIL-HIDRAZIN, ASZIMMETRIKUS	6.1	1163		292800
DIMETIL-HIDRAZIN, SZIMMETRIKUS	6.1	2382		292800
N,N-DIMETIL-KARBAMOIL-KLORID	8	2262		292419
DIMETIL-KARBONÁT	3	1161		292090
2,2-DIMETIL-PROPÁN	2	2044		290110
DIMETIL-N-PROPIL-AMIN	3	2266		292119
DIMETIL-SZULFÁT	6.1	1595		292090
DIMETIL-SZULFID	3	1164		293090

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
DIMETIL-TIOFOSZFORIL-KLORID	6.1	2267		292019
1,1-DIMETOXI-ETÁN	3	2377		291100
1,2-DIMETOXI-ETÁN	3	2252		290919
DINÁTRIUM-TRIOXO-SZILIKÁT	8	3253		283911
DINGU	1.1G	0489		293399
DINITRO-ANILINEK	6.1	1596		292142
DINITRO-BENZOLOK, FOLYÉKONY	6.1	1597		290420
DINITRO-BENZOLOK, SZILÁRD	6.1	3443		290420
DINITRO-FENOL, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített	1.1D	0076		290899
DINITRO-FENOL, legalább 15 tömeg% vízzel NEDVESÍTETT	4.1	1320		290899
DINITRO-FENOL OLDAT	6.1	1599		290899
DINITRO-FENOLÁTOK (alkálifémeké), száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített	1.3C	0077		290899
DINITRO-FENOLÁTOK, legalább 15 tömeg% vízzel NEDVESÍTETT	4.1	1321		290899
DINITROGÉN-OXID	2	1070		281129
DINITROGÉN-OXID, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT	2	2201		281129
DINITROGÉN-TETROXID	2	1067		281129
DINITRO-GLIKOL-ÜRIL (DINGU)	1.1D	0489		293399
DINITRO-o-KREZOL	6.1	1598		290899
DINITRO-REZORCIN, legalább 15 tömeg% vízzel NEDVESÍTETT	4.1	1322		290899
DINITRO-REZORCIN, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített	1.1G	0078		290899
Dinitro-toluol izomerek keveréke: lásd DINITRO-TOLUOLOK				
DINITRO-TOLUOLOK, FOLYÉKONY	6.1	2038		290420
DINITRO-TOLUOLOK, OLVASZTOTT	6.1	1600		290420
DINITRO-TOLUOLOK, SZILÁRD	6.1	3454		290420
DINITROZO-BENZOL	1.3C	0406		290420
DIOXÁN	3	1165		293299
DIOXOLÁN	3	1166		293299
DIPENTÉN (limonén)	3	2052		290219
DIPIKRIL-AMIN	1.1D	0079		292144
DIPIKRIL-SZULFID, legalább 10 tömeg% vízzel NEDVESÍTETT	4.1	2852		290899
DIPIKRIL-SZULFID, száraz vagy 10 tömeg%-nál kevesebb vízzel nedvesített	1.1D	0401		290899
DIPROPIL-AMIN	3	2383		292119
DI-n-PROPIL-ÉTER	3	2384		290919
DIPROPIL-KETON	3	2710		291419
Dipropilén-triamin: lásd 3,3'-IMINO-BISZPROPIL-AMIN				
DIVINIL-ÉTER, STABILIZÁLT	3	1167		290919
DÍZELOLAJ	3	1202		274300
DODECIL-TRIKLÓR-SZILÁN	8	1771		293100
E TÍPUSÚ, FOLYÉKONY SZERVES PEROXID	5.2	3107		29++++
E TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL	5.2	3117	A fuvarozásból ki van zárva	
E TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG	4.1	3227		++++++
E TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL	4.1	3237	A fuvarozásból ki van zárva	
E TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG	4.1	3228		++++++
E TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET-SZABÁLYOZÁSSAL	4.1	3238	A fuvarozásból ki van zárva	
E TÍPUSÚ ROBBANTÓANYAG	1.1D 1.5D	0241 0332		360200
E TÍPUSÚ, SZILÁRD SZERVES PEROXID	5.2	3108		29++++
E TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL	5.2	3118	A fuvarozásból ki van zárva	
ECETSAV	8	2789		291521
ECETSAV OLDAT 10 tömeg%-nál több, de legfeljebb 80 tömeg% ecetsav-tartalommal	8	2790		291521
ECETSAV OLDAT 80 tömeg%-nál több ecetsav tartalommal	8	2789		291521
ECETSAVANHIDRID	8	1715		291524
EETI TÁRGYAK	1.6N	0486		930690

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
ELSŐSEGÉLY FELSZERELÉS	9	3316		382200
EPIBRÓMHIDRIN	6.1	2558		291090
EPIKLÓRHIDRIN	6.1	2023		291030
1,2-EPOXI-3-ETOXI-PROPÁN	3	2752		291090
ÉRZÉKETLENÍTETT ROBBANÓANYAG, FOYÉKONY M.N.N.	3	3379		360200
ÉRZÉKETLENÍTETT ROBBANÓANYAG, SZILÁRD, M.N.N.	4.1	3380		360200
ÉSZTEREK, M.N.N.	3	3272		29++++
ETÁN	2	1035		290110
ETÁN, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT	2	1961		290110
Etanál: lásd ACETALDEHID				
ETANOL (ETIL-ALKOHOL)	3	1170		220710 220720
ETANOL OLDAT (ETIL-ALKOHOL OLDAT)	3	1170		220890
ETANOL-AMIN	8	2491		292211
ETANOL-AMIN OLDAT	8	2491		292211
ETANOL ÉS MOTORBENZIN KEVERÉKE 10%-nál több etanol-tartalommal	3	3475		272200 272400
ETANOL ÉS BENZIN KEVERÉKE 10%-nál több etanoltartalommal				
ETANOL ÉS GAZOLIN KEVERÉKE 10%-nál több etanoltartalommal				
ÉTEREK, M.N.N.	3	3271		2909++
ETIL-ACETÁT	3	1173		291531
ETIL-ACETILÉN, STABILIZÁLT	2	2452		290129
ETIL-AKRILÁT, STABILIZÁLT	3	1917		291612
ETIL-ALKOHOL	3	1170		220710
ETIL-ALKOHOL OLDAT	3	1170		220710 2208++
ETIL-AMIL-KETON	3	2271		291419
ETIL-AMIN	2	1036		292119
ETIL-AMIN VIZES OLDAT legalább 50%, de legfeljebb 70% etil-amin tartalommal	3	2270		292119
N-ETIL-ANILIN	6.1	2272		292142
2-ETIL-ANILIN	6.1	2273		292149
N-ETIL-N-BENZIL-ANILIN	6.1	2274		292149
N-ETIL-BENZIL-TOLUIDINEK, FOLYÉKONY	6.1	2753		292149
N-ETIL-BENZIL-TOLUIDINEK, SZILÁRD	6.1	3460		292149
ETIL-BENZOL	3	1175		290260
ETIL-BRÓM-ACETÁT	6.1	1603		291590
ETIL-BROMID	6.1	1891		290339
2-ETIL-BUTANOL	3	2275		290519
ETIL-BUTIL-ACETÁT	3	1177		291539
ETIL-BUTIL-ÉTER	3	1179		290919
2-ETIL-BUTIRALDEHID	3	1178		291219
ETIL-BUTIRÁT	3	1180		291560
ETIL-DIKLÓR-ARZIN	6.1	1892		293100
ETIL-DIKLÓR-SZILÁN	4.3	1183		293100
ETILÉN	2	1962		271114 290121
ETILÉN, ACETILÉN ÉS PROPILÉN KEVERÉK, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT, legalább 71,5% etilén-, legfeljebb 22,5% acetilén- és legfeljebb 6% propilén-tartalommal	2	3138		271119
ETILÉN, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT	2	1038		271114 290121
ETILÉN-DIAMIN	8	1604		292121
ETILÉN-DIAMIN-RÉZ OLDAT	8	1761		292121
ETILÉN-DIBROMID (1,2-dibrom-etán)	6.1	1605		290331
ETILÉN-GLIKOL-DIETIL-ÉTER	3	1153		290944
ETILÉN-GLIKOL-MONOETIL-ÉTER	3	1171		290944
ETILÉN-GLIKOL-MONOETIL-ÉTER-ACETÁT	3	1172		291539
ETILÉN-GLIKOL-MONOMETIL-ÉTER	3	1188		290944
ETILÉN-GLIKOL-MONOMETIL-ÉTER-ACETÁT	3	1189		291539
ETILÉN-IMIN, STABILIZÁLT	6.1	1185		293399
ETILÉN-KLÓRHIDRIN	6.1	1135		290559



Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
ETILÉN-OXID	2	1040		291010
ETILÉN-OXID ÉS DIKLÓR-DIFLUOR-METÁN KEVERÉK legfeljebb 12,5% etilén-oxiddal	2	3070		291010 290342
ETILÉN-OXID ÉS KLÓR-TETRAFLUOR-ETÁN KEVERÉK legfeljebb 8,8% etilén-oxid tartalommal	2	3297		291010 290342
ETILÉN-OXID ÉS PENTAFLUOR-ETÁN KEVERÉK legfeljebb 7,9% etilén-oxid tartalommal	2	3298		291010 290330
ETILÉN-OXID ÉS PROPILÉN-OXID KEVERÉK legfeljebb 30% etilén-oxid tartalommal	3	2983		291010 291020
ETILÉN-OXID ÉS SZÉN-DIOXID KEVERÉK 87%-nál több etilén- oxid tartalommal	2	3300		291010 281121
ETILÉN-OXID ÉS SZÉN-DIOXID KEVERÉK 9%-nál több, de legfeljebb 87% etilén-oxid tartalommal	2	1041		291010 281121
ETILÉN-OXID ÉS SZÉN-DIOXID KEVERÉKE legfeljebb 9% etilén- oxid tartalommal	2	1952		291010 281121
ETILÉN-OXID ÉS TETRAFLUOR-ETÁN KEVERÉK legfeljebb 5,6% etilén-oxid tartalommal	2	3299		291010 290330
ETILÉN-OXID NITROGÉNNEL 50 °C-on legfeljebb 1 MPa (10 bar) össznyomásig	2	1040		291010
ETIL-ÉTER	3	1155		290911
ETIL-FENIL-DIKLÓR-SZILÁN	8	2435		293100
ETIL-FLUORID (R 161 HŰTŐGÁZ)	2	2453		290339
ETIL-FORMIÁT	3	1190		291513
2-ETIL-HEXIL-AMIN	3	2276		292119
2-ETIL-HEXIL-KLÓR-FORMIÁT	6.1	2748		291590
ETIL-IZOBUTIRÁT	3	2385		291560
ETIL-IZOCIANÁT	3	2481		292910
Etil-karbonát: lásd DIETIL-KARBONÁT				
ETIL-KLÓR-ACETÁT	6.1	1181		291540
ETIL-KLÓR-FORMIÁT	6.1	1182		291590
ETIL-KLORID	2	1037		290311
ETIL-2-KLÓR-PROPIONÁT	3	2935		291590
ETIL-KLÓR-TIOFORMIÁT	8	2826		293090
ETIL-KROTONÁT	3	1862		291619
ETIL-LAKTÁT	3	1192		291811
ETIL-MERKAPTÁN	3	2363		293090
ETIL-METAKRILÁT, STABILIZÁLT	3	2277		291614
ETIL-METIL-ÉTER	2	1039		290919
ETIL-METIL-KETON (METIL-ETIL-KETON)	3	1193		291412
ETIL-NITRIT OLDAT	3	1194		292090
ETIL-ORTOFORMIÁT	3	2524		291590
ETIL-OXALÁT	6.1	2525		291711
1-ETIL-PIPERIDIN	3	2386		293339
ETIL-PROPIL-ÉTER	3	2615		290919
ETIL-PROPIONÁT	3	1195		291550
N-ETIL-TOLUIDINEK	6.1	2754		292143
ETIL-TRIKLÓR-SZILÁN	3	1196		293100
ETIL-VINIL-ÉTER, STABILIZÁLT	3	1302		290919
EVI ANYAGOK, M.N.N.	1.5D	0482		360200
EZÜST-ARZENIT	6.1	1683		284329
EZÜST-CIANID	6.1	1684		284329
EZÜST-NITRÁT	5.1	1493		284321
EZÜST-PIKRÁT, legalább 30 tömeg% vízzel NEDVESÍTETT	4.1	1347		284329
F TÍPUSÚ, FOLYÉKONY SZERVES PEROXID	5.2	3109		29++++
F TÍPUSÚ, FOLYÉKONY SZERVES PEROXID HŐMÉRSÉKLET- SZABÁLYOZÁSSAL	5.2	3119	A fuvarozásból ki van zárva	
F TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG	4.1	3229		+++++
F TÍPUSÚ ÖNREAKTÍV FOLYÉKONY ANYAG HŐMÉRSÉKLET- SZABÁLYOZÁSSAL	4.1	3239	A fuvarozásból ki van zárva	
F TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG	4.1	3230		+++++
F TÍPUSÚ ÖNREAKTÍV SZILÁRD ANYAG HŐMÉRSÉKLET- SZABÁLYOZÁSSAL	4.1	3240	A fuvarozásból ki van zárva	
F TÍPUSÚ, SZILÁRD SZERVES PEROXID	5.2	3110		29++++

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
F TÍPUSÚ, SZILÁRD SZERVES PEROXID HŐMÉRSÉKLET-SZABÁLYOZÁSSAL	5.2	3120	A fuvarozásból ki van zárva	
F1, F2, F3 keverék: lásd HŰTŐGÁZ, M.N.N.				
FAKONZERVÁLÓ ANYAGOK, FOLYÉKONY	3	1306		+++++
FEHÉR AZBESZT (krizotil, aktinolit, antofillit, tremolit)	9	2590		252490
FEHÉRFOSZFOR OLDATBAN	4.2	1381		280470
FEHÉRFOSZFOR, OLVASZTOTT	4.2	2447		280470
FEHÉRFOSZFOR, SZÁRAZ	4.2	1381		280470
FEHÉRFOSZFOR TARTALMÚ, FÜSTKÉPZŐ LŐSZER robbanó-, kidobó- vagy hajtótöltettel	1.2H 1.3H	0245 0246		930690
FEHÉRFOSZFOR TARTALMÚ, GYÚJTÓ HATÁSÚ LŐSZER robbanó-, kidobó- vagy hajtótöltettel	1.2H 1.3H	0243 0244		930690
FEHÉRFOSZFOR, VÍZ ALATT	4.2	1381		280470
FEKETE LŐPOR (PUKAPOR), PELLET	1.1D	0028		360200
FEKETE LŐPOR (PUKAPOR), SAJTOLT	1.1D	0028		360200
FEKETE LŐPOR (PUKAPOR), szemcsés vagy por alakú	1.1D	0027		360200
Felületkezelő anyagok: lásd BEVONÓ OLDATOK				
FÉMHIIDRIDEK, GYÚLÉKONY, M.N.N.	4.1	3182		285000
FÉMHIIDRIDEK, VÍZZEL REAKTÍV, M.N.N.	4.3	1409		285000
FÉM KATALIZÁTOR, látható folyadékfelesleggel NEDVESÍTETT	4.2	1378		38151+
FÉM KATALIZÁTOR, SZÁRAZ	4.2	2881		38151+
FÉM-KARBONILÓK, FOLYÉKONY, M.N.N.	6.1	3281		293100
FÉM-KARBONILÓK, SZILÁRD, M.N.N.	6.1	3466		293100
FÉMLÍTIUM AKKUMULÁTOROK (beleértve a lítiumötvözet akkumulátorokat is)	9	3090		850650
FÉMLÍTIUM AKKUMULÁTOROK KÉSZÜLÉKEKBEN (beleértve a lítiumötvözet akkumulátorokat is)	9	3091		850650
FÉMLÍTIUM AKKUMULÁTOROK KÉSZÜLÉKKEL EGYBECSOMAGOLVA (beleértve a lítiumötvözet akkumulátorokat is)				
FÉMPOR, GYÚLÉKONY, M.N.N.	4.1	3089		81++++
FÉMPOR, ÖNMELEGEDŐ, M.N.N.	4.2	3189		81++++
FENACIL-BROMID	6.1	2645		291470
Fenacil-klorid: lásd KLÓR-ACETOFENON				
FENETIDINEK	6.1	2311		292229
FENIL-ACETIL-KLORID	8	2577		291639
FENIL-ACETONITRIL, FOLYÉKONY	6.1	2470		292690
FENILÉN-DIAMINOK (o-, m-, p-)	6.1	1673		292151
FENIL-FOSZFOR-DIKLORID	8	2798		293100
FENIL-HIDRAZIN	6.1	2572		292800
FENIL-HIGANY(II)-ACETÁT	6.1	1674		285200
FENIL-HIGANY(II)-HIDROXID	6.1	1894		285200
FENIL-HIGANY(II)-NITRÁT	6.1	1895		285200
FENIL-HIGANY VEGYÜLET, M.N.N.	6.1	2026		285200
FENIL-IZOCIANÁT	6.1	2487		292910
FENIL-KARBIL-AMIN-KLORID	6.1	1672		292529
FENIL-KLÓR-FORMIÁT	6.1	2746		291590
Fenil-klorid: lásd KLÓR-BENZOL				
FENIL-MERKAPTÁN (tiofenol)	6.1	2337		293090
Fenil-metil-éter: lásd ANIZOL				
FENIL-TIOFOSZFORIL-DIKLORID	8	2799		292019
FENIL-TRIKLÓR-SZILÁN	8	1804		293100
FENOLÁTOK, FOLYÉKONY	8	2904		290711
FENOLÁTOK, SZILÁRD	8	2905		290711
FENOL OLDAT	6.1	2821		290711
FENOL, OLVASZTOTT	6.1	2312		290711
FENOL, SZILÁRD	6.1	1671		290711
FENOLSZULFONSAV, FOLYÉKONY	8	1803		290899
FENOXI-ECETSAV SZÁRMAZÉK PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)	3	3346		380893
FENOXI-ECETSAV SZÁRMAZÉK PESZTICID, FOLYÉKONY, MÉRGEZŐ	6.1	3348		380893



Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
FENOXI-ECETSAV SZÁRMAZÉK PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C)	6.1	3347		380893
FENOXI-ECETSAV SZÁRMAZÉK PESZTICID, SZILÁRD, MÉRGEZŐ	6.1	3345		380893
FENYŐOLAJ	3	1272		380590
FERROCÉRIUM	4.1	1323		360690
FERROSZILÍCIUM 30 tömeg% vagy több, de 90 tömeg%-nál kevesebb szilíciumtartalommal	4.3	1408		72022+
FERTŐTLENÍTŐSZER, FOLYÉKONY, MARÓ, M.N.N.	8	1903		380894
FERTŐTLENÍTŐSZER, MÉRGEZŐ, FOLYÉKONY, M.N.N.	6.1	3142		380894
FERTŐTLENÍTŐSZER, SZILÁRD, MÉRGEZŐ, M.N.N.	6.1	1601		380894
FERTŐZŐ ANYAG, csak ÁLLATOKRA ÁRTALMAS	6.2	2900		300+++
FERTŐZŐ ANYAG, EMBEREKRE ÁRTALMAS	6.2	2814		300+++
FESTÉK (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist)	3 8	1263 3066		3208++
FESTÉK, GYÚLÉKONY, MARÓ (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist)	3	3469		3208++
FESTÉK, MARÓ, GYÚLÉKONY (beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist)	8	3470		3208++
FESTÉK SEGÉDANYAG (beleértve a festékhígítókat és oldószereket)	3 8	1263 3066		381400
FESTÉK SEGÉDANYAG, GYÚLÉKONY, MARÓ (beleértve a festékhígítókat és oldószereket)	3	3469		381400
FESTÉK SEGÉDANYAG, MARÓ, GYÚLÉKONY (beleértve a festékhígítókat és oldószereket)	8	3470		381400
Festékhígítók: lásd FESTÉK SEGÉDANYAG; NYOMDAFESTÉK SEGÉDANYAG				
FLUOR, SÚRÍTETT	2	1045		280130
FLUOR-ANILINEK	6.1	2941		292142
FLUOR-BENZOL	3	2387		290369
FLUOR-ECETSAV	6.1	2642		291590
FLUOR-HIDROGÉNSAV	8	1790		281111
FLUOR-HIDROGÉNSAV ÉS KÉNSAV KEVERÉK	8	1786		281119
FLUOR-KÉNSAV	8	1777		281119
FLUORO-BÓRSAV	8	1775		281119
FLUORO-FOSZFORSAV, VÍZMENTES	8	1776		281119
FLUORO-KOVASAV	8	1778		281119
FLUORO-SZILIKÁTOK, M.N.N.	6.1	2856		282690
FLUOR-TOLUOLOK	3	2388		290369
FOLYÉKONY, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.	5.1	3139		++++++
FOLYÉKONY HAJTÓANYAG lásd HAJTÓANYAG, FOLYÉKONY				
FOLYÉKONY KÁTRÁNYOK, beleértve az útéptésre használt kátrányolajokat, bitument és hígított bitumeneket	9	1999		270600
Folyékony lakkbázis: lásd FESTÉK				
FOLYÉKONY, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.	5.1	3098		++++++
FOLYÉKONY, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.	5.1	3099		++++++
FOLYÉKONY, SZERVES, ÖNVEGYÜLET, M.N.N.	6.1	2788		293100
Folyékony töltőanyag: lásd FESTÉK				
FORMALDEHID OLDAT legalább 25% formaldehidtartalommal	8	2209		291211
FORMALDEHID OLDAT, GYÚLÉKONY	3	1198		291211
FORMÁZOTT TÖLTETEK detonátor nélkül	1.1D 1.2D 1.4D 1.4S	0059 0439 0440 0441		930690
9-FOSZFA-BICIKLONONÁNOK (CIKLOOKTADIÉN-FOSZFINEK)	4.2	2940		293100
FOSZFIN	2	2199		284800
FOSZFOR: lásd FEHÉRFOSZFOR; SÁRGAFOSZFOR				
FOSZFOR, AMORF	4.1	1338		280470
FOSZFOR-HEPTASZULFID, sárga- és fehérfoszfortól mentes	4.1	1339		281390

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
FOSZFOR-OXI-BROMID	8	1939		281290
FOSZFOR-OXI-BROMID, OLVASZTOTT	8	2576		281290
FOSZFOR-OXI-KLORID	8	1810		281210
FOSZFOR-PENTABROMID	8	2691		281290
FOSZFOR-PENTAFLUORID	2	2198		281290
FOSZFOR-PENTAKLORID	8	1806		281210
FOSZFOR-PENTASZULFID, sárga- és fehérfoszfortól mentes	4.3	1340		281390
FOSZFOR-PENTOXID (foszforsavanhidrid)	8	1807		280910
FOSZFOR-SZESZKVISZULFID, sárga- és fehérfoszfortól mentes	4.1	1341		281390
FOSZFOR-TRIBROMID	8	1808		281290
FOSZFOR-TRIKLORID	6.1	1809		281210
FOSZFOR-TRIOXID	8	2578		281129
FOSZFOR-TRISZULFID, sárga- és fehérfoszfortól mentes	4.1	1343		281390
FOSZFOROSSAV	8	2834		281119
FOSZFORSAV OLDAT	8	1805		280920
FOSZFORSAV, SZILÁRD	8	3453		280920
FOSZFORSAV-DIIZOOKTIL-ÉSZTER	8	1902		291990
FOSZFORSAV-MONOAMIL-ÉSZTER	8	2819		291990
FOSZFORSAV-MONOBUTIL-ÉSZTER	8	1718		291990
FOSZFORSAV-MONOIZOPROPIL-ÉSZTER	8	1793		291990
Foszforsavanhidrid: lásd FOSZFOR-PENTOXID				
FOSZGÉN	2	1076		281210
FÖLDGÁZ, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT magas metántartalommal	2	1972		271119
FÖLDGÁZ, SŰRÍTETT magas metántartalommal	2	1971		271129
FÖLDI VILÁGÍTÓTESTEK lásd VILÁGÍTÓTESTEK, FÖLDI				
FTÁLSAVANHIDRID 0,05%-nál több maleinsavanhidrid-tartalommal	8	2214		291735
FUMARIL-KLORID	8	1780		291719
FURÁN	3	2389		293219
FURFURALDEHIDEK	6.1	1199		293212
FURFURIL-ALKOHOL	6.1	2874		293213
FURFURIL-AMIN	3	2526		293219
FÜSTJELZŐK	1.1G 1.4G 1.2G 1.3G 1.4S	0196 0197 0313 0487 0507		360490
FÜSTKÉPZŐ LÖSZER robbanó, kidobó vagy hajtótöltettel vagy anélkül	1.2G 1.3G 1.4G	0015 0016 0303		930690
FÜSTKÉPZŐ LÖSZER robbanó, kidobó vagy hajtótöltettel vagy anélkül, maró anyag tartalommal	1.2G 1.3G 1.4G	0015 0016 0303		930690
FÜST NÉLKÜLI LŐPOR	1.1C 1.3D	0160 0161		360100
FÜSTÖLGŐ KÉNSAV (óleum)	8	1831		280700
FÜTŐOLAJ, KÖNNYŰ	3	1202		274300
GALLIUM	8	2803		811292
GÁZMINTA, TÚLNYOMÁS NÉLKÜLI, GYÚLÉKONY, M.N.N., nem mélyhűtött, nem cseppfolyósított	2	3167		+++++
GÁZMINTA, TÚLNYOMÁS NÉLKÜLI, MÉRGEZŐ, GYÚLÉKONY, M.N.N., nem mélyhűtött, nem cseppfolyósított	2	3168		+++++
GÁZMINTA, TÚLNYOMÁS NÉLKÜLI, MÉRGEZŐ, M.N.N., nem mélyhűtött, nem cseppfolyósított	2	3169		+++++
GÁZOLAJ	3	1202		274200
GAZOLIN	3	1203		274200
GAZOSÍTÓSZER HATÁSA ALATT ÁLLÓ EGYSÉG	9	3359		+++++
GÁZPATRONOK adagolószervezet nélkül, nem utántölthetők	2	2037		+++++
GÁZZAL TÖLTÖTT KISMÉRETŰ TARTÁLYOK (GÁZPATRONOK) adagolószervezet nélkül, nem utántölthetők	2	2037		+++++
GÉNTECHNOLÓGIÁVAL MÓDOSÍTOTT ÉLŐ SZERVEZETEK	9	3245	lásd a 2.2.9.1.11 pontot	+++++

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
GÉNTÉCHNOLÓGIÁVAL MÓDOSÍTOTT MIKROORGANIZMUSOK	9	3245		300290
GERMÁN	2	2192		285000
GLICERIN-alfa-MONOKLÓRHIDRIN	6.1	2689		290559
GLICIDALDEHID	3	2622		291249
GOLYÓS PERFORÁTOR-TÖLTÉNY OLAJKUTAK FÚRÁSÁHOZ	1.3C 1.4.C	0277 0278		930630
GRÁNÁTOK, kézi- vagy fegyvergránátok robbanótöltettel	1.1D 1.2D 1.1F 1.2F	0284 0285 0292 0293		930690
GUANIDIN-NITRÁT	5.1	1467		292529
GUANIL-NITRÓZAMINO-GUANILIDÉN-HIDRAZIN, legalább 30 tömeg% vízzel NEDVESÍTETT	1.1A	0113	A fuvarozásból ki van zárva	
GUANIL-NITRÓZAMINO-GUANIL-TETRAZÉN (TETRAZÉN), legalább 30 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT	1.1A	0114	A fuvarozásból ki van zárva	
GUMI HULLADÉK, porított vagy granulált	4.1	1345		400400
GUMI ÓRLEMÉNY, porított vagy granulált	4.1	1345		400400
GUMIOLDAT	3	1287		400520
GYAKORLÓGRÁNÁTOK (kézi- vagy fegyvergránátok)	1.4S 1.3G 1.2G 1.4G	0110 0318 0372 0452		930690
GYAKORLÓLŐSZER	1.4G 1.3G	0362 0488		930690
GYANTA OLDAT, gyúlékony	3	1866		380690
GYANTAOLAJ	3	1286		380690
GYAPJÚHULLADÉK, NEDVES	4.2	1387	Nem tartozik a RID hatálya alá	5+++++
GYAPOT, NEDVES	4.2	1365		520100 520300
GYENGÉN NITRÁLT NITROCELLULÓZZAL IMPREGNÁLT SZÁLAK vagy SZÖVETEK, M.N.N.	4.1	1353		5+++++
GYÓGYÁSZATI HULLADÉK, SZABÁLYOZOTT, M.N.N.	6.2	3291		382530
GYÓGYÁSZATI TINKTÚRÁK	3	1293		300490
GYÓGYSZER, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ, M.N.N.	3	3248		300+++
GYÓGYSZER, FOLYÉKONY, MÉRGEZŐ, M.N.N.	6.1	1851		300+++
GYÓGYSZER, SZILÁRD, MÉRGEZŐ, M.N.N.	6.1	3249		300+++
GYUFA, BIZTONSÁGI (levél, kártya, doboz formában)	4.1	1944		360500
GYUFA, MINDENÜTT GYULLADÓ	4.1	1331		360500
GYUFA, VESTA-VIASZ	4.1	1945		360500
GYÚJTÁSERŐSÍTŐK detonátor nélkül	1.1D 1.2D	0042 0283		360300
GYÚJTÁSERŐSÍTŐK DETONÁTORRAL	1.1B 1.2B	0225 0268		360300
GYÚJTÓ HATÁSÚ, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.	4.1	3097	A fuvarozásból ki van zárva	
GYÚJTÓ HATÁSÚ, MARÓ FOLYÉKONY ANYAG, M.N.N.	8	3093		+++++
GYÚJTÓ HATÁSÚ, MARÓ SZILÁRD ANYAG, M.N.N.	8	3084		+++++
GYÚJTÓ HATÁSÚ, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	6.1	3122		+++++
GYÚJTÓ HATÁSÚ, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	6.1	3086		+++++
GYÚJTÓ HATÁSÚ, ÖNMELEGEDŐ SZILÁRD ANYAG, M.N.N.	4.2	3127	A fuvarozásból ki van zárva	
GYÚJTÓK	1.1G 1.2G 1.3G 1.4G 1.4S	0121 0314 0315 0325 0454		360300
GYÚJTÓZSINÓR	1.1G	0066		360300
GYÚJTÓZSINÓR, BIZTONSÁGI	1.4S	0105		360300
GYÚJTÓZSINÓR-GYÚJTÓK	1.4S	0131		360300
GYÚJTÓZSINÓR-GYÚJTÓK cső alakú fémköpennyel	1.4G	0103		360300

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
GYÚLÉKONY FOLYADÉK TARTALMÚ SZILÁRD ANYAGOK vagy keverékeik (készítmények és hulladékok), M.N.N., amelyek lobbanáspontja legfeljebb 60 °C	4.1	3175		++++++
GYÚLÉKONY FOLYADÉK ÜZEMŰ JÁRMŰ	9	3166	Nem tartozik a RID hatálya alá	
GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.	3	1993		++++++
GYÚLÉKONY GÁZ ÜZEMŰ JÁRMŰ	9	3166	Nem tartozik a RID hatálya alá	
GYÚLÉKONY, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N.	5.1	3137	A fuvarozásból ki van zárva	
GYÚLÉKONY, MARÓ FOLYÉKONY ANYAG, M.N.N.	8	2920		++++++
GYÚLÉKONY, MARÓ SZILÁRD ANYAG, M.N.N.	8	2921		++++++
GYÚLÉKONY, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	3	1992		++++++
GYÚLÉKONY, SZERVES SZILÁRD ANYAG, M.N.N.	4.1	1325		29++++
GYUTACSCSÖVEK	1.3G 1.4G 1.4S	0319 0319 0376		360300
GYUTACSKAPSZULÁK	1.4S 1.1B 1.4B	0044 0377 0378		360300
GYUTACSOK LŐSZEREKHEZ	1.1B 1.2B 1.4B 1.4S	0073 0364 0365 0366		360300
GYUTACSOK robbantáshoz, NEMVILLAMOS	1.1B 1.4B 1.4S	0029 0267 0455		360300
GYUTACSOK robbantáshoz, VILLAMOS	1.1B 1.4B 1.4S	0030 0255 0456		360300
GYUTACSSZELENCÉK	1.3G 1.4G 1.4S	0319 0320 0376		360300
HABOSÍTHATÓ POLIMER GYÖNGYÖK, amelyek gyúlékony gőzöket fejlesztenek	9	2211		390311
HAFNIUMPOR legalább 25% vízzel NEDVESÍTETT	4.1	1326		811291
HAFNIUMPOR, SZÁRAZ	4.2	2545		811291
HAJTÓANYAG, FOLYÉKONY	1.3C 1.1C	0495 0497		360200
HAJTÓANYAG, SZILÁRD	11.C 1.3C 1.4C	0498 0499 0501		360100
HAJTÓTÖLTETEK	1.1C 1.3C 1.2C 1.4C	0271 0272 0415 0491		930690
HALHULLADÉK, NEM STABILIZÁLT	4.2	1374		230120
HALHULLADÉK, STABILIZÁLT	9	2216	Nem tartozik a RID hatálya alá	230120
HALLISZT (HALHULLADÉK), NEM STABILIZÁLT	4.2	1374		230120
HALLISZT (HALHULLADÉK), STABILIZÁLT	9	2216	Nem tartozik a RID hatálya alá	230120
HANGYASAV 85%-nál nagyobb savtartalommal	8	1779		291511
HANGYASAV legalább 5 tömeg%, de legfeljebb 85 tömeg% savtartalommal	8	3412		291511
HÉLIUM, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT	2	1963		280429
HÉLIUM, SŰRÍTETT	2	1046		280429
HELYETTESÍTETT NITRO-FENOL PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)	3	2780		380893
HELYETTESÍTETT NITRO-FENOL PESZTICID, FOLYÉKONY, MÉRGEZŐ	6.1	3014		380893
HELYETTESÍTETT NITRO-FENOL PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C)	6.1	3013		380893

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
HELYETTESÍTETT NITRO-FENOL PESZTICID, SZILÁRD, MÉRGEZŐ	6.1	2779		380893
HEPTAFLUOR-PROPÁN (R 227 HŰTŐGÁZ)	2	3296		290339
n-HEPTALDEHID	3	3056		291219
HEPTÁNOK	3	1206		290110
n-HEPTÉN	3	2278		290129
HEXADECIL-TRIKLÓR-SZILÁN	8	1781		293100
HEXADIÉNEK	3	2458		290129
HEXAETIL-TETRAFOSZFÁT	6.1	1611		291990
HEXAETIL-TETRAFOSZFÁT ÉS SŰRÍTETT GÁZ KEVERÉK	2	1612		291990
HEXAFLUOR-ACETON	2	2420		291470
HEXAFLUOR-ACETON-HIDRÁT, FOLYÉKONY	6.1	2552		291470
HEXAFLUOR-ACETON-HIDRÁT, SZILÁRD	6.1	3436		291470
HEXAFLUOR-ETÁN (R 116 HŰTŐGÁZ)	2	2193		290339
HEXAFLUOR-PROPILÉN (R 1216 HŰTŐGÁZ)	2	1858		290339
HEXAFLUORO-FOSZFORSAV	8	1782		281119
HEXAKLÓR-ACETON	6.1	2661		291470
HEXAKLÓR-BENZOL	6.1	2729		290362
HEXAKLÓR-BUTADIÉN	6.1	2279		290329
HEXAKLÓR-CIKLOPENTADIÉN	6.1	2646		290359
HEXAKLOROFÉN	6.1	2875		290819
HEXAKLÓR-PLATINASAV, SZILÁRD	8	2507		281119
HEXALDEHID	3	1207		291219
HEXAMETILÉN-DIAMIN OLDAT	8	1783		292122
HEXAMETILÉN-DIAMIN, SZILÁRD	8	2280		292122
HEXAMETILÉN-DIIZOCIANÁT	6.1	2281		292910
HEXAMETILÉN-IMIN	3	2493		293399
HEXAMETILÉN-TETRAMIN	4.1	1328		293399
HEXANITRO-DIFENIL-AMIN (DIPIKRIL-AMIN, HEXIL)	1.1D	0079		292144
HEXANITRO-SZTILBÉN	1.1D	0392		290420
HEXÁNOK	3	1208		290110
HEXANOLOK	3	2282		290519
1-HEXÉN	3	2370		290129
HEXIL	1	0079		292144
HEXIL-TRIKLÓR-SZILÁN	8	1784		293100
HEXOGÉN, DESZENZIBILIZÁLT	1.1D	0483		293369
HEXOGÉN, legalább 15 tömeg% vízzel NEDVESÍTETT	1.1D	0072		293369
HEXOLIT (HEXOTOL), száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített	1.1D	0118		360200
HEXOTOL, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített	1.1D	0118		360200
HEXOTONAL	1.1D	0393		360200
HIDRAULIKUS NYOMÁS ALATTI TÁRGYAK (nem gyúlékony gáz tartalommal)	2	3164		+++++
HIDRAZIN VIZES OLDAT 37 tömeg%-nál több hidrazintartalommal	8	2030		282510
HIDRAZIN VIZES OLDAT legfeljebb 37 tömeg% hidrazintartalommal	6.1	3293		282510
HIDRAZIN, VÍZMENTES	8	2029		282510
HIDRAZIN-HIDRÁT	8	2030		282510
HIDROGÉN FÉM-HIDRID-TÁROLÓ RENDSZERBEN	2	3468		285000
HIDROGÉN, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT	2	1966		280410
HIDROGÉN ÉS METÁN KEVERÉKE, SŰRÍTETT	2	2034		271129
HIDROGÉN, SŰRÍTETT	2	1049		280410
HIDROGÉN-BROMID, VÍZMENTES	2	1048		281119
HIDROGÉN-CIANID ALKOHOLOS OLDAT legfeljebb 45% hidrogén-cianid tartalommal	6.1	3294		281119
HIDROGÉN-CIANID, STABILIZÁLT, 3%-nál kevesebb víztartalommal	6.1	1051		281119
HIDROGÉN-CIANID, STABILIZÁLT, 3%-nál kevesebb víztartalommal és inert porózus anyagban abszorbeálva	6.1	1614		281119
HIDROGÉN-CIANID VIZES OLDAT (CIÁN-HIDROGÉNSAV VIZES OLDAT) legfeljebb 20% hidrogén-cianid tartalommal	6.1	1613		281119
HIDROGÉN-DIFLUORIDOK, OLDAT, M.N.N.	8	3471		282619
HIDROGÉN-DIFLUORIDOK, SZILÁRD, M.N.N.	8	1740		282619

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
HIDROGÉN-FLUORID, VÍZMENTES	8	1052		281111
HIDROGÉN-JODID, VÍZMENTES	2	2197		281119
HIDROGÉN FÉMHI DRID-TÁROLÓ RENDSZERBEN HIDROGÉN KÉSZÜ LÉKBEN LÉVŐ FÉMHI DRID TÁROLÓ RENDSZERBEN HIDROGÉN KÉSZÜ LÉKKEL EGYBE-CSOMAGOLT FÉMHI DRID TÁROLÓ RENDSZERBEN	2	3468		285000
HIDROGÉN-KLORID, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT	2	2186	A fuvarozásból ki van zárva	
HIDROGÉN-KLORID, VÍZMENTES	2	1050		280610
HIDROGÉN-PEROXID ÉS PEROXI-ECETSAV KEVERÉK savakkal, vízzel és legfeljebb 5% peroxi-ecetsavval, STABILIZÁLT	5.1	3149		284700
HIDROGÉN-PEROXID VIZES OLDAT legalább 8%, de legfeljebb 20% hidrogén-peroxid tartalommal (szükség szerint stabilizálva)	5.1	2984		284700
HIDROGÉN-PEROXID VIZES OLDAT legalább 20%, de legfeljebb 60% hidrogén-peroxid tartalommal (szükség szerint stabilizálva)	5.1	2014		284700
HIDROGÉN-PEROXID VIZES OLDAT, STABILIZÁLT, 60%-nál több hidrogén-peroxid tartalommal	5.1	2015		284700
HIDROGÉN-SZELENID, VÍZMENTES	2	2202		281119
HIDROGÉN-SZULFID	2	1053		281119
1-HIDROXIBENZOTRIAZOL, VÍZMENTES, száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített	1.3C	0508		293390
1-HIDROXIBENZOTRIAZOL, VÍZMENTES, legalább 20 tömeg% vízzel NEDVESÍTETT	4.1	3474		293390
3-Hidroxi-butíraldehid: lásd ALDOL				
HIDROXIL-AMMÓNIUM-SZULFÁT	8	2865		282510
HIGANY	8	2809		280540
HIGANY-ACETÁT	6.1	1629		285200
HIGANY ALAPÚ PESZTICID, FOLYÉKONY, GYŰLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)	3	2778		380892
HIGANY ALAPÚ PESZTICID, FOLYÉKONY, MÉRGEZŐ	6.1	3012		380892
HIGANY ALAPÚ PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYŰLÉKONY (lobbanáspont legalább 23 °C)	6.1	3011		380892
HIGANY ALAPÚ PESZTICID, SZILÁRD, MÉRGEZŐ	6.1	2777		380892
HIGANY(II)-AMMÓNIUM-KLORID	6.1	1630		285200
HIGANY(II)-ARZENÁT	6.1	1623		285200
HIGANY(II)-BENZOÁT	6.1	1631		285200
HIGANY-BROMIDOK	6.1	1634		285200
HIGANY-CIANID	6.1	1636		285200
HIGANY-FULMINÁT, legalább 20 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT	1.1A	0135	A fuvarozásból ki van zárva	
HIGANY-GLUKONÁT	6.1	1637		285200
HIGANY-JODID	6.1	1638		285200
HIGANY(II)-KLORID	6.1	1624		285200
HIGANY(I)-NITRÁT	6.1	1627		285200
HIGANY(II)-NITRÁT	6.1	1625		285200
HIGANY-NUKLEÁT	6.1	1639		285200
HIGANY-OLEÁT	6.1	1640		285200
HIGANY-OXI-CIANID, ÉRZÉKETLENÍTETT	6.1	1642		285200
HIGANY-OXID	6.1	1641		285200
HIGANY-SZALICILÁT	6.1	1644		285200
HIGANY-SZULFÁT	6.1	1645		285200
HIGANY-TIOCIANÁT	6.1	1646		285200
HIGANYVEGYÜLET, FOLYÉKONY, M.N.N.	6.1	2024		285200
HIGANYVEGYÜLET, SZILÁRD, M.N.N.	6.1	2025		285200
Hígított bitumen, lobbanáspont legfeljebb 60 °C; lásd	3	1999		271500
Hígított bitumen 60 °C feletti lobbanásponttal, a lobbanásponton vagy magasabb hőmérsékleten; lásd	9	3256		271500
Hígított bitumen 100 °C-on vagy magasabb hőmérsékleten, de a lobbanáspont alatti hőmérsékleten; lásd	9	3257		271500
HIPOKLORIT OLDAT	8	1791		282890



Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
HIPOKLORITOK, SZERVETLEN, M.N.N.	5.1	3212		282890
HMX, DESZENZIBILIZÁLT	1.1D	0484		293369
HMX, legalább 15 tömeg% vízzel NEDVESÍTETT	1.1D	0226		293369
Hordóbélelő anyagok: lásd BEVONÓ OLDAT				
HULLADÉK KÉNSAV	8	1906		280700 382569
Hulladék, mely legfeljebb 60 °C lobbanáspontú gyúlékony folyadékot tartalmaz; lásd	4.1	3175		++++++
HŰTŐGÁZ: lásd R... HŰTŐGÁZ is				
HŰTŐGÁZ, M.N.N., mint F1 keverék, F2 keverék vagy F3 keverék	2	1078		38247+
HŰTŐGÉPEK, gyúlékony, nem mérgező, cseppfolyósított gáz tartalommal	2	3358		8418++
HŰTŐGÉPEK, nem gyúlékony, nem mérgező gáz vagy ammónia oldat (UN 2672) tartalommal	2	2857		8418++
3,3'-IMINO-BISZPROPIL-AMIN	8	2269		292129
INDÍTÓGYÚJTÓK	1.3G 1.4G 1.4S	0316 0317 0368		360300
IPARI ROBBANÓTÖLTETEK detonátor nélkül	1.1D 1.2D 1.4D 1.4S	0442 0443 0444 0445		930690
ÍZANYAG KIVONATOK, FOLYÉKONY	3	1197		130219
IZOBUTÁN	2	1969		271113
IZOBUTANOL (IZOBUTIL-ALKOHOL)	3	1212		290514
IZOBUTÉN	2	1055		290123
IZOBUTIL-ACETÁT	3	1213		291539
IZOBUTILALDEHID (IZOBUTIRALDEHID)	3	2045		291219
IZOBUTIL-AKRILÁT, STABILIZÁLT	3	2527		291612
IZOBUTIL-ALKOHOL	3	1212		290514
IZOBUTIL-AMIN	3	1214		292119
IZOBUTIL-FORMIÁT	3	2393		291513
IZOBUTIL-IZOBUTIRÁT	3	2528		291560
IZOBUTIL-IZOCIANÁT	3	2486		292910
IZOBUTIL-METAKRILÁT, STABILIZÁLT	3	2283		291614
IZOBUTIL-PROPIONÁT	3	2394		291550
IZOBUTIL-VINIL-ÉTER, STABILIZÁLT	3	1304		290919
IZOBUTIRALDEHID (IZOBUTILALDEHID)	3	2045		291219
IZOBUTIRIL-KLORID	3	2395		291590
IZOBUTIRONITRIL	3	2284		292690
IZOCIANÁT OLDAT, GYÚLÉKONY, MÉRGEZŐ, M.N.N.	3	2478		292910
IZOCIANÁT OLDAT, MÉRGEZŐ, GYÚLÉKONY, M.N.N.	6.1	3080		292910
IZOCIANÁT OLDAT, MÉRGEZŐ, M.N.N.	6.1	2206		292910
IZOCIANÁTO-BENZO-TRIFLUORIDOK	6.1	2285		292910
IZOCIANÁTOK, GYÚLÉKONY, MÉRGEZŐ, M.N.N.	3	2478		292910
IZOCIANÁTOK, MÉRGEZŐ, GYÚLÉKONY, M.N.N.	6.1	3080		292910
IZOCIANÁTOK, MÉRGEZŐ, M.N.N.	6.1	2206		292910
Izododekán: lásd PENTAMETIL-HEPTÁN				
IZOFORON-DIAMIN	8	2289		292239
IZOFORON-DIIZOCIANÁT	6.1	2290		292910
IZOHEPTÉN	3	2287		290129
IZOHEXÉN	3	2288		290129
IZOOKTÉNEK	3	1216		290129
IZOPENTÉNEK	3	2371		290129
IZOPRÉN, STABILIZÁLT	3	1218		290124
IZOPROPANOL (IZOPROPIL-ALKOHOL)	3	1219		290512
IZOPROPENIL-ACETÁT	3	2403		291539
IZOPROPENIL-BENZOL	3	2303		290290
IZOPROPIL-ACETÁT	3	1220		291539
IZOPROPIL-ALKOHOL	3	1219		290512
IZOPROPIL-AMIN	3	1221		292119
IZOPROPIL-BENZOL (kumol)	3	1918		290270

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
IZOPROPIL-BUTIRÁT	3	2405		291560
IZOPROPIL-IZOBUTIRÁT	3	2406		291560
IZOPROPIL-IZOCIANÁT	3	2483		292910
IZOPROPIL-KLÓR-ACETÁT	3	2947		291540
IZOPROPIL-KLÓR-FORMIÁT	6.1	2407		291590
IZOPROPIL-2-KLÓR-PROPIONÁT	3	2934		291590
IZOPROPIL-NITRÁT	3	1222		292090
IZOPROPIL-PROPIONÁT	3	2409		291550
IZOSZORBID-DINITRÁT KEVERÉK legalább 60% laktózzal, mannózzal, keményítővel vagy kalcium-hidrogén-foszfáttal	4.1	2907		293299
IZOSZORBID-5-MONONITRÁT	4.1	3251		293299
IZOVAJSAV	3	2529		291560
JÉGE CET	8	2789		291521
JELZÓPATRONOK	1.3G 1.4G 1.4S	0054 0312 0405		360490
JELZŐTESTEK, KÉZI	1.4G 1.4S	0191 0373		360490
2-JÓD-BUTÁN	3	2390		290339
JÓD-HIDROGÉNSAV	8	1787		281119
JÓD-METIL-PROPÁNOK	3	2391		290339
JÓD-MONOKLORID	8	1792		281210
JÓD-PENTAFLUORID	5.1	2495		281290
JÓD-PROPÁNOK	3	2392		290339
KÁBELVÁGÓ SZERKEZET ROBBANÓANYAGGAL	1.4S	0070		930690
KADMIUMVEGYÜLET	6.1	2570		++++++
KAKODILSAV	6.1	1572		293100
KALCIUM	4.3	1401		280512
KALCIUM-ARZENÁT	6.1	1573		284290
KALCIUM-ARZENÁT ÉS KALCIUM-ARZENIT SZILÁRD KEVERÉK	6.1	1574		284290
KALCIUM-CIÁNAMID 0,1%-nál nagyobb kalcium-karbid tartalommal	4.3	1403		310290
KALCIUM-CIANID	6.1	1575		283719
KALCIUM-DITIONIT (KALCIUM-HIPODISZULFIT)	4.2	1923		283190
KALCIUM-FOSZFID	4.3	1360		284800
KALCIUM-HIDRID	4.3	1404		285000
KALCIUM-HIPODISZULFIT	4.2	1923		283190
KALCIUM-HIPOKLORIT, HIDRATÁLT legalább 5,5%, de legfeljebb 16% vízzel	5.1	2880		282810
KALCIUM-HIPOKLORIT, HIDRATÁLT KEVERÉK legalább 5,5%, de legfeljebb 16% vízzel	5.1	2880		282810
KALCIUM-HIPOKLORIT KEVERÉK, SZÁRAZ, 10%-nál több, de legfeljebb 39% szabad klórtartalommal	5.1	2208		282810
KALCIUM-HIPOKLORIT KEVERÉK, SZÁRAZ, 39%-nál több szabad klórtartalommal (8,8% szabad oxigénnel)	5.1	1748		282810
KALCIUM-HIPOKLORIT, SZÁRAZ	5.1	1748		282810
KALCIUM-KARBID	4.3	1402		284910
KALCIUM-KLORÁT	5.1	1452		282919
KALCIUM-KLORÁT VIZES OLDAT	5.1	2429		282919
KALCIUM-KLORIT	5.1	1453		282890
KALCIUM-MANGÁN-SZILÍCIUM	4.3	2844		285000
KALCIUM-NITRÁT	5.1	1454		283429
KALCIUM-OXID	8	1910	Nem tartozik a RID hatálya alá	282590 252220
KALCIUM ÖTVÖZETEK, PIROFOROS	4.2	1855		280512
KALCIUM-PERKLORÁT	5.1	1455		282990
KALCIUM-PERMANGANÁT	5.1	1456		284169
KALCIUM-PEROXID	5.1	1457		282590
KALCIUM, PIROFOROS	4.2	1855		280512
KALCIUM-REZINÁT	4.1	1313		380620
KALCIUM-REZINÁT, OLVASZTOTT	4.1	1314		380620
KALCIUM-SZILICID	4.3	1405		285000



Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
Kálilúg: lásd KÁLIUM-HIDROXID OLDAT				
KÁLIUM	4.3	2257		280519
KÁLIUM-ARZENÁT	6.1	1677		284290
KÁLIUM-ARZENIT	6.1	1678		284290
Kálium-bifluorid: lásd KÁLIUM-HIDROGÉN-DIFLUORID				
Kálium-biszulfát: lásd KÁLIUM-HIDROGÉN-SZULFÁT				
KÁLIUM-BÓR-HIDRID	4.3	1870		285000
KÁLIUM-BROMÁT	5.1	1484		282990
KÁLIUM-CIANID OLDAT	6.1	3413		283719
KÁLIUM-CIANID, SZILÁRD	6.1	1680		283719
KÁLIUM-DITIONIT (KÁLIUM-HIPODISZULFIT)	4.2	1929		283190
KÁLIUM-FLUOR-ACETÁT	6.1	2628		291590
KÁLIUM-FLUORID OLDAT	6.1	3422		282619
KÁLIUM-FLUORID, SZILÁRD	6.1	1812		282619
KÁLIUM-FLUORO-SZILIKÁT	6.1	2655		282620
KÁLIUM-FOSZFID	4.3	2012		284800
KÁLIUM-HIDROGÉN-DIFLUORID OLDAT (kálium-bifluorid)	8	3421		282619
KÁLIUM-HIDROGÉN-DIFLUORID, SZILÁRD (kálium-bifluorid)	8	1811		282619
KÁLIUM-HIDROGÉN-SZULFÁT (kálium-biszulfát)	8	2509		283329
KÁLIUM-HIPODISZULFIT	4.2	1929		283190
KÁLIUM-HIDROXID OLDAT (kálilúg)	8	1814		281520
KÁLIUM-HIDROXID, SZILÁRD (marókáli)	8	1813		281520
KÁLIUM-HIGANY-CIANID	6.1	1626		285200
KÁLIUM-HIGANY-JODID	6.1	1643		285200
KÁLIUM-HIPEROXID	5.1	2466		281530
KÁLIUM-KLORÁT	5.1	1485		282919
KÁLIUM-KLORÁT VIZES OLDAT	5.1	2427		282919
KÁLIUM-METAVANADÁT	6.1	2864		284190
KÁLIUM-MONOXID	8	2033		282590
KÁLIUM-NÁTRIUM ÖTVÖZETEK, FOLYÉKONY	4.3	1422		280519
KÁLIUM-NÁTRIUM ÖTVÖZETEK, SZILÁRD	4.3	3404		280519
KÁLIUM-NITRÁT	5.1	1486		283421
KÁLIUM-NITRÁT ÉS NÁTRIUM-NITRIT KEVERÉK	5.1	1487		283421 283410
KÁLIUM-NITRIT	5.1	1488		283410
Kálium-oxid: lásd KÁLIUM-MONOXID				
KÁLIUM-PERKLORÁT	5.1	1489		282990
KÁLIUM-PERMANGANÁT	5.1	1490		284161
KÁLIUM-PEROXID	5.1	1491		281530
KÁLIUM-PERSZULFÁT	5.1	1492		283340
KÁLIUM-RÉZ(I)-CIANID	6.1	1679		283720
KÁLIUM-SZULFID 30%-nál kevesebb kristályvíz-tartalommal	4.2	1382		283090
KÁLIUM-SZULFID, HIDRATÁLT, legalább 30% kristályvíz-tartalommal	8	1847		283090
KÁLIUM-SZULFID, VÍZMENTES	4.2	1382		283090
KÁLIUMFÉM ÖTVÖZETEK, FOLYÉKONY	4.3	1420		280519
KÁLIUMFÉM ÖTVÖZETEK, SZILÁRD	4.3	3403		280519
KÁMFOR, szintetikus	4.1	2717		291421
KÁMFOROLAJ	3	1130		151590
KAPRONSAV	8	2829		291590
KARBAMÁT PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)	3	2758		3808++
KARBAMÁT PESZTICID, FOLYÉKONY, MÉRGEZŐ	6.1	2992		3808++
KARBAMÁT PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C)	6.1	2991		3808++
KARBAMÁT PESZTICID, SZILÁRD, MÉRGEZŐ	6.1	2757		3808++
KARBAMID-HIDROGÉN-PEROXID	5.1	1511		292419
KARBAMID-NITRÁT, legalább 10 tömeg% vízzel NEDVESÍTETT	4.1	3370		292419
KARBAMID-NITRÁT, legalább 20 tömeg% vízzel NEDVESÍTETT	4.1	1357		292419
KARBAMID-NITRÁT, száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített	1.1D	0220		292419
KARBONIL-FLUORID	2	2417		281290

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
KARBONIL-SZULFID	2	2204		285300
Karbonpapír: lásd TELÍTETLEN OLAJJAL KEZELT PAPÍR				
KÁTRÁNYOK, FOLYÉKONY, beleértve az útéptítésre használt kátrányolajokat, bitument és hígított bitumeneket (lobbanáspont legfeljebb 60 °C)	3	1999		270600
Kátrányok, folyékony, beleértve az útéptítésre használt kátrányolajokat, bitument és hígított bitumeneket, 60 °C feletti lobbanásponttal, a lobbanásponton vagy magasabb hőmérsékleten; lásd	3	3256		27++++
Kátrányok, folyékony, beleértve az útéptítésre használt kátrányolajokat, bitument és hígított bitumeneket, 100 °C-on vagy magasabb hőmérsékleten, de a lobbanáspont alatti hőmérsékleten; lásd	9	3257		27++++
Kátrányolaj, lobbanáspont legfeljebb 60 °C: lásd	3	1999		270700
Kátrányolaj 60 °C feletti lobbanásponttal, a lobbanásponton vagy magasabb hőmérsékleten; lásd	3	3256		270700
Kátrányolaj 100 °C-on vagy magasabb hőmérsékleten, de a lobbanáspont alatti hőmérsékleten; lásd	9	3257		270700
KÉK AZBESZT (krokidolit)	9	2212		252410
KÉMIAI OXIGÉNFEJLESZTŐ	5.1	3356		++++++
KÉN	4.1	1350		250300 280200
KÉN, OLVASZTOTT	4.1	2448		250300
Kence: lásd FESTÉK				
KÉN-DIOXID	2	1079		281129
KÉNESSAV	8	1833		281119
KÉN-HEXAFLUORID	2	1080		281290
KÉN-KLORIDOK	8	1828		281210
KÉNSAV 51%-nál több savtartalommal	8	1830		280700
KÉNSAV legfeljebb 51% savtartalommal	8	2796		280700
KÉNSAV, FÜSTÖLGŐ (óleum)	8	1831		280700
KÉNSAV, HULLADÉK	8	1906		280700 382569
KÉNSAV, KIMERÜLT	8	1832		280700 382569
KÉN-TETRAFLUORID	2	2418		281290
KÉN-TRIOXID, STABILIZÁLT	8	1829		281129
KEROZIN	3	1223		273100
Készítmény, mely legfeljebb 60 °C lobbanáspontú gyúlékony folyadékot tartalmaz; lásd	4.1	3175		++++++
KETONOK, FOLYÉKONY, M.N.N.	3	1224		2914++
KÉZI JELZŐTESTEK	1.4G 1.4S	0191 0373		360490
KÉZIFEGYVER TÖLTÉNYEK	1.3C	0417		930621 930630
KIDOBÓTÖLTETEK LÖVEGEKHEZ	1.3C 1.1C 1.2C	0242 0279 0414		930690
KIEGÉSZÍTŐ ROBBANÓTÖLTETEK	1.1D	0060		930690
KIMERÜLT KÉNSAV	8	1832		280700 382569
KIMERÜLT VAS-OXID vagy KIMERÜLT VASSZIVACS a generátorgáz tisztításából	4.2	1376		282110
KINOLIN	6.1	2656		293349
KIOLDÓSZERKEZETEK, ROBBANÓANYAG TARTALMÚ	1.4S	0173		360300
KIRÁLYVÍZ (salétromsav és sósav keveréke)	8	1798	A fuvarozásból ki van zárva	
KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-I), nem hasadó vagy hasadó-engedményes	7	2912		2844++
KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-II), nem hasadó vagy hasadó-engedményes	7	3321		2844++
KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-III), nem hasadó vagy hasadó-engedményes	7	3322		2844++

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-II), HASADÓ	7	3324		2844++
KIS FAJLAGOS AKTIVITÁSÚ RADIOAKTÍV ANYAG (LSA-III), HASADÓ	7	3325		2844++
KISMÉRETŰ ESZKÖZÖK SZÉNHIIDROGÉN-GÁZ TÖLTETTEL, adagolószerkezettel	2	3150		++++++
KLÓR	2	1017		280110
2-KLÓR-ACETALDEHID	6.1	2232		291300
KLÓR-ACETIL-KLORID	6.1	1752		291590
KLÓR-ACETOFENON, FOLYÉKONY	6.1	3416		291470
KLÓR-ACETOFENON, SZILÁRD	6.1	1697		291470
KLÓR-ACETON, STABILIZÁLT	6.1	1695		291470
KLÓR-ACETONITRIL	6.1	2668		292690
KLORÁL, VÍZMENTES, STABILIZÁLT	6.1	2075		291300
KLÓR-ANILINEK, FOLYÉKONY	6.1	2019		292142
KLÓR-ANILINEK, SZILÁRD	6.1	2018		292142
KLÓR-ANIZIDINEK	6.1	2233		292229
KLORÁT ÉS BORÁT KEVERÉK	5.1	1458		28291+ 2840++
KLORÁT ÉS MAGNÉZIUM-KLORID KEVERÉK, OLDOTT	5.1	3407		28291+ 282731
KLORÁT ÉS MAGNÉZIUM-KLORID SZILÁRD KEVERÉK	5.1	1459		28291+ 282731
KLORÁTOK, SZERVETLEN, M.N.N.	5.1	1461		282919
KLORÁTOK, SZERVETLEN, VIZES OLDAT, M.N.N.	5.1	3210		282919
KLÓR-BENZIL-KLORIDOK, FOLYÉKONY	6.1	2235		290369
KLÓR-BENZIL-KLORIDOK, SZILÁRD	6.1	3427		290369
KLÓR-BENZOL	3	1134		290361
KLÓR-BENZO-TRIFLUORIDOK	3	2234		290369
KLÓR-BUTÁNOK	3	1127		290319
KLÓR-CIÁN, STABILIZÁLT	2	1589		285300
1-KLÓR-1,1-DIFLUOR-ETÁN (R 142b HŰTŐGÁZ)	2	2517		290349
KLÓR-DIFLUOR-METÁN (R 22 HŰTŐGÁZ)	2	1018		290349
KLÓR-DIFLUOR-METÁN ÉS KLÓR-PENTAFLUOR-ETÁN KEVERÉK állandó forrásponttal, kb. 49% klór-difluor-metán tartalommal (R 502 HŰTŐGÁZ)	2	1973		382479
KLÓR-DINITRO-BENZOLOK, FOLYÉKONY	6.1	1577		290490
KLÓR-DINITRO-BENZOLOK, SZILÁRD	6.1	3441		290490
KLÓR-ECETSAV OLDAT	6.1	1750		291540
KLÓR-ECETSAV, OLVASZTOTT	6.1	3250		291540
KLÓR-ECETSAV, SZILÁRD	6.1	1751		291540
2-Klór-etanal: lásd 2-KLÓR-ACETALDEHID				
2-Klór-etanol: lásd ETILÉN-KLÓRHIDRIN				
KLÓR-FENIL-TRIKLÓR-SZILÁN	8	1753		293100
KLÓR-FENOLÁTOK, FOLYÉKONY	8	2904		290711
KLÓR-FENOLÁTOK, SZILÁRD	8	2905		290711
KLÓR-FENOLOK, FOLYÉKONY	6.1	2021		290819
KLÓR-FENOLOK, SZILÁRD	6.1	2020		290819
KLÓR-FORMIÁTOK, MÉRGEZŐ, MARÓ, GYÚLÉKONY, M.N.N.	6.1	2742		291590
KLÓR-FORMIÁTOK, MÉRGEZŐ, MARÓ, M.N.N.	6.1	3277		291590
KLÓR-HIDROGÉNSAV (SÓSAV)	8	1789		280610
KLORITOK, SZERVETLEN M.N.N.	5.1	1462		282890
KLORIT OLDAT	8	1908		282890
KLÓR-KREZOL OLDATOK	6.1	2669		290819
KLÓR-KREZOLOK, SZILÁRD	6.1	3437		290819
KLÓR-METIL-ETIL-ÉTER	3	2354		290919
3-KLÓR-4-METIL-FENIL-IZOCIANÁT, FOLYÉKONY	6.1	2236		292910
3-KLÓR-4-METIL-FENIL-IZOCIANÁT, SZILÁRD	6.1	3428		292910
KLÓR-METIL-KLÓR-FORMIÁT	6.1	2745		291590
KLÓR-NITRO-ANILINEK	6.1	2237		292142
KLÓR-NITRO-BENZOLOK, FOLYÉKONY	6.1	3409		290490
KLÓR-NITRO-BENZOLOK, SZILÁRD	6.1	1578		290490

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
KLÓR-NITRO-TOLUOLOK, FOLYÉKONY	6.1	2433		290490
KLÓR-NITRO-TOLUOLOK, SZILÁRD	6.1	3457		290490
KLOROFORM	6.1	1888		290313
KLOROPRÉN, STABILIZÁLT	3	1991		290329
KLÓR-PENTAFLUOR-ETÁN (R 115 HŰTŐGÁZ)	2	1020		290344
KLÓR-PENTAFLUORID	2	2548		281290
KLÓRPIKRIN	6.1	1580		290490
KLÓRPIKRIN ÉS METIL-BROMID KEVERÉK 2%-nál nagyobb klórpikrin tartalommal	2	1581		290490
KLÓRPIKRIN ÉS METIL-KLORID KEVERÉK	2	1582		290490
KLÓRPIKRIN KEVERÉK, M.N.N.	6.1	1583		290490
2-KLÓR-PIRIDIN	6.1	2822		293339
1-KLÓR-PROPÁN	3	1278		290319
2-KLÓR-PROPÁN (izopropil-klorid)	3	2356		290319
3-KLÓR-1-PROPANOL	6.1	2849		290559
2-KLÓR-PROPÉN	3	2456		290329
2-KLÓR-PROPIONSÁV	8	2511		291590
KLÓRSÁV VIZES OLDAT legfeljebb 10% klórsav-tartalommal	5.1	2626		281119
KLÓR-SZILÁNOK, GYÚLÉKONY, MARÓ, M.N.N. (lobbanáspont 23 °C alatt)	3	2985		293100
KLÓR-SZILÁNOK, MARÓ, GYÚLÉKONY, M.N.N.	8	2986		293100
KLÓR-SZILÁNOK, MARÓ, M.N.N.	8	2987		293100
KLÓR-SZILÁNOK, MÉRGEZŐ, MARÓ, GYÚLÉKONY, M.N.N.	6.1	3362		293100
KLÓR-SZILÁNOK, MÉRGEZŐ, MARÓ, M.N.N.	6.1	3361		293100
KLÓR-SZILÁNOK, VÍZZEL REAKTÍV, GYÚLÉKONY, MARÓ, M.N.N.	4.3	2988		293100
KLÓR-SZULFONSÁV (kén-trioxiddal vagy anélkül)	8	1754		280620
1-KLÓR-1,2,2,2-TETRAFLUOR-ETÁN (R 124 HŰTŐGÁZ)	2	1021		290349
KLÓR-TOLUIDINEK, FOLYÉKONY	6.1	3429		292143
KLÓR-TOLUIDINEK, SZILÁRD	6.1	2239		292143
4-KLÓR-o-TOLUIDIN-HIDROKLORID OLDAT	6.1	3410		292143
4-KLÓR-o-TOLUIDIN-HIDROKLORID, SZILÁRD	6.1	1579		292143
KLÓR-TOLUOLOK	3	2238		290369
1-KLÓR-2,2,2-TRIFLUOR-ETÁN (R 133a HŰTŐGÁZ)	2	1983		290349
Klór-trifluor-etilén: lásd TRIFLUOR-KLÓR-ETILÉN, STABILIZÁLT				
KLÓR-TRIFLUORID	2	1749		281210
KLÓR-TRIFLUOR-METÁN (R 13 HŰTŐGÁZ)	2	1022		290341
KLÓR-TRIFLUOR-METÁN ÉS TRIFLUOR-METÁN AZEOTRÓP KEVERÉK kb. 60% klór-trifluor-metán tartalommal (R 503 HŰTŐGÁZ)	2	2599		382471
KOBALT-NAFTENÁT POR	4.1	2001		291829
KOBALT-REZINÁT, LECSAPATOTT	4.1	1318		380620
KOPOGÁSGÁTLÓ KEVERÉK TŰZELŐANYAGOKHOZ	6.1	1649		293111
KOPRA	4.2	1363		120300
KÓRHÁZI HULLADÉK, NEM SPECIFIKÁLT, M.N.N.	6.2	3291		382530
KOROM (állati vagy növényi eredetű)	4.2	1361		280300
KOZMAOLAJ	3	1201		290519
KÖNNYEZTETŐ HATÁSÚ LÖSZER robbanó, kidobó vagy hajtótöltettel	1.2G 1.3G 1.4G	0018 0019 0301		930690
KÖNNYGÁZ ANYAG, FOLYÉKONY, M.N.N.	6.1	1693		+++++
KÖNNYGÁZ ANYAG, SZILÁRD, M.N.N.	6.1	3448		+++++
KÖNNYGÁZGYERTYÁK	6.1	1700		930690
KÖNNYŰ FŰTŐOLAJ	3	1202		274300
KÖRNYEZETRE VESZÉLYES FOLYÉKONY ANYAG, M.N.N.	9	3082		+++++
KÖRNYEZETRE VESZÉLYES SZILÁRD ANYAG, M.N.N.	9	3077		+++++
KÖSZÉNKÁTRÁNY PÁRLATOK, GYÚLÉKONY	3	1136		270799
KÖTÉLVETŐ RAKÉTÁK	1.2G 1.3G 1.4G	0238 0240 0453		930690
KÖZETREPESZTŐ TORPEDÓK detonátor nélkül, olajkutak fúrásához	1.1D	0099		930690
KRAKKGÁZ, SŰRÍTETT	2	1071		271129

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
KREZILSAV	6.1	2022		290712
KREZOLOK, FOLYÉKONY	6.1	2076		290712
KREZOLOK, SZILÁRD	6.1	3455		290712
KRIPTON, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT	2	1970		280429
KRIPTON, SŰRÍTETT	2	1056		280429
Krizotil: lásd FEHÉR AZBESZT				
Krokidolit: lásd KÉK AZBESZT				
KRÓM-FLUORID OLDAT	8	1757		282619
KRÓM-FLUORID, SZILÁRD	8	1756		282619
KRÓMKÉNSAV	8	2240		280700
KRÓM-NITRÁT	5.1	2720		283429
KRÓM-OXI-KLORID	8	1758		282749
Króm-trifluorid: lásd KRÓM-FLUORID				
KRÓM-TRIOXID, VÍZMENTES	5.1	1463		281910
Kromil-klorid: lásd KRÓM-OXI-KLORID				
KRÓMSAV OLDAT	8	1755		281910
KROTONALDEHID	6.1	1143		291219
KROTONALDEHID, STABILIZÁLT	6.1	1143		291219
KROTONILÉN	3	1144		290129
KROTONSAV, FOLYÉKONY	8	3472		291619
KROTONSAV, SZILÁRD	8	2823		291619
KUMARIN SZÁRMAZÉK PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)	3	3024		380899
KUMARIN SZÁRMAZÉK PESZTICID, FOLYÉKONY, MÉRGEZŐ	6.1	3026		380899
KUMARIN SZÁRMAZÉK PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C)	6.1	3025		380899
KUMARIN SZÁRMAZÉK PESZTICID, SZILÁRD, MÉRGEZŐ	6.1	3027		380899
Lakk: lásd FESTÉK				
LÉGI FORGALOMBAN SZABÁLYOZOTT FOLYADÉK, M.N.N.	9	3334	Nem tartozik a RID hatálya alá	+++++
LÉGI FORGALOMBAN SZABÁLYOZOTT SZILÁRD ANYAG, M.N.N.	9	3335	Nem tartozik a RID hatálya alá	+++++
LÉGI VILÁGÍTÓTESTEK	1.3G 1.4G 1.4S 1.1G 1.2G	0093 0403 0404 0420 0421		360490
LÉGZSÁK GÁZGENERÁTOR	1.4G 9	0503 3268		870895
LÉGZSÁK MODUL	1.4G 9	0503 3268		870895
LEVEGŐ, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT	2	1003		285300
LEVEGŐ, SŰRÍTETT	2	1002		285300
Limonén: lásd DIPENTÉN				
LÍTIUM	4.3	1415		280519
LÍTIUM-ALUMÍNIUM-HIDRID	4.3	1410		285000
LÍTIUM-ALUMÍNIUM-HIDRID ÉTERBEN	4.3	1411		285000
LÍTIUM-BÓR-HIDRID	4.3	1413		285000
Lítium akkumulátorok: lásd FÉMLÍTIUM AKKUMULÁTOROK vagy LÍTIUMION AKKUMULÁTOROK				
LÍTIUM-FERROSZILÍCIUM	4.3	2830		285000
LÍTIUM-HIDRID	4.3	1414		285000
LÍTIUM-HIDRID, OLVASZTOTT, SZILÁRD	4.3	2805		285000
LÍTIUM-HIDROXID	8	2680		282520
LÍTIUM-HIDROXID OLDAT	8	2679		282520
LÍTIUM-HIPOKLORIT KEVERÉK	5.1	1471		282890
LÍTIUM-HIPOKLORIT, SZÁRAZ	5.1	1471		282890
LÍTIUMION AKKUMULÁTOROK (beleértve a lítiumion polimer akkumulátorokat is)	9	3480		850780

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
LÍTIUMION AKKUMULÁTOROK KÉSZÜLÉKBEN (beleértve a lítiumion polimer akkumulátorokat is)	9	3481		847+++
LÍTIUMION AKKUMULÁTOROK KÉSZÜLÉKKEL EGYBECSOMAGOLVA (beleértve a lítiumion polimer akkumulátorokat is)				
LÍTIUM-NITRÁT	5.1	2722		283429
LÍTIUM-NITRID	4.3	2806		285000
LÍTIUM-PEROXID	5.1	1472		282590
LÍTIUM-SZILÍCIUM	4.3	1417		285000
LONDON VÖRÖS	6.1	1621		380810
LŐPOR: lásd FEKETE LŐPOR; FÜST NÉLKÜLI LŐPOR				
LŐPORBRIKETT (LŐPORPASZTA), legalább 17 tömeg% alkohollal NEDVESÍTETT	1.1C	0433		360100
LŐPORBRIKETT (LŐPORPASZTA), legalább 25 tömeg% vízzel NEDVESÍTETT	1.3C	0159		360100
LŐPORPASZTA, legalább 17 tömeg% alkohollal NEDVESÍTETT	1.1C	0433		360100
LŐPORPASZTA, legalább 25 tömeg% vízzel NEDVESÍTETT	1.3C	0159		360100
LŐSZER, FEHÉRFOSZFOR TARTALMÚ, GYÚJTÓ HATÁSÚ, robbanó-, kidobó- vagy hajtótöltettel	1.2H 1.3H	0243 0244		930690
LŐSZER, FÜSTKÉPZŐ lásd FÜSTKÉPZŐ LŐSZER				
LŐSZER, GYÚJTÓ HATÁSÚ, gyúlékony folyadék vagy gél tartalommal, robbanó-, kidobó- vagy hajtótöltettel	1.3J	0247		930690
LŐSZER, GYÚJTÓ HATÁSÚ, robbanó-, kidobó- vagy hajtótöltettel vagy anélkül	1.2G 1.3G 1.4G	0009 0010 0300		930690
LŐSZER, KÖNNYEZTETŐ HATÁSÚ, robbanó-, kidobó- vagy hajtótöltettel	1.2G 1.3G 1.4G	0018 0019 0301		930690
LŐSZER, KÖNNYGÁZFEJLESZTŐ, NEM ROBBANÓ, robbanó- vagy kidobótöltet nélkül, gyújtószerkezet nélkül	6.1	2017		930690
LŐSZER, MÉRGEZŐ HATÁSÚ, robbanó-, kidobó- vagy hajtótöltettel	1.2K 1.3K	0020 0021	A fuvarozásból ki van zárva	
LŐSZER, MÉRGEZŐ, NEM ROBBANÓ robbanó- vagy hajtótöltet nélkül, gyújtószerkezet nélkül	6.1	2016		930690
LŐSZER, VILÁGÍTÓ HATÁSÚ, robbanó-, kidobó- vagy hajtótöltettel vagy anélkül	1.2G 1.3G 1.4G	0171 0254 0297		930690
LÖVEDÉKEK (inertek, nyomjelzőszerrel)	1.3G 1.4G 1.4S	0424 0425 0345		930690
LÖVEDÉKEK robbanó- vagy kidobótöltettel	1.2D 1.4D 1.2F 1.4F 1.2G 1.4G	0346 0347 0426 0427 0434 0435		930690
LÖVEDÉKEK robbanótöltettel	1.1F 1.1D 1.2D 1.2F 1.4D	0167 0168 0169 0324 0344		930690
MAGAS HŐMÉRSEKLETŰ FOLYÉKONY ANYAG, M.N.N., 100 °C-on vagy magasabb hőmérsékleten, de a lobbanáspont alatti hőmérsékleten (beleértve az olvasztott fémeket, olvasztott sókat, stb.)	9	3257		270600
MAGAS HŐMÉRSEKLETŰ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N., 60 °C feletti lobbanásponttal, a lobbanásponton vagy magasabb hőmérsékleten	3	3256		270600
MAGAS HŐMÉRSEKLETŰ SZILÁRD ANYAG, M.N.N., 240 °C-on vagy magasabb hőmérsékleten	9	3258		+++++
MÁGNESEZETT ANYAG	9	2807	Nem tartozik a RID hatálya alá	+++++



Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
MAGNÉZIUM pellet, forgács vagy szalag formában	4.1	1869		8104++
MAGNÉZIUM ÖTVÖZET 50%-nál több magnéziumtartalommal pellet, forgács vagy szalag formában	4.1	1869		8104++
MAGNÉZIUM ÖTVÖZET POR	4.3	1418		810430
MAGNÉZIUM SZEMCSÉK, BEVONT, legalább 149 mikron szemcsemérettel	4.3	2950		810430
MAGNÉZIUM-ALUMÍNIUM-FOSZFID	4.3	1419		284800
MAGNÉZIUM-ARZENÁT	6.1	1622		284290
MAGNÉZIUM-BROMÁT	5.1	1473		282990
MAGNÉZIUM-DIAMID	4.2	2004		285300
MAGNÉZIUM-FLUORO-SZILIKÁT	6.1	2853		282690
MAGNÉZIUM-FOSZFID	4.3	2011		284800
MAGNÉZIUM-HIDRID	4.3	2010		285000
MAGNÉZIUM-KLORÁT	5.1	2723		282919
MAGNÉZIUM-NITRÁT	5.1	1474		283429
MAGNÉZIUM-PERKLORÁT	5.1	1475		282990
MAGNÉZIUM-PEROXID	5.1	1476		281610
MAGNÉZIUMPOR	4.3	1418		810430
MAGNÉZIUM-SZILICID	4.3	2624		285000
MALEINSAVANHIDRID	8	2215		252490
MALEINSAVANHIDRID, OLVASZTOTT	8	2215		291714
MALONITRIL	6.1	2647		292690
MANEB	4.2	2210		380892
MANEB, önmelegedéssel szemben STABILIZÁLT	4.3	2968		380892
MANEB KÉSZÍTMÉNY legalább 60% manebtartalommal	4.2	2210		380892
MANEB KÉSZÍTMÉNY, önmelegedéssel szemben STABILIZÁLT	4.3	2968		380892
Mangán-etilén-1,2-bisz-ditiokarbamát: lásd MANEB				
MANGÁN-NITRÁT	5.1	2724		283429
MANGÁN-REZINÁT	4.1	1330		380620
MANNIT-HEXANITRÁT (NITROMANNIT), legalább 40 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT	1.1D	0133		292090
MARÓ FOLYADÉK, M.N.N.	8	1760		++++++
MARÓ FOLYADÉK TARTALMÚ SZILÁRD ANYAG, M.N.N.	8	3244		++++++
MARÓ, FOLYÉKONY, LÚGOS SZERVES ANYAG, M.N.N.	8	3267		29++++
MARÓ, FOLYÉKONY, LÚGOS SZERVETLEN ANYAG, M.N.N.	8	3266		28++++
MARÓ, FOLYÉKONY, SAVAS SZERVES ANYAG, M.N.N.	8	3265		29++++
MARÓ, FOLYÉKONY, SAVAS SZERVETLEN ANYAG, M.N.N.	8	3264		28++++
MARÓ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.	3	2924		++++++
MARÓ, LÚGOS FOLYÉKONY ANYAG, M.N.N.	8	1719		282590
MARÓ, ÖNMELEGEDŐ ALKÁLIFÉM-ALKOHOLÁTOK, M.N.N.	4.2	3206		290519
MARÓ, ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.	4.2	3185		29++++
MARÓ, ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.	4.2	3126		29++++
MARÓ, ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.	4.2	3188		28++++
MARÓ, ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.	4.2	3192		28++++
MARÓ, SZERVES, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.	4.1	2925		29++++
MARÓ, SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	6.1	2927		29++++
MARÓ, SZERVES, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	6.1	2928		29++++
MARÓ, SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.	4.1	3180		28++++
MARÓ, SZERVETLEN, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	6.1	3289		28++++
MARÓ, SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	6.1	3290		28++++
MARÓ SZILÁRD ANYAG, M.N.N.	8	1759		++++++
MARÓ, SZILÁRD, LÚGOS SZERVES ANYAG, M.N.N.	8	3263		29++++
MARÓ, SZILÁRD, LÚGOS SZERVETLEN ANYAG, M.N.N.	8	3262		28++++
MARÓ, SZILÁRD, SAVAS SZERVES ANYAG, M.N.N.	8	3261		29++++
MARÓ, SZILÁRD, SAVAS SZERVETLEN ANYAG, M.N.N.	8	3260		28++++
Marónátron: lásd NÁTRIUM-HIDROXID, SZILÁRD				
MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT GÁZ, M.N.N.	2	3158		++++++
MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT, GYÚJTÓ HATÁSÚ GÁZ, M.N.N.	2	3311		++++++
MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT, GYÚLÉKONY GÁZ, M.N.N.	2	3312		++++++

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
MENTŐESZKÖZ, NEM ÖNFELFÚVÓ, mely tartozékként veszélyes anyagokat tartalmaz	9	3072		890690
MENTŐESZKÖZ, ÖNFELFÚVÓ	9	2990		890710
MÉRGEZŐ FOLYADÉK TARTALMÚ SZILÁRD ANYAG, M.N.N.	6.1	3243		+++++
MÉRGEZŐ, FOLYÉKONY, GYÚLÉKONY SZERVES ANYAG, M.N.N.	6.1	2929		29++++
MÉRGEZŐ HATÁSÚ LŐSZER robbanó, kidobó vagy hajtótöltettel	1.2K 1.3K	0020 0021	A fuvarozásból ki van zárva	
MÉRGEZŐ, MARÓ FOLYÉKONY ANYAG, M.N.N.	8	2922		+++++
MÉRGEZŐ, MARÓ, GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N.	3	3286		+++++
MÉRGEZŐ, MARÓ SZILÁRD ANYAG, M.N.N.	8	2923		+++++
MÉRGEZŐ, ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.	4.2	3184		29++++
MÉRGEZŐ, ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.	4.2	3128		29++++
MÉRGEZŐ, ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.	4.2	3187		28++++
MÉRGEZŐ, ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.	4.2	3191		28++++
MÉRGEZŐ, SZERVES, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.	4.1	2926		29++++
MÉRGEZŐ, SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.	4.1	3179		28++++
MÉRGEZŐ, SZILÁRD, GYÚLÉKONY SZERVES ANYAG, M.N.N.	6.1	2930		29++++
MERKAPTÁN KEVERÉK, FOLYÉKONY, GYÚLÉKONY, M.N.N.	3	3336		293090
MERKAPTÁN KEVERÉK, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ, M.N.N.	3	1228		293090
MERKAPTÁN KEVERÉK, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY, M.N.N.	6.1	3071		293090
MERKAPTÁNOK, FOLYÉKONY, GYÚLÉKONY, M.N.N.	3	3336		293090
MERKAPTÁNOK, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ, M.N.N.	3	1228		293090
MERKAPTÁNOK, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY, M.N.N.	6.1	3071		293090
5-MERKAPTOTETRAZOL-1-ECETSAV	1.4C	0448		293499
METAKRILALDEHID, STABILIZÁLT	3	2396		291219
METAKRILNITRIL, STABILIZÁLT	3	3079		292690
METAKRILSAV, STABILIZÁLT	8	2531		291613
METALDEHID	4.1	1332		291250
METÁN, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT	2	1972		271111
METÁN, SŰRÍTETT	2	1971		271121
METÁN-SZULFONIL-KLORID	6.1	3246		290490
METANOL	3	1230		290511
METIL-ACETÁT	3	1231		291539
METIL-ACETILÉN ÉS PROPADIÉN KEVERÉK, STABILIZÁLT, mint P1 keverék vagy P2 keverék is	2	1060		271119
Metil-acetilén és propadién keveréke szénhidrogénekkel: lásd METIL-ACETILÉN ÉS PROPADIÉN KEVERÉK				
METIL-AKRILÁT, STABILIZÁLT	3	1919		291612
METILÁL	3	1234		291100
METIL-ALLIL-ALKOHOL	3	2614		290519
METIL-ALLIL-KLORID	3	2554		290329
METIL-AMIL-ACETÁT	3	1233		291539
Metil-amil-alkohol: lásd METIL-IZOBUTIL-KARBINOL				
METIL-AMIN VIZES OLDAT	3	1235		292111
METIL-AMIN, VÍZMENTES	2	1061		292111
N-METIL-ANILIN	6.1	2294		292142
alfa-METIL-BENZIL-ALKOHOL, FOLYÉKONY	6.1	2937		290629
alfa-METIL-BENZIL-ALKOHOL, SZILÁRD	6.1	3438		290629
METIL-BRÓM-ACETÁT	6.1	2643		291590
METIL-BROMID ÉS ETILÉN-DIBROMID FOLYÉKONY KEVERÉK	6.1	1647		290339
METIL-BROMID legfeljebb 2% klórpikrin tartalommal	2	1062		290339
3-METIL-2-BUTANON	3	2397		291419
2-METIL-1-BUTÉN	3	2459		290129



Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
2-METIL-2-BUTÉN	3	2460		290129
3-METIL-1-BUTÉN	3	2561		290129
N-METIL-BUTIL-AMIN	3	2945		292119
METIL-terc-BUTIL-ÉTER	3	2398		290919
2-METIL-BUTIRALDEHID	3	3371		290110
METIL-BUTIRÁT	3	1237		291560
Metil-cianid: lásd ACETONITRIL				
METIL-CIKLOHEXÁN	3	2296		290219
METIL-CIKLOHEXANOLOK, gyúlékony	3	2617		290612
METIL-CIKLOHEXANON	3	2297		291422
METIL-CIKLOPENTÁN	3	2298		290219
METIL-DIKLÓR-ACETÁT	6.1	2299		291540
METIL-DIKLÓR-SZILÁN	4.3	1242		293100
Metilén-klorid: lásd DIKLÓR-METÁN				
METIL-ETIL-KETON	3	1193		291412
2-METIL-5-ETIL-PIRIDIN	6.1	2300		293339
METIL-FENIL-DIKLÓR-SZILÁN	8	2437		293100
METIL-FLUORID (R 41 HŰTŐGÁZ)	2	2454		290339
METIL-FORMIÁT	3	1243		291513
2-METIL-FURÁN	3	2301		293219
2-METIL-2-HEPTÁNTIOL	6.1	3023		293090
5-METIL-2-HEXANON	3	2302		291419
METIL-HIDRAZIN	6.1	1244		292800
METIL-IZOBUTIL-KARBINOL (metil-amil-alkohol)	3	2053		290519
METIL-IZOBUTIL-KETON	3	1245		291413
METIL-IZOCIANÁT	6.1	2480		292910
METIL-IZOPROPENIL-KETON, STABILIZÁLT	3	1246		291419
Metil-izopropil-benzolok: lásd CIMOLOK				
METIL-IZOTIOCIÁNÁT	6.1	2477		293090
METIL-IZOVALERÁT	3	2400		291560
METIL-JODID	6.1	2644		290339
METIL-KLÓR-ACETÁT	6.1	2295		291540
METIL-KLÓR-FORMIÁT	6.1	1238		291590
METIL-KLORID (R 40 HŰTŐGÁZ)	2	1063		290311
METIL-KLORID ÉS DIKLÓR-METÁN KEVERÉK	2	1912		290319
METIL-KLÓR-METIL-ÉTER	6.1	1239		290919
METIL-2-KLÓR-PROPIONÁT	3	2933		291590
METIL-KLÓR-SZILÁN	2	2534		293100
METIL-MAGNÉZIUM-BROMID DIETIL-ÉTERBEN	4.3	1928		293100
METIL-MERKAPTÁN	2	1064		293090
2-Metil-merkaptó-propionaldehid: lásd 4-TIA-PENTANAL				
METIL-METAKRILÁT MONOMER, STABILIZÁLT	3	1247		291614
4-METIL-MORFOLIN (N-METIL-MORFOLIN)	3	2535		293499
METIL-NITRIT	2	2455	A fuvarozásból ki van zárva	
METIL-ORTOSZILIKÁT	6.1	2606		292090
METIL-PENTADIÉN	3	2461		290129
2-METIL-2-PENTANOL	3	2560		290519
3-Metil-2-pentén-4-in-1-ol: lásd 1-PENTOL				
1-METIL-PIPERIDIN	3	2399		293339
Metil-piridinek: lásd PIKOLINOK				
METIL-PROPIL-ÉTER	3	2612		290919
METIL-PROPIL-KETON	3	1249		291419
METIL-PROPIONÁT	3	1248		291550
METIL-TETRAHIDRO-FURÁN	3	2536		293219
METIL-TRIKLÓR-ACETÁT	6.1	2533		291540
METIL-TRIKLÓR-SZILÁN	3	1250		293100
alfa-METIL-VALERALDEHID	3	2367		291219
METIL-VINIL-KETON, STABILIZÁLT	6.1	1251		291419
METOXI-METIL-IZOCIANÁT	3	2605		292910
4-METOXI-4-METIL-2-PENTANON	3	2293		291450
1-METOXI-2-PROPANOL	3	3092		290949

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
MEZITIL-OXID	3	1229		291419
Mezitolén: lásd 1,3,5-TRIMETIL-BENZOL				
MINDENÜTT GYULLADÓ GYUFA	4.1	1331		360500
MOLIBDÉN-PENTAKLORID	8	2508		282739
MORFOLIN	8	2054		293499
MOTORBENZIN	3	1203		272400
MUNKAVÉGZŐ TÖLTETEK	1.3C 1.4G 1.4S 1.2C	0275 0276 0323 0381		930630
MŰANYAG KÖTÉSŰ ROBBANÓTÖLTETEK	1.4D 1.2D 1.4D 1.4S	0457 0458 0459 0460		930690
MŰANYAG SAJTOLOÓANYAG, gyúlékony gőzt fejlesztő massa, lemez vagy extrudált profil formában	9	3314		39++++
NAFTALIN, FINOMÍTOTT	4.1	1334		290290
NAFTALIN, NYERS	4.1	1334		290290
NAFTALIN, OLVASZTOTT	4.1	2304		290290
alfa-NAFTIL-AMIN	6.1	2077		292145
béta-NAFTIL-AMIN OLDAT	6.1	3411		292145
béta-NAFTIL-AMIN, SZILÁRD	6.1	1650		292145
NAFTIL-KARBAMID	6.1	1652		292421
NAFTIL-TIOKARBAMID	6.1	1651		293090
NAGYON ÉRZÉKETLEN ROBBANÓANYAGOK (EVI ANYAGOK), M.N.N.	1.5D	0482		360200
NÁTRIUM	4.3	1428		280511
NÁTRIUMAKKUMULÁTOROK	4.3	3292		8506++
NÁTRIUM-ALUMINÁT OLDAT	8	1819		284190
NÁTRIUM-ALUMINÁT, SZILÁRD	8	2812	Nem tartozik a RID hatálya alá	284190
NÁTRIUM-ALUMÍNIUM-HIDRID	4.3	2835		285000
NÁTRIUM-AMMÓNIUM-VANADÁT	6.1	2863		284190
NÁTRIUM-ARZANILÁT	6.1	2473		293100
NÁTRIUM-ARZENÁT	6.1	1685		284290
NÁTRIUM-ARZENIT, SZILÁRD	6.1	2027		284290
NÁTRIUM-ARZENIT, VIZES OLDAT	6.1	1686		284290
NÁTRIUM-AZID	6.1	1687		285000
Nátrium-bifluorid: lásd NÁTRIUM-HIDROGÉN-DIFLUORID				
NÁTRIUM-BÓR-HIDRID	4.3	1426		285000
NÁTRIUM-BÓR-HIDRID ÉS NÁTRIUM-HIDROXID OLDAT legfeljebb 12 tömeg% nátrium-bór-hidrid és legfeljebb 40 tömeg% nátrium-hidroxid tartalommal	8	3320		285000
NÁTRIUM-BROMÁT	5.1	1494		282990
NÁTRIUMCELLÁK	4.3	3292		8506++
NÁTRIUM-CIANID OLDAT	6.1	3414		283711
NÁTRIUM-CIANID, SZILÁRD	6.1	1689		283711
NÁTRIUM-DINITRO-o-KREZOLÁT, legalább 15 tömeg% vízzel NEDVESÍTETT	4.1	1348		290899
NÁTRIUM-DINITRO-o-KREZOLÁT, legalább 10 tömeg% vízzel nedvesített	4.1	3369		290899
NÁTRIUM-DINITRO-o-KREZOLÁT, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített	1.3C	0234		290899
NÁTRIUM-DITIONIT (NÁTRIUM-HIPODISZULFIT)	4.2	1384		283110
NÁTRIUM-FLUOR-ACETÁT	6.1	2629		291590
NÁTRIUM-FLUORID OLDAT	6.1	3415		282619
NÁTRIUM-FLUORID, SZILÁRD	6.1	1690		282619
NÁTRIUM-FLUORO-SZILIKÁT	6.1	2674		282620
NÁTRIUM-FOSZFID	4.3	1432		284800
NÁTRIUM-HIDRID	4.3	1427		285000
NÁTRIUM-HIDROGÉN-DIFLUORID (nátrium-bifluorid)	8	2439		282619
NÁTRIUM-HIDROGÉN-SZULFID 25%-nál kevesebb kristályvíz-tartalommal	4.2	2318		283010

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
NÁTRIUM-HIDROGÉN-SZULFID, HIDRATÁLT legalább 25% kristályvíz-tartalommal	8	2949		283010
NÁTRIUM-HIDROXID OLDAT (nátronlúg)	8	1824		281512
NÁTRIUM-HIDROXID, SZILÁRD (marónátron)	8	1823		281511
NÁTRIUM-HIPEROXID	5.1	2547		281530
NÁTRIUM-HIPODISZULFIT	4.2	1384		283110
NÁTRIUM-KAKODILÁT	6.1	1688		293100
NÁTRIUM-KARBONÁT-PEROXIHIDRÁT	5.1	3378		288699
NÁTRIUM-KLÓR-ACETÁT	6.1	2659		291540
NÁTRIUM-KLORÁT	5.1	1495		282911
NÁTRIUM-KLORÁT VIZES OLDAT	5.1	2428		282911
NÁTRIUM-KLORIT	5.1	1496		282890
NÁTRIUM-METILÁT	4.2	1431		290519
NÁTRIUM-METILÁT alkoholos OLDAT	3	1289		290519
NÁTRIUM-MONOXID	8	1825		282590
NÁTRIUM-NITRÁT	5.1	1498		310250
NÁTRIUM-NITRÁT ÉS KÁLIUM-NITRÁT KEVERÉK	5.1	1499		283429
NÁTRIUM-NITRIT	5.1	1500		283410
NÁTRIUM-PENTAKLÓR-FENOLÁT	6.1	2567		290819
NÁTRIUM-PERBORÁT-MONOHIDRÁT	5.1	3377		284030
NÁTRIUM-PERKLORÁT	5.1	1502		282990
NÁTRIUM-PERMANGANÁT	5.1	1503		284169
NÁTRIUM-PEROXID	5.1	1504		281530
NÁTRIUM-PEROXO-BORÁT, VÍZMENTES	5.1	3247		284030
NÁTRIUM-PERSZULFÁT	5.1	1505		283340
NÁTRIUM-PIKRAMÁT, legalább 20 tömeg% vízzel NEDVESÍTETT	4.1	1349		292229
NÁTRIUM-PIKRAMÁT, száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített	1.3C	0235		292229
NÁTRIUM-RÉZ(I)-CIANID OLDAT	6.1	2317		283720
NÁTRIUM-RÉZ(I)-CIANID, SZILÁRD	6.1	2316		283720
NÁTRIUM-SZULFID 30%-nál kevesebb kristályvíz-tartalommal	4.2	1385		283010
NÁTRIUM-SZULFID, HIDRATÁLT, legalább 30% kristályvíz-tartalommal	8	1849		283010
NÁTRIUM-SZULFID, VÍZMENTES	4.2	1385		283010
Nátronlúg: lásd NÁTRIUM-HIDROXID OLDAT				
NÁTRONMÉSZ 4%-nál több nátrium-hidroxid tartalommal	8	1907		282590
NEDVES TEXTILHULLADÉK	4.2	1857	Nem tartozik a RID hatálya alá	5+++++
NEM ÖNFELFÚVÓ MENTŐESZKÖZ, mely tartozékként veszélyes anyagokat tartalmaz	9	3072		890690
NEM ROBBANÓ PILLANATGYÚJTÓK	1.3G	0101		360300
NEM SPECIFIKÁLT KÖRHÁZI HULLADÉK, M.N.N.	6.2	3291		382530
NEMVILLAMOS DETONÁTORSZERKEZETEK robbantáshoz	1.1B 1.4B 1.4S	0360 0361 0500		360300
NEMVILLAMOS GYUTACSOK robbantáshoz	1.1B 1.4B 1.4S	0029 0267 0455		360300
NEON, MÉLYHŰTÖTT, CSEPPFOLYÓSÍTOTT	2	1913		280429
NEON, SŰRÍTETT	2	1065		280429
NIKKEL-CIANID	6.1	1653		283719
NIKKEL-NITRÁT	5.1	2725		283429
NIKKEL-NITRIT	5.1	2726		283410
NIKKEL-TETRAKARBONIL	6.1	1259		293100
NIKOTIN	6.1	1654		293999
NIKOTIN-HIDROKLORID, FOLYÉKONY	6.1	1656		293999
NIKOTIN-HIDROKLORID OLDAT	6.1	1656		293999
NIKOTIN-HIDROKLORID, SZILÁRD	6.1	3444		293999
NIKOTIN-KÉSZÍTMÉNY, FOLYÉKONY, M.N.N.	6.1	3144		293999
NIKOTIN-KÉSZÍTMÉNY, SZILÁRD, M.N.N.	6.1	1655		293999
NIKOTIN-SZALICILÁT	6.1	1657		293999
NIKOTIN-SZULFÁT OLDAT	6.1	1658		293999

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NIKOTIN-SZULFÁT, SZILÁRD	6.1	3445		293999
NIKOTIN-TARTARÁT	6.1	1659		293999
NIKOTIN-VEGYÜLET, FOLYÉKONY, M.N.N.	6.1	3144		293999
NIKOTIN-VEGYÜLET, SZILÁRD, M.N.N.	6.1	1655		293999
NITRÁLÓSAV KEVERÉK	8	1796		280800 382569
NITRÁLÓSAV KEVERÉK, ELHASZNÁLT	8	1826		280800 382569
NITRÁTOK, SZERVETLEN, M.N.N.	5.1	1477		283429
NITRÁTOK, SZERVETLEN, VIZES OLDA, M.N.N.	5.1	3218		283429
NITRILEK, GYÚLÉKONY, MÉRGEZŐ, M.N.N.	3	3273		292690
NITRILEK, MÉRGEZŐ, FOLYÉKONY, M.N.N.	6.1	3276		292690
NITRILEK, MÉRGEZŐ, GYÚLÉKONY, M.N.N.	6.1	3275		292690
NITRILEK, MÉRGEZŐ, SZILÁRD, M.N.N.	6.1	3439		292690
NITRITEK, SZERVETLEN, M.N.N.	5.1	2627		283410
NITRITEK, SZERVETLEN, VIZES OLDA, M.N.N.	5.1	3219		283410
NITRO-ANILINEK (o-, m-, p-)	6.1	1661		292142
NITRO-ANIZOLOK, FOLYÉKONY	6.1	2730		290930
NITRO-ANIZOLOK, SZILÁRD	6.1	3458		290930
5-NITRO-BENZO-TRIAZOL	1.1D	0385		293399
NITRO-BENZO-TRIFLUORIDOK, FOLYÉKONY	6.1	2306		290490
NITRO-BENZO-TRIFLUORIDOK, SZILÁRD	6.1	3431		290490
NITRO-BENZOL	6.1	1662		290420
NITRO-BENZOL-SZULFONSAV	8	2305		290490
NITRO-BRÓM-BENZOLOK, FOLYÉKONY	6.1	2732		290490
NITRO-BRÓM-BENZOLOK, SZILÁRD	6.1	3459		290490
NITROCELLULÓZ, legalább 25 tömeg% alkohollal NEDVESÍTETT	1.3C	0342		391220
NITROCELLULÓZ, módosítás nélkül vagy 18 tömeg%-nál kevesebb lágyítóval	1.1D	0341		391220
NITROCELLULÓZ, száraz vagy 25 tömeg%-nál kevesebb vízzel (vagy alkohollal) nedvesített	1.1D	0340		391220
NITROCELLULÓZ ALAPÚ FILMEK zselatin bevonattal, a hulladék kivételével	4.1	1324		3706++
NITROCELLULÓZ ALAPÚ, ÖNMELEGEDŐ MŰANYAGOK, M.N.N.	4.2	2006		391290
NITROCELLULÓZ ALKOHOLLAL (legalább 25 tömeg% alkohollal és a szárazanyagra vetítve legfeljebb 12,6% nitrogéntartalommal)	4.1	2556		391220
NITROCELLULÓZ KEVERÉK a szárazanyagra vetítve legfeljebb 12,6% nitrogéntartalommal, LÁGYÍTÓVAL vagy LÁGYÍTÓ NÉLKÜL, PIGMENTTEL vagy PIGMENT NÉLKÜL	4.1	2557		391220
NITROCELLULÓZ MEMBRÁNSZŰRŐK száraz tömegre vetítve legfeljebb 12,6% nitrogén-tartalommal	4.1	3270		391220
NITROCELLULÓZ, legalább 25 tömeg% alkohollal NEDVESÍTETT	1.3C	0342		391220
NITROCELLULÓZ OLDA, GYÚLÉKONY, a száraz tömegre vetítve legfeljebb 12,6% nitrogéntartalommal és legfeljebb 55% nitrocellulóz-tartalommal	3	2059		391220
NITROCELLULÓZ, PLASZTIFIKÁLT legalább 18 tömeg% plasztifikálóval	1.3C	0343		391220
NITROCELLULÓZ VÍZZEL (legalább 25 tömeg% vízzel)	4.1	2555		391220
NITRO-ETÁN	3	2842		290420
4-NITRO-FENIL-HIDRAZIN legalább 30 tömeg% vízzel	4.1	3376		292800
NITRO-FENOLOK (o-, m-, p-)	6.1	1663		290899
NITROGÉN-DIOXID	2	1067		281129
NITROGÉN, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT	2	1977		280430
NITROGÉN-MONOXID ÉS DINITROGÉN-TETROXID KEVERÉKE (NITROGÉN-MONOXID ÉS NITROGÉN-DIOXID KEVERÉKE)	2	1975		281129
NITROGÉN-MONOXID ÉS NITROGÉN-DIOXID KEVERÉKE	2	1975		281129
NITROGÉN-MONOXID, SŰRÍTETT	2	1660		281129
NITROGÉN, SŰRÍTETT		1066		280430
NITROGÉN-TRIFLUORID	2	2451		281290
NITROGÉN-TRIOXID	2	2421	A fuvarozásból ki van zárva	

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NITROGLICERIN ALKOHOLOS OLDATBAN 1%-nál több, de legfeljebb 10% nitroglicerín-tartalommal	1.1D	0144		360200
NITROGLICERIN ALKOHOLOS OLDATBAN 1%-nál több, de legfeljebb 5% nitroglicerín-tartalommal	3	3064		292090
NITROGLICERIN ALKOHOLOS OLDATBAN, legfeljebb 1% nitroglicerín tartalommal	3	1204		292090
NITROGLICERIN, legalább 40 tömeg% nem illó, vízben oldhatatlan flegmatizálószerrel DESZENZIBILIZÁLT	1.1D	0143		360200
NITROGLICERIN KEVERÉK, ÉRZÉKETLENÍTETT, FOLYÉKONY, GYÚLÉKONY, M.N.N., legfeljebb 30 tömeg% nitroglicerín-tartalommal	3	3343		292090
NITROGLICERIN KEVERÉK, ÉRZÉKETLENÍTETT, FOLYÉKONY, M.N.N., legfeljebb 30 tömeg% nitroglicerín-tartalommal	3	3357		292090
NITROGLICERIN KEVERÉK, ÉRZÉKETLENÍTETT, M.N.N., 2 tömeg%-nál több, de legfeljebb 10 tömeg% nitroglicerín-tartalommal	4.1	3319		292090
NITRO-GUANIDIN (PIKRIT), legalább 20 tömeg% vízzel NEDVESÍTETT	4.1	1336		292529
NITRO-GUANIDIN (PIKRIT), száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített	1.1D	0282		292529
NITROKARBAMID	1.1D	0147		292419
NITROKEMÉNYÍTŐ, legalább 20 tömeg% vízzel NEDVESÍTETT	4.1	1337		360200
NITROKEMÉNYÍTŐ, száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített	1.1D	0146		360200
3-NITRO-4-KLÓR-BENZO-TRIFLUORID	6.1	2307		290490
NITRO-KREZOLOK, FOLYÉKONY	6.1	3434		290899
NITRO-KREZOLOK, SZILÁRD	6.1	2446		290899
NITROMANNIT, legalább 40 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT	1.1D	0133		292090
NITRO-METÁN	3	1261		290420
NITRO-NAFTALIN	4.1	2538		290420
NITRO-PROPÁNOK	3	2608		290420
NITRO-TOLUIDINEK (MONO)	6.1	2660		292143
NITRO-TOLUOLOK, FOLYÉKONY	6.1	1664		290420
NITRO-TOLUOLOK, SZILÁRD	6.1	3446		290420
NITRO-TRIAZOLON (NTO)	1.1D	0490		293399
NITRO-XILOLOK, FOLYÉKONY	6.1	1665		290420
NITRO-XILOLOK, SZILÁRD	6.1	3447		290420
NITROZILKÉNSAV, FOLYÉKONY	8	2308		281119
NITROZILKÉNSAV, SZILÁRD	8	3456		281119
NITROZIL-KLORID	2	1069		281210
p-NITROZO-DIMETIL-ANILIN	4.2	1369		292119
NONÁNOK	3	1920		290110
NONIL-TRIKLÓR-SZILÁN	8	1799		293100
2,5-NORBORNADIÉN, STABILIZÁLT	3	2251		290219
NÖVÉNYI EREDETŰ SZÁLAk, égett, nedves vagy vizes	4.2	1372	Nem tartozik a RID hatálya alá	5+++++
NÖVÉNYI EREDETŰ SZÁLAk, SZÁRAZ	4.1	3360	Nem tartozik a RID hatálya alá	5+++++
NÖVÉNYI EREDETŰ SZÁLAk vagy SZÖVETEK, M.N.N., olajjal	4.2	1373		5+++++
NTO	1.1D	0490		293399
NYERSOLAJ (PETRÓLEUM)	3	1267		270900
NYERSOLAJ (PETRÓLEUM) PÁRLATOK, M.N.N.	3	1268		27++++
NYERSOLAJ (PETRÓLEUM) TERMÉKEK, M.N.N.	3	1268		27++++
NYOMDAFESTÉK, gyúlékony	3	1210		3215++
NYOMDAFESTÉK SEGÉDANYAG (beleértve a festékígítókat és oldószereket), gyúlékony	3	1210		381400
NYOMJELZŐK LŐSZEREKHEZ	1.3G 1.4G	0212 0306		360490
OKTADECIL-TRIKLÓR-SZILÁN	8	1800		293100
OKTADIÉNEK	3	2309		290129
OKTAFLUOR-2-BUTÉN (R 1318 HŰTŐGÁZ)	2	2422		290339
OKTAFLUOR-CIKLOBUTÁN (RC 318 HŰTŐGÁZ)	2	1976		290359
OKTAFLUOR-PROPÁN (R 218 HŰTŐGÁZ)	2	2424		290339

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OKTÁNOK	3	1262		290110
OKTILALDEHIDEK	3	1191		291219
OKTIL-TRIKLÓR-SZILÁN	8	1801		293100
OKTOGÉN, DESZENZIBILIZÁLT	1.1D	0484		293369
OKTOGÉN, legalább 15 tömeg% vízzel NEDVESÍTETT	1.1D	0226		293369
OKTOL, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített	1.1D	0266		360200
OKTOLIT (OKTOL), száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített	1.1D	0266		360200
OKTONAL	1.1D	0496		360200
OLAJOS GYAPOT HULLADÉK	4.2	1364		5202++
OLAJOS RONGY	4.2	1856	Nem tartozik a RID hatálya alá	5+++++
OLAJPOGÁCSA 1,5 tömeg%-nál nagyobb olajtartalommal és legfeljebb 11 tömeg% nedvességtartalommal	4.2	1386		2306++
OLAJPOGÁCSA legfeljebb 1,5 tömeg% olaj- és legfeljebb 11 tömeg% nedvességtartalommal	4.2	2217		2306++
Oldószer (festékekhez): lásd FESTÉK SEGÉDANYAG; NYOMDAFESTÉK SEGÉDANYAG	3	1263		381400
	8	3066		381400
	3	3469		381400
	8	3470		381400
OLDÓSZERMENTES ACETILÉN	2	3374		290129
Óleum: lásd KÉNSAV, FÜSTÖLGŐ				
ÓLOM-ACETÁT	6.1	1616		291529
ÓLOM-ARZENÁTOK	6.1	1617		284290
ÓLOM-ARZENITEK	6.1	1618		284290
ÓLOM-AZID, legalább 20 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT	1.1A	0129	A fuvarozásból ki van zárva	
ÓLOM-CIANID	6.1	1620		283719
ÓLOM-DIOXID	5.1	1872		282490
ÓLOM-FOSZFIT, DIBÁZIKUS	4.1	2989		283510
ÓLOM-NITRÁT	5.1	1469		283429
ÓLOM-PERKLORÁT OLDAT	5.1	3408		282990
ÓLOM-PERKLORÁT, SZILÁRD	5.1	1470		282990
ÓLOM-SZTIFNÁT (ÓLOM-TRINITRO- REZORCINÁT), legalább 20 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT	1.1A	0130	A fuvarozásból ki van zárva	
ÓLOM-SZULFÁT 3%-nál több szabad savtartalommal	8	1794		283329
ÓLOM-TRINITRO-REZORCINÁT, legalább 20 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT	1.1A	0130	A fuvarozásból ki van zárva	
ÓLOMVEGYÜLET, OLDHATÓ, M.N.N.	6.1	2291		28++++
ÓN-FOSZFIDEK	4.3	1433		284800
ÓN-TETRAKLORID, VÍZMENTES	8	1827		282739
ÓN-TETRAKLORID-PENTAHIDRÁT	8	2440		282739
ÓNVEGYÜLET, SZERVES, FOLYÉKONY, M.N.N.	6.1	2788		293100
ÓNVEGYÜLET, SZERVES, SZILÁRD, M.N.N.	6.1	3146		293100
OXIGÉN, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT	2	1073		280440
OXIGÉN, SÚRÍTETT	2	1072		280440
OXIGÉN-DIFLUORID, SÚRÍTETT	2	2190		281290
OZMIUM-TETROXID	6.1	2471		284390
ÖNFELFÚVÓ MENTŐESZKÖZ	9	2990		890710
ÖNGYÚJTÓ UTÁNTÖLTŐK gyúlékony gáz tartalommal	2	1057		961390
ÖNGYÚJTÓK gyúlékony gáz tartalommal	2	1057		9613++
ÖNMELEGEDŐ, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N.	5.1	3100	A fuvarozásból ki van zárva	
ÖNMELEGEDŐ, MARÓ FOLYÉKONY ANYAG, M.N.N.	8	3301		++++++
ÖNMELEGEDŐ, MARÓ SZILÁRD ANYAG, M.N.N.	8	3095		++++++
ÖNMELEGEDŐ, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	6.1	3124		++++++
ÖNMELEGEDŐ, SZERVES FOLYÉKONY ANYAG, M.N.N.	4.2	3183		29++++
ÖNMELEGEDŐ, SZERVES SZILÁRD ANYAG, M.N.N.	4.2	3088		29++++
ÖNMELEGEDŐ, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.	4.2	3186		28++++
ÖNMELEGEDŐ, SZERVETLEN SZILÁRD ANYAG, M.N.N.	4.2	3190		28++++
Önreaktív anyagok: lásd a felsorolást a 2.2.41.4 bekezdésben				



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P1, P2 keverék: lásd METIL-ACETILÉN ÉS PROPADIÉN KEVERÉK, STABILIZÁLT				
PALAOLAJ	3	1288		270900 274900
PAPÍR, TELÍTETLEN OLAJJAL KEZELT, nem teljesen száraz (beleértve a karbonpapírt)	4.2	1379		481160
PARAFORMALDEHID	4.1	2213		291260
PARALDEHID	3	1264		291250
PARFÜM KÉSZÍTMÉNYEK gyúlékony oldószerekkel	3	1266		330300
PENTABORÁN	4.2	1380		285000
PENTAERITRIT-TETRANITRÁT (PENTRIT, PETN), legalább 15 tömeg% flegmatizálószerrel DESZENZIBILIZÁLT	1.1D	0150		292090
PENTAERITRIT-TETRANITRÁT (PENTRIT, PETN), legalább 25 tömeg% vízzel NEDVESÍTETT	1.1D	0150		292090
PENTAERITRIT-TETRANITRÁT (PETN) legalább 7 tömeg% viasszal	1.1D	0411		292090
PENTAERITRIT-TETRANITRÁT (PETN) KEVERÉK, ÉRZÉKETLENÍTETT, SZILÁRD, M.N.N., 10 tömeg%-nál több, de legfeljebb 20 tömeg% PETN tartalommal	4.1	3344		292090
PENTAFLUOR-ETÁN (R 125 HŰTŐGÁZ)	2	3220		290339
PENTAKLÓR-ETÁN	6.1	1669		290319
PENTAKLÓR-FENOL	6.1	3155		290811
PENTAMETIL-HEPTÁN (izododekán)	3	2286		290110
2,4-PENTÁNDION (acetil-aceton)	3	2310		291419
PENTÁNOK, folyékony	3	1265		290110
PENTANOLOK	3	1105		290519
1-PENTÉN (n-AMILÉN)	3	1108		290129
1-PENTOL	8	2705		290529
PENTOLIT, száraz vagy 15 tömeg%-nál kevesebb vízzel nedvesített	1.1D	0151		360200
PENTRIT, legalább 15 tömeg% flegmatizálószerrel DESZENZIBILIZÁLT	1.1D	0150		292090
PENTRIT, legalább 25 tömeg% vízzel NEDVESÍTETT	1.1D	0150		292090
PERFLUOR-(ETIL-VINIL-ÉTER)	2	3154		290919
PERFLUOR-(METIL-VINIL-ÉTER)	2	3153		290919
PERFORÁTOR PUSKÁK TÖLTETTEL, detonátor nélkül, olajkutak fúráshoz	1.1D	0124 0494		930690
PERKLORÁTOK, SZERVETLEN, M.N.N.	5.1	1481		282990
PERKLORÁTOK, SZERVETLEN, VIZES OLDATA, M.N.N.	5.1	3211		282990
PERKLORIL-FLUORID	2	3083		281210
PERKLÓR-METIL-MERKAPTÁN	6.1	1670		293090
PERKLÓRSAV 50 tömeg%-nál több, de legfeljebb 72 tömeg% savtartalommal	5.1	1873		281119
PERKLÓRSAV legfeljebb 50 tömeg% savtartalommal	8	1802		281119
PERMANGANÁTOK, SZERVETLEN, M.N.N.	5.1	1482		284169
PERMANGANÁTOK, SZERVETLEN, VIZES OLDAT, M.N.N.	5.1	3214		284169
PEROXIDOK, SZERVETLEN, M.N.N.	5.1	1483		282590
PERSZULFÁTOK, SZERVETLEN, M.N.N.	5.1	3215		283340
PERSZULFÁTOK, SZERVETLEN, VIZES OLDAT, M.N.N.	5.1	3216		283340
PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ, M.N.N. (lobbanáspont 23 °C alatt)	3	3021		3808++
PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY, M.N.N. (lobbanáspont legalább 23 °C)	6.1	2903		3808++
PESZTICID, FOLYÉKONY, MÉRGEZŐ, M.N.N.	6.1	2902		3808++
PESZTICID, SZILÁRD, MÉRGEZŐ, M.N.N.	6.1	2588		3808++
PETN KEVERÉK, ÉRZÉKETLENÍTETT, SZILÁRD, M.N.N., 10 tömeg%-nál több, de legfeljebb 20 tömeg% PETN tartalommal	4.1	3344		292090
PETN, legalább 25 tömeg% vízzel NEDVESÍTETT	1.1D	0150		292090
PETN, legalább 15 tömeg% flegmatizálószerrel DESZENZIBILIZÁLT	1.1D	0150		292090
PETN legalább 7 tömeg% viasszal	1.4D	0411		292090
PETRÓLEUM: lásd NYERSOLAJ				
PETRÓLEUMGÁZ, CSEPPFOLYÓSÍTOTT	2	1075		271119
PIKOLINOK (metil-piridinek)	3	2313		293339
PIKRAMID	1.1D	0153		292142
PIKRIL-KLORID	1.1D	0155		290490

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
PIKRIL-KLORID, legalább 10 tömeg% vízzel NEDVESÍTETT	4.1	3365		290490
PIKRINSÁV, legalább 10 tömeg% vízzel NEDVESÍTETT	4.1	3364		290899
PIKRINSÁV, száraz vagy 30 tömeg%-nál kevesebb vízzel nedvesített	1.1D	0154		290899
PIKRINSÁV, legalább 30 tömeg% vízzel NEDVESÍTETT	4.1	1344		290899
PIKRIT, legalább 20 tömeg% vízzel NEDVESÍTETT	4.1	1336		292529
PIKRIT, száraz vagy 20 tömeg%-nál kevesebb vízzel nedvesített	1.1D	0282		292529
PILLANATGYÚJTÓK, NEM ROBBANÓ	1.3G	0101		360300
alfa-PINÉN	3	2368		290219
PIPERAZIN	8	2579		293359
PIPERIDIN	8	2401		293332
PIRETROID PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)	3	3350		380891
PIRETROID PESZTICID, FOLYÉKONY, MÉRGEZŐ	6.1	3352		380891
PIRETROID PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C)	6.1	3351		380891
PIRETROID PESZTICID, SZILÁRD, MÉRGEZŐ	6.1	3349		380891
PIRIDIN	3	1282		293331
PIROFOROS FÉM, M.N.N.	4.2	1383		81++++
PIROFOROS ÖTVÖZET, M.N.N.	4.2	1383		81++++
PIROFOROS, SZERVES FOLYÉKONY ANYAG, M.N.N.	4.2	2845		29++++
PIROFOROS, SZERVES SZILÁRD ANYAG, M.N.N.	4.2	2846		29++++
PIROFOROS, SZERVETLEN FOLYÉKONY ANYAG, M.N.N.	4.2	3194		28++++
PIROFOROS, SZERVETLEN SZILÁRD ANYAG, M.N.N.	4.2	3200		28++++
PIROFOROS TÁRGYAK	1.2L	0380		930690
PIROSZULFURIL-KLORID	8	1817		281210
PIROTECHNIKAI TÁRGYAK műszaki célokra	1.1G	0428		360490
	1.2G	0429		
	1.3G	0430		
	1.4G	0431		
	1.4S	0432		
PIRROLIDIN	3	1922		293399
Pivaloil-klorid: lásd TRIMETIL-ACETIL-KLORID				
PNEUMATIKUS NYOMÁS ALATTI TÁRGYAK (nem gyúlékony gáz tartalommal)	2	3164		++++++
POLIAMINOK, SZILÁRD, MARÓ, M.N.N.	8	3259		2921++
POLIAMINOK, FOLYÉKONY, MARÓ, GYÚLÉKONY, M.N.N.	8	2734		2921++
POLIAMINOK, FOLYÉKONY, MARÓ, M.N.N.	8	2735		2921++
POLIAMINOK, GYÚLÉKONY, MARÓ, M.N.N.	3	2733		2921++
POLIÉSZTER-GYANTA KÉSZLET	3	3269		3907++
POLIHÁLOGÉNEZETT BIFENILEK, FOLYÉKONY	9	3151		290369
POLIHÁLOGÉNEZETT BIFENILEK, SZILÁRD	9	3152		290369
POLIHÁLOGÉNEZETT TERFENILEK, FOLYÉKONY	9	3151		290369
POLIHÁLOGÉNEZETT TERFENILEK, SZILÁRD	9	3152		290369
POLIKLÓROZOTT BIFENILEK, FOLYÉKONY	9	2315		290369
POLIKLÓROZOTT BIFENILEK, SZILÁRD	9	3432		290369
Polírozó anyag: lásd FESTÉK				
PRÓBALÓSZER	1.4G	0363		930690
PROFILOZOTT, HAJLÉKONY, VONAL ALAKÚ	1.4D	0237		360300
ROBBANTÓTÖLTETEK	1.1D	0288		
PROPADIÉN, STABILIZÁLT	2	2200		290129
PROPÁN	2	1978		271112
PROPÁN-TIOLOK (propil-merkaptánok)	3	2402		293090
n-PROPANOL (NORMÁL PROPIL-ALKOHOL)	3	1274		290512
n-PROPIL-ACETÁT	3	1276		291539
PROPIL-ALKOHOL, NORMÁL	3	1274		290512
PROPIL-AMIN	3	1277		292119
n-PROPIL-BENZOL	3	2364		290290
PROPILÉN	2	1077		271114 290122
1,2-PROPILÉN-DIAMIN	8	2258		292129
PROPILÉN-IMIN, STABILIZÁLT	3	1921		293399
PROPILÉN-KLÓRHIDRIN	6.1	2611		290559



Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
PROPILÉN-OXID	3	1280		291020
PROPILÉN-TETRAMER	3	2850		290129
PROPILÉN-TRIMER	3	2057		290129
PROPIL-FORMIÁTOK	3	1281		291513
n-PROPIL-IZOCIANÁT	6.1	2482		292910
n-PROPIL-KLÓR-FORMIÁT	6.1	2740		291590
Propil-klorid: lásd 1-KLÓR-PROPÁN				
Propil-merkaptánok: lásd PROPÁN-TIOLOK				
n-PROPIL-NITRÁT	3	1865		292090
PROPIL-TRIKLÓR-SZILÁN	8	1816		293100
PROPIONALDEHID	3	1275		291219
PROPIONIL-KLORID	3	1815		291590
PROPIONITRIL	3	2404		292690
PROPIONSAV legalább 90 tömeg% savtartalommal	8	3463		291550
PROPIONSAV legalább 10 tömeg%, de 90 tömeg%-nál kisebb savtartalommal	8	1848		291550
PROPIONSAVANHIDRID	8	2496		291590
PUSKAPOR, PELLET	1.1D	0028		360200
PUSKAPOR, SAJTOLT	1.1D	0028		360200
PUSKAPOR, szemcsés vagy por alakú	1.1D	0027		360200
R 1113 HŰTŐGÁZ	2	1082		290345
R 1132a HŰTŐGÁZ	2	1959		290339
R 114 HŰTŐGÁZ	2	1958		290344
R 115 HŰTŐGÁZ	2	1020		290344
R 116 HŰTŐGÁZ	2	2193		290339
R 12 HŰTŐGÁZ	2	1028		290342
R 1216 HŰTŐGÁZ	2	1858		290339
R 124 HŰTŐGÁZ	2	1021		290349
R 125 HŰTŐGÁZ	2	3220		290339
R 12B1 HŰTŐGÁZ	2	1974		290346
R 13 HŰTŐGÁZ	2	1022		290341
R 1318 HŰTŐGÁZ	2	2422		290339
R 133a HŰTŐGÁZ	2	1983		290349
R 134a HŰTŐGÁZ	2	3159		290339
R 13B1 HŰTŐGÁZ	2	1009		290346
R 14 HŰTŐGÁZ	2	1982		290339
R 142b HŰTŐGÁZ	2	2517		290349
R 143a HŰTŐGÁZ	2	2035		290339
R 152a HŰTŐGÁZ	2	1030		290339
R 161 HŰTŐGÁZ	2	2453		290339
R 21 HŰTŐGÁZ	2	1029		290349
R 218 HŰTŐGÁZ	2	2424		290339
R 22 HŰTŐGÁZ	2	1018		290349
R 227 HŰTŐGÁZ	2	3296		290339
R 23 HŰTŐGÁZ	2	1984		290339
R 32 HŰTŐGÁZ	2	3252		290339
R 40 HŰTŐGÁZ	2	1063		290311
R 41 HŰTŐGÁZ	2	2454		290339
R 404A HŰTŐGÁZ	2	3337		382474
R 407A HŰTŐGÁZ	2	3338		382474
R 407B HŰTŐGÁZ	2	3339		382474
R 407C HŰTŐGÁZ	2	3340		382474
R 41 HŰTŐGÁZ	2	2454		290339
R 500 HŰTŐGÁZ	2	2602		382479
R 502 HŰTŐGÁZ	2	1973		382479
R 503 HŰTŐGÁZ	2	2599		382471
RC 318 HŰTŐGÁZ	2	1976		290359
RADIOAKTÍV ANYAG, A TÍPUSÚ KÜLDEMÉNYDARABBAN, nem különleges formában, nem hasadó vagy hasadó-engedményes	7	2915		2844++
RADIOAKTÍV ANYAG, A TÍPUSÚ KÜLDEMÉNYDARABBAN, KÜLÖNLEGES FORMÁBAN, nem hasadó vagy hasadó-engedményes	7	3332		2844++

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
RADIOAKTÍV ANYAG, B(M) TÍPUSÚ KÜLDEMÉNYDARABBAN, nem hasadó vagy hasadó-engedményes	7	2917		2844++
RADIOAKTÍV ANYAG, B(U) TÍPUSÚ KÜLDEMÉNYDARABBAN, nem hasadó vagy hasadó-engedményes	7	2916		2844++
RADIOAKTÍV ANYAG, C TÍPUSÚ KÜLDEMÉNYDARABBAN, nem hasadó vagy hasadó-engedményes	7	3323		2844++
RADIOAKTÍV ANYAG ENGEDMÉNYES KÜLDEMÉNYDARABBAN - GYÁRTMÁNYOK	7	2911		2844++
RADIOAKTÍV ANYAG ENGEDMÉNYES KÜLDEMÉNYDARABBAN - KÉSZÜLÉKEK	7	2911		2844++
RADIOAKTÍV ANYAG ENGEDMÉNYES KÜLDEMÉNYDARABBAN - KORLÁTOZOTT ANYAGMENNYISÉG	7	2910		2844++
RADIOAKTÍV ANYAG ENGEDMÉNYES KÜLDEMÉNYDARABBAN - SZEGÉNYÍTETT URÁNBÓL KÉSZÜLT GYÁRTMÁNYOK	7	2909		2844++
RADIOAKTÍV ANYAG ENGEDMÉNYES KÜLDEMÉNYDARABBAN - TERMÉSZETES TÓRIUMBÓL KÉSZÜLT GYÁRTMÁNYOK	7	2909		2844++
RADIOAKTÍV ANYAG ENGEDMÉNYES KÜLDEMÉNYDARABBAN - TERMÉSZETES URÁNBÓL KÉSZÜLT GYÁRTMÁNYOK	7	2909		2844++
RADIOAKTÍV ANYAG, ENGEDMÉNYES KÜLDEMÉNYDARABBAN - ÜRES CSOMAGOLÓESZKÖZ	7	2908		2844++
RADIOAKTÍV ANYAG, HASADÓ, A TÍPUSÚ KÜLDEMÉNYDARABBAN, KÜLÖNLEGES FORMÁBAN	7	3333		2844++
RADIOAKTÍV ANYAG, HASADÓ, A TÍPUSÚ KÜLDEMÉNYDARABBAN, nem különleges formában	7	3327		2844++
RADIOAKTÍV ANYAG, HASADÓ, B(M) TÍPUSÚ KÜLDEMÉNYDARABBAN	7	3329		2844++
RADIOAKTÍV ANYAG, HASADÓ, B(U) TÍPUSÚ KÜLDEMÉNYDARABBAN	7	3328		2844++
RADIOAKTÍV ANYAG, HASADÓ, C TÍPUSÚ KÜLDEMÉNYDARABBAN	7	3330		2844++
RADIOAKTÍV ANYAG, HASADÓ, KÜLÖN MEGEGYEZÉS ALAPJÁN SZÁLLÍTOTT	7	3331		2844++
RADIOAKTÍV ANYAG, HASADÓ, SZENNYEZETT FELÜLETŰ TÁRGYAK, (SCO-I vagy SCO-II)	7	3326		2844++
RADIOAKTÍV ANYAG, KÜLÖN MEGEGYEZÉS ALAPJÁN SZÁLLÍTOTT, nem hasadó vagy hasadó-engedményes	7	2919		2844++
RADIOAKTÍV ANYAG, HASADÓ URÁN-HEXAFLUORID	7	2977		2844++
RADIOAKTÍV ANYAG, URÁN-HEXAFLUORID, nem hasadó vagy hasadó-engedményes	7	2978		2844++
RADIOAKTÍV ANYAG, SZENNYEZETT FELÜLETŰ TÁRGYAK (SCO-I vagy SCO-II), nem hasadó vagy hasadó-engedményes	7	2913		2844++
RAGASZTÓK gyúlékony folyadék tartalommal	3	1133		350699
RAKÉTAHAJTÓMŰVEK	1.3G 1.1C 1.2C	0186 0280 0281		930690
RAKÉTAHAJTÓMŰVEK FOLYÉKONY HAJTÓANYAGGAL	1.2J 1.3J	0395 0396		930690
RAKÉTAHAJTÓMŰVEK HIPERGOL FOLYADÉKOKKAL, kidobótöltettel vagy anélkül	1.3L 1.2L	0250 0322		930690
RAKÉTÁK FOLYÉKONY HAJTÓANYAGGAL, robbanótöltettel	1.1J 1.2J	0397 0398		930690
RAKÉTÁK inert fejjel	1.3C 1.2C	0183 0502		930690
RAKÉTÁK kidobótöltettel	1.2C 1.3C 1.4C	0436 0437 0438		930690

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
RAKÉTÁK robbanótöltettel	1.1F 1.1E 1.2E 1.2F	0180 0181 0182 0295		930690
RDX, legalább 15 tömeg% vízzel NEDVESÍTETT	1.1D	0072		293369
RDX, DESZENZIBILIZÁLT	1.1D	0483		293369
RDX ÉS HMX KEVERÉKE, legalább 15 tömeg% vízzel NEDVESÍTETT vagy legalább 10 tömeg% flegmatizálószerrel DESZENZIBILIZÁLT	1.1D	0391		293369
RENDKÍVÜL ÉRZÉKETLEN ROBBANÓTÁRGYAK (EEI TÁRGYAK)	1.6N	0486		930690
Repülőgépcsúszdák: lásd ÖNFELFÚVÓ MENTŐESZKÖZ				
REPÜLŐGÉP HIDRAULIKA FOLYADÉK TARTÁLY (vízmentes hidrazin és metil-hidrazin keveréket tartalmazó) (M86 tüzelőanyag)	3	3165		880330
Repülőgép mentőfelszerelések: lásd ÖNFELFÚVÓ MENTŐESZKÖZ				
RÉZ ALAPÚ PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)	3	2776		380892
RÉZ ALAPÚ PESZTICID, FOLYÉKONY, MÉRGEZŐ	6.1	3010		380892
RÉZ ALAPÚ PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C)	6.1	3009		380892
RÉZ ALAPÚ PESZTICID, SZILÁRD, MÉRGEZŐ	6.1	2775		380892
RÉZ-ACETO-ARZENIT	6.1	1585		294200
RÉZ-ARZENIT	6.1	1586		284290
RÉZ-CIANID	6.1	1587		283719
RÉZ-KLORÁT	5.1	2721		282919
RÉZ-KLORID	8	2802		282739
REZORCIN	6.1	2876		290721
RICINUSMAG	9	2969		120799
RICINUSMAG LISZT	9	2969		120890
RICINUSMAG PEHELY	9	2969		120799
RICINUSMAG POGÁCSA	9	2969		230690
ROBBANÓANYAG, FOLYÉKONY, ÉRZÉKETLENÍTETT, M.N.N.	3	3379		360200
ROBBANÓANYAG MINTÁK, az indító robbanóanyagok kivételével	1	0190		360200
ROBBANÓANYAG, SZILÁRD, ÉRZÉKETLENÍTETT, M.N.N.	4.1	3380		360200
ROBBANÓANYAG TARTALMÚ KIOLDÓSZERKEZETEK	1.4S	0173		360300
ROBBANÓANYAGOK, M.N.N.	1.1L 1.2L 1.3L	0357 0358 0359		360200
	1.1A	0473	A fuvarozásból ki van zárva	
ROBBANÓANYAGOK, M.N.N.	1.1C 1.1D 1.1G 1.3C 1.3G 1.4C 1.4D 1.4S 1.4G	0474 0475 0476 0477 0478 0479 0480 0481 0485		360200
ROBBANÓANYAGOK, NAGYON ÉRZÉKETLEN (EVI ANYAGOK), M.N.N.	1.5D	0482		360200
ROBBANÓGYÚJTÓK	1.1B 1.2B 1.4B 1.4S	0106 0107 0367 0257		360300
ROBBANÓGYÚJTÓK biztonsági szerkezettel	1.1D 1.2D 1.4D	0408 0409 0410		360300
ROBBANÓLÁNC ALKOTÓRÉSZEI, M.N.N.	1.2B 1.4B 1.4S 1.1B	0382 0383 0384 0461		360300
ROBBANÓSZEGECSEK	1.4S	0174		930690

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
ROBBANÓSZONDÁK	1.2F 1.1F 1.1D 1.2D	0204 0296 0374 0375		360490
ROBBANÓTÁRGYAK, M.N.N.	1.4S 1.4B 1.4C 1.4D 1.4G 1.1L 1.2L 1.3L 1.1C 1.1D 1.1E 1.1F 1.2C 1.2D 1.2E 1.2F 1.3C 1.4E 1.4F	0349 0350 0351 0352 0353 0354 0355 0356 0462 0463 0464 0465 0466 0467 0468 0469 0470 0471 0472		930690
ROBBANÓTÁRGYAK, RENDKÍVÜL ÉRZÉKETLEN (EEI TÁRGYAK)	1.6N	0486		930690
ROBBANÓTÖLTETEK	1.1D	0048		930690
ROBBANÓTÖLTETEK, IPARI: lásd IPARI ROBBANÓTÖLTETEK				
ROBBANÓTÖLTETEK, KIEGÉSZÍTŐ	1.1D	0060		930690
ROBBANÓTÖLTETEK, MŰANYAG KÖTÉSŰ: lásd MŰANYAG KÖTÉSŰ ROBBANÓTÖLTETEK				
ROBBANÓZSINÓR, fémköpenyes	1.2D 1.1D	0102 0290		360300
ROBBANÓZSINÓR, hajlékony	1.1D 1.4D	0065 0289		360300
ROBBANÓZSINÓR, KISHATÁSÚ, fémköpennyel	1.1D	0104		360300
ROBBANTÓANYAG, A TÍPUSÚ	1.1D	0081		360100
ROBBANTÓANYAG, B TÍPUSÚ	1.1D 1.5D	0082 0331		360200
ROBBANTÓANYAG, C TÍPUSÚ	1.1D	0083		360200
ROBBANTÓANYAG, D TÍPUSÚ	1.1D	0084		360200
ROBBANTÓANYAG, E TÍPUSÚ	1.1D	0332		360200
ROBBANTÓANYAG, E TÍPUSÚ	1.5D	0241		360200
ROBBANTÓTÖLTETEK, PROFILOZOTT, HAJLÉKONY, VONAL ALAKÚ	1.4D 1.1D	0237 0288		360300
ROVARIRTÓ GÁZ, GYÚLÉKONY, M.N.N.	2	3354		3808++
ROVARIRTÓ GÁZ, M.N.N.	2	1968		3808++
ROVARIRTÓ GÁZ, MÉRGEZŐ, GYÚLÉKONY, M.N.N.	2	3355		3808++
ROVARIRTÓ GÁZ, MÉRGEZŐ, M.N.N.	2	1967		3808++
RUBÍDIUM	4.3	1423		280519
RUBÍDIUM-HIDROXID	8	2678		282590
RUBÍDIUM-HIDROXID OLDAT	8	2677		282590
SAJTOLÓANYAG, MŰANYAG, gyúlékony gőzt fejlesztő massa, lemez vagy extrudált profil formában	9	3314		39++++
SALÉTROMSAV, a vörösen füstölő salétromsav kivételével	8	2031		280800
SALÉTROMSAV, VÖRÖSEN FÜSTÖLGŐ	8	2032		280800
SÁRGAFOSZFOR, SZÁRAZ	4.2	1381		280470
SÁRGAFOSZFOR, OLVASZTOTT	4.2	2447		280470
SÁRGAFOSZFOR, VÍZ ALATT vagy OLDATBAN	4.2	1381		280470
SCO tárgyak: lásd RADIOAKTÍV ANYAG, SZENNYEZETT FELÜLETŰ TÁRGYAK (SCO-I vagy SCO-II), nem hasadó vagy hasadó-engedményes; vagy RADIOAKTÍV ANYAG, HASADÓ, SZENNYEZETT FELÜLETŰ TÁRGYAK (SCO-I vagy SCO-II),				
Sellak: lásd FESTÉK				

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
SÓSAV	8	1789		280610
STRONCIUM-ARZENIT	6.1	1691		284290
STRONCIUM-FOSZFID	4.3	2013		284800
STRONCIUM-KLORÁT	5.1	1506		282919
STRONCIUM-NITRÁT	5.1	1507		283429
STRONCIUM-PERKLORÁT	5.1	1508		282990
STRONCIUM-PEROXID	5.1	1509		281640
SŰRÍTETT GÁZ, GYÚJTÓ HATÁSÚ, M.N.N.	2	3156		++++++
SŰRÍTETT GÁZ, GYÚLÉKONY, M.N.N.	2	1954		++++++
SŰRÍTETT GÁZ, M.N.N.	2	1956		++++++
SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, M.N.N.	2	3303		++++++
SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, MARÓ, M.N.N.	2	3306		++++++
SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚLÉKONY, M.N.N.	2	1953		++++++
SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚLÉKONY, MARÓ, M.N.N.	2	3305		++++++
SŰRÍTETT GÁZ, MÉRGEZŐ, M.N.N.	2	1955		++++++
SŰRÍTETT GÁZ, MÉRGEZŐ, MARÓ, M.N.N.	2	3304		++++++
SŰRÍTETT LEVEGŐ	2	1002		285300
SZABÁLYOZOTT GYÓGYÁSZATI HULLADÉK, M.N.N.	6.2	3291		382530
SZÁLAK, ÁLLATI, NÖVÉNYI vagy SZINTETIKUS EREDETŰ, M.N.N., olajjal	4.2	1373		5+++++
SZÁLAK, ÁLLATI vagy NÖVÉNYI EREDETŰ, égett, nedves vagy vizes	4.2	1372	Nem tartozik a RID hatálya alá	5+++++
SZALMA	4.1	1327	Nem tartozik a RID hatálya alá	121490
SZÁRAZJÉG	9	1845	Nem tartozik a RID hatálya alá	281121
SZELENÁTOK	6.1	2630		284290
SZELÉN-DISZULFID	6.1	2657		281390
SZELÉN-HEXAFLUORID	2	2194		281290
SZELENITEK	6.1	2630		284290
SZELÉN-OXI-KLORID	8	2879		281210
SZELÉNSAV	8	1905		281119
SZELÉNVEGYÜLET, FOLYÉKONY, M.N.N.	6.1	3440		++++++
SZELÉNVEGYÜLET, SZILÁRD, M.N.N.	6.1	3283		++++++
SZÉN (állati vagy növényi eredetű)	4.2	1361		280300
SZÉNA	4.1	1327	Nem tartozik a RID hatálya alá	121300
SZÉN-DIOXID	2	1013		281121
SZÉN-DIOXID, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT	2	2187		281121
SZÉN-DIOXID, SZILÁRD (SZÁRAZJÉG)	9	1845	Nem tartozik a RID hatálya alá	281121
SZÉN-DISZULFID	3	1131		281310
SZÉNHIDROGÉNEK, FOLYÉKONY, M.N.N.	3	3295		290+++
SZÉNHIDROGÉN-GÁZ KEVERÉK, CSEPPFOLYÓSÍTOTT, M.N.N., mint A, A01, A02, A0, A1, B1, B2, B vagy C keverék	2	1965		271119 271113
SZÉNHIDROGÉN-GÁZ KEVERÉK, SŰRÍTETT, M.N.N.	2	1964		271129
SZÉNHIDROGÉN-GÁZ UTÁNTÖLTŐ PATRONOK KISMÉRETŰ ESZKÖZÖKHÖZ, adagolószerkezettel	2	3150		++++++
SZÉN-MONOXID, SŰRÍTETT	2	1016		281129
Szén-oxi-klorid: lásd FOSZGÉN				
SZÉN-TETRABROMID	6.1	2516		290339
SZÉN-TETRAKLORID	6.1	1846		290314
SZERVES ARZÉNVEGYÜLET, FOLYÉKONY, M.N.N.	6.1	3280		293100
SZERVES ARZÉNVEGYÜLET, SZILÁRD, M.N.N.	6.1	3465		293100
SZERVES FÉMVEGYÜLET, MÉRGEZŐ, FOLYÉKONY, M.N.N.	6.1	3282		293100
SZERVES FÉMVEGYÜLET, MÉRGEZŐ, SZILÁRD, M.N.N.	6.1	3467		293100
SZERVES FÉMVEGYÜLET, ÖNMELEGEDŐ, SZILÁRD	4.2	3400		293100
SZERVES FÉMVEGYÜLET, PIROFOROS, FOLYÉKONY	4.2	3392		293100
SZERVES FÉMVEGYÜLET, PIROFOROS, SZILÁRD	4.2	3391		293100
SZERVES FÉMVEGYÜLET, PIROFOROS, VÍZZEL REAKTÍV, FOLYÉKONY	4.2	3394		293100

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
SZERVES FÉMVEGYÜLET, PIROFOROS, VÍZZEL REAKTÍV, SZILÁRD	4.2	3393		293100
SZERVES FÉMVEGYÜLET, VÍZZEL REAKTÍV, FOLYÉKONY	4.3	3398		293100
SZERVES FÉMVEGYÜLET, VÍZZEL REAKTÍV, SZILÁRD	4.3	3395		293100
SZERVES FÉMVEGYÜLET, VÍZZEL REAKTÍV, GYÚLÉKONY, FOLYÉKONY	4.3	3399		293100
SZERVES FÉMVEGYÜLET, VÍZZEL REAKTÍV, GYÚLÉKONY, SZILÁRD	4.3	3396		293100
SZERVES FÉMVEGYÜLET, VÍZZEL REAKTÍV, ÖNMELEGEDŐ, SZILÁRD	4.3	3397		293100
SZERVES FOSZFORTARTALMÚ PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)	3	2784		3808++
SZERVES FOSZFORTARTALMÚ PESZTICID, FOLYÉKONY, MÉRGEZŐ	6.1	3018		3808++
SZERVES FOSZFORTARTALMÚ PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C)	6.1	3017		3808++
SZERVES FOSZFOR-TARTALMÚ PESZTICID SZILÁRD, MÉRGEZŐ	6.1	2783		3808++
SZERVES FOSZFORVEGYÜLET, MÉRGEZŐ, FOLYÉKONY, M.N.N.	6.1	3278		++++++
SZERVES FOSZFOR-VEGYÜLET, MÉRGEZŐ, GYÚLÉKONY, M.N.N.	6.1	3279		++++++
SZERVES FOSZFORVEGYÜLET, MÉRGEZŐ, SZILÁRD, M.N.N.	6.1	3464		++++++
SZERVES, GYÚLÉKONY SZILÁRD ANYAG OLVASZTOTT ÁLLAPOTBAN, M.N.N.	4.1	3176		29++++
SZERVES KLÓRARTALMÚ PESZTICID, FOLYÉKONY, MÉRGEZŐ	6.1	2996		380891
SZERVES KLÓRTARTALMÚ PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt,)	3	2762		380891
SZERVES KLÓRTARTALMÚ PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C)	6.1	2995		380891
SZERVES KLÓRTARTALMÚ PESZTICID, SZILÁRD, MÉRGEZŐ	6.1	2761		380891
SZERVES, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	6.1	2810		29++++
SZERVES, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	6.1	2811		29++++
SZERVES ÓN PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)	3	2787		3808++
SZERVES ÓN PESZTICID, FOLYÉKONY, MÉRGEZŐ	6.1	3020		3808++
SZERVES ÓN PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C)	6.1	3019		3808++
SZERVES ÓN PESZTICID, SZILÁRD, MÉRGEZŐ	6.1	2786		3808++
Szerves peroxidok: lásd a felsorolást az 2.2.52.4 bekezdésben	5.2			
SZERVES PIGMENTEK, ÖNMELEGEDŐ	4.2	3313		320+++
SZERVES VEGYÜLETEK GYÚLÉKONY FÉMSÓI, M.N.N.	4.1	3181		29++++
SZERVETLEN, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.	4.1	3178		28++++
SZERVETLEN, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	6.1	3287		28++++
SZERVETLEN, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	6.1	3288		28++++
SZERVETLEN, SZILÁRD ANTIMONVEGYÜLET, M.N.N.	6.1	1549		28++++
SZÉTVETŐK robbanótöltettel	1.ID	0043		930690
SZILÁN	2	2203		285000
SZILÁRD ALÁGYÚJTÓS gyúlékony folyadékkal impregnálva	4.1	2623		360690
SZILÁRD, ÉRZÉKTELNÍTETT ROBBANÓANYAG, M.N.N.	4.1	3380		360200
SZILÁRD, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.	5.1	1479		++++++
SZILÁRD HGAJTÓANYAG: lásd HAJTÓANYAG, SZILÁRD				
SZILÁRD, MARÓ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.	5.1	3085		++++++
SZILÁRD, MÉRGEZŐ, GYÚJTÓ HATÁSÚ ANYAG, M.N.N.	5.1	3087		++++++
SZILÁRD, SZERVES ÓNVEGYÜLET, M.N.N.	6.1	3146		293100
SZILÍCIUM-HIDROGÉN (SZILÁN)	2	2203		285000
SZILÍCIUMPOR, AMORF	4.1	1346		280461 280469
SZILÍCIUM-TETRAFLUORID	2	1859		281290
SZILÍCIUM-TETRAKLORID	8	1818		281210



Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
SZÍNEZÉK, FOLYÉKONY, MARÓ, M.N.N.	8	2801		32++++
SZÍNEZÉK, FOLYÉKONY, MÉRGEZŐ, M.N.N.	6.1	1602		32++++
SZÍNEZÉK INTERMEDIER, FOLYÉKONY, MARÓ, M.N.N.	8	2801		32++++
SZÍNEZÉK INTERMEDIER, FOLYÉKONY, MÉRGEZŐ, M.N.N.	6.1	1602		32++++
SZÍNEZÉK INTERMEDIER, SZILÁRD, MARÓ, M.N.N.	8	3147		320+++
SZÍNEZÉK INTERMEDIER, SZILÁRD, MÉRGEZŐ, M.N.N.	6.1	3143		320+++
SZÍNEZÉK, SZILÁRD, MARÓ, M.N.N.	8	3147		320+++
SZÍNEZÉK, SZILÁRD, MÉRGEZŐ, M.N.N.	6.1	3143		320+++
SZINTETIKUS EREDETŰ SZÁLAk vagy SZÖVETEK, M.N.N., olajjal	4.2	1373		5+++++
SZÖVETEK, ÁLLATI, NÖVÉNYI vagy SZINTETIKUS EREDETŰ, M.N.N., olajjal	4.2	1373		5+++++
SZTIBIN	2	2676		285000
SZTIFNINSÁV, legalább 20 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT	1.1D	0394		290899
SZTIFNINSÁV, száraz vagy 20 tömeg%-nál kevesebb vízzel vagy alkohol és víz keverékével nedvesített	1.1D	0219		290899
SZTIROL MONOMER, STABILIZÁLT	3	2055		290250
SZTRICHNIN vagy SZTRICHNIN SÓK	6.1	1692		293999
SZULFAMINSÁV	8	2967		281119
SZULFURIL-FLUORID	2	2191		281290
SZULFURIL-KLORID	8	1834		281210
TALLIUM-KLORÁT	5.1	2573		282990
TALLIUM-NITRÁT	6.1	2727		283429
TALLIUMVEGYÜLET, M.N.N.	6.1	1707		+++++
TÁMADÓFEJEK RAKÉTAKHOZ robbanó- vagy kidobótöltettel	1.4D 1.4F	0370 0371		930690
TÁMADÓFEJEK RAKÉTAKHOZ robbanótöltettel	1.1D 1.2D 1.1F	0286 0287 0369		930690
TÁMADÓFEJEK TORPEDÓKHOZ robbanótöltettel	1.1D	0221		930690
TELÍTETLEN OLAJJAL KEZELT PAPÍR, nem teljesen száraz (beleértve a karbonpapírt)	4.2	1379		481160
TELLUR-HEXAFLUORID	2	2195		281290
TELLÚRVEGYÜLET, M.N.N.	6.1	3284		29++++
TERPÉN SZÉNHDROGÉNEK, M.N.N.	3	2319		290219
TERPENTIN	3	1299		380510
TERPENTINPÓTLÓ	3	1300		272100
TERPINOLÉN	3	2541		290219
TETRABRÓM-ETÁN	6.1	2504		290339
TETRAETIL-DITIO-PIROFOSZFÁT	6.1	1704		292019
TETRAETILÉN-PENTAMIN	8	2320		292129
TETRAETIL-SZILIKÁT	3	1292		292090
1,1,1,2-TETRAFLUOR-ETÁN (R 134a HŰTŐGÁZ)	2	3159		290339
TETRAFLUOR-ETILÉN, STABILIZÁLT	2	1081		290339
TETRAFLUOR-METÁN (R 14 HŰTŐGÁZ)	2	1982		290339
1,2,3,6-TETRAHIDRO-BENZALDEHID	3	2498		291229
TETRAHIDRO-FTÁLSAVANHIDRIDEK 0,05%-nál több maleinsavanhidriddel	8	2698		293499
TETRAHIDRO-FURÁN	3	2056		293211
TETRAHIDRO-FURFURIL-AMIN	3	2943		293219
1,2,3,6-TETRAHIDRO-PIRIDIN	3	2410		293339
TETRAHIDRO-TIOFÉN (tetrametilén-szulfid)	3	2412		293499
1,1,2,2-TETRAKLÓR-ETÁN	6.1	1702		290319
TETRAKLÓR-ETILÉN	6.1	1897		290323
TETRAMETIL-AMMÓNIUM-HIDROXID OLDAT	8	1835		292390
TETRAMETIL-AMMÓNIUM-HIDROXID, SZILÁRD	8	3423		292390
TETRAMETIL-SZILÁN	3	2749		293100
TETRANITRO-ANILIN	1.1D	0207		292142
TETRANITRO-METÁN	5.1	1510		290420
TETRAPROPILÉN (PROPILÉN-TETRAMER)	3	2850		290129
TETRAPROPIL-ORTOTITANÁT	3	2413		292090

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
TETRAZÉN, legalább 30 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT	1.1A	0114	A fuvarozásból ki van zárva	
1H-TETRAZOL	1.1D	0504		293399
TETRAZOL-1-ECETSAV	1.4C	0407		293399
TETRIL	1.1D	0208		292149
4-TIA-PENTANAL	6.1	2785		293090
TIOECETSAV	3	2436		293090
TIOFÉN	3	2414		293499
Tiofenol: lásd FENIL-MERKAPTÁN				
TIOFOSZFORIL-KLORID	8	1837		281210
TIOFOSZGÉN	6.1	2474		293090
TIOGLIKOL	6.1	2966		293090
TIOGLIKOLSAV	8	1940		293090
TIOKARBAMÁT PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)	3	2772		380893
TIOKARBAMÁT PESZTICID, FOLYÉKONY, MÉRGEZŐ	6.1	3006		380893
TIOKARBAMÁT PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C)	6.1	3005		380893
TIOKARBAMÁT PESZTICID, SZILÁRD, MÉRGEZŐ	6.1	2771		380893
TIOKARBAMID-DIOXID	4.2	3341		293090
TIOAKTONSAV	6.1	2936		293090
TIONIL-KLORID	8	1836		281210
TITÁN-DISZULFID	4.2	3174		283090
TITÁN-HIDRID	4.1	1871		285000
TITÁNPOR, NEDVESÍTETT	4.1	1352		810820
TITÁNPOR, SZÁRAZ	4.2	2546		810820
TITÁN SZIVACS POROK	4.1	2878		810820
TITÁN SZIVACS SZEMCSÉK	4.1	2878		810820
TITÁN-TETRAKLORID	8	1838		282739
TITÁN-TRIKLORID KEVERÉK	8	2869		282739
TITÁN-TRIKLORID KEVERÉK, PIROFOROS	4.2	2441		282739
TITÁN-TRIKLORID, PIROFOROS	4.2	2441		282739
TNT, legalább 10 tömeg% vízzel NEDVESÍTETT	4.1	3366		290420
TNT, legalább 30 tömeg% vízzel NEDVESÍTETT	4.1	1356		290420
TNT, száraz vagy 30 tömeg%-nál kevesebb vízzel nedvesített	1	0209		290420
TOLUIDINEK, FOLYÉKONY	6.1	1708		292143
TOLUIDINEK, SZILÁRD	6.1	3451		292143
2,4-TOLUILÉN-DIAMIN OLDAT	6.1	3418		292151
2,4-TOLUILÉN-DIAMIN, SZILÁRD	6.1	1709		292151
TOLUILÉN-DIIZOCIANÁT	6.1	2078		292910
TOLUOL	3	1294		290230 270720
TORPEDÓK robbanótöltettel	1.1E 1.1F 1.1D	0329 0330 0451		930690
TORPEDÓK FOLYÉKONY HAJTÓANYAGGAL, inert fejjel	1.3J	0450		930690
TORPEDÓK FOLYÉKONY HAJTÓANYAGGAL, robbanótöltettel vagy anélkül	1.1J	0449		930690
TORPEDÓK, KÖZETREPESZTŐ detonátor nélkül, olajkutak fúrásához	1.1D	0099		930690
TOXINOK, ÉLŐ SZERVEZETEKBŐL KIVONT, FOLYÉKONY, M.N.N.	6.1	3172		300290
TOXINOK, ÉLŐ SZERVEZETEKBŐL KIVONT, SZILÁRD, M.N.N.	6.1	3462		300290
TÖLTÉNYEK FEGYVEREKHEZ INERT LÖVEDÉKKEL	1.4S 1.2C 1.3C 1.4C	0012 0328 0417 0339		930621 930630
TÖLTÉNYEK FEGYVEREKHEZ robbanólövedékkel	1.1F 1.1E 1.2F 1.2E 1.4F 1.4E	0005 0006 0007 0321 0348 0412		930630 930621



Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
TÖLTÉNYEK KÉZIFEGYVEREKHEZ	1.4S 1.4C	0012 0339		930630 930621
TÖLTÉNYHÜVELYEK, ÉGHETŐK, GYUTACS NÉLKÜL, ÜRES	1.4C 1.3C	0446 0447		930690
TÖLTÉNYHÜVELYEK GYUTACCSAL, ÜRES	1.4S 1.4C	0055 0379		930690
TÖLTETEK detonátor nélkül, FORMÁZOTT	1.1D	0059		930690
TÖLTETEK, FORMÁZOTT: lásd FORMÁZOTT TÖLTETEK				
Tremolit: lásd FEHÉR AZBESZT				
TRIALIL-AMIN	3	2610		292119
TRIALIL-BORÁT	6.1	2609		292090
TRIAZIN PESZTICID, FOLYÉKONY, GYÚLÉKONY, MÉRGEZŐ (lobbanáspont 23 °C alatt)	3	2764		3808++
TRIAZIN PESZTICID, FOLYÉKONY, MÉRGEZŐ	6.1	2998		3808++
TRIAZIN PESZTICID, FOLYÉKONY, MÉRGEZŐ, GYÚLÉKONY (lobbanáspont legalább 23 °C)	6.1	2997		3808++
TRIAZIN PESZTICID, SZILÁRD, MÉRGEZŐ	6.1	2763		3808++
TRIBUTIL-AMIN	6.1	2542		292119
TRIBUTIL-FOSZFÁN	4.2	3254		293100
TRIETIL-AMIN	3	1296		292119
TRIETIL-BORÁT	3	1176		292090
TRIETIL-FOSZFIT	3	2323		292090
TRIETILÉN-TETRAMIN	8	2259		292129
TRIFLUOR-ACETIL-KLORID	2	3057		291590
TRIFLUOR-ECETSAV	8	2699		291590
1,1,1-TRIFLUOR-ETÁN (R 143a HŰTŐGÁZ)	2	2035		290339
TRIFLUOR-KLÓR-ETILÉN, STABILIZÁLT	2	1082		290345
TRIFLUOR-METÁN (R 23 HŰTŐGÁZ)	2	1984		290339
TRIFLUOR-METÁN, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT	2	3136		290339
2-TRIFLUOR-METIL-ANILIN	6.1	2942		292143
3-TRIFLUOR-METIL-ANILIN	6.1	2948		292143
TRIIZOBUTILÉN	3	2324		290129
TRIIZOPROPIL-BORÁT	3	2616		292090
TRIKLÓR-ACETIL-KLORID	8	2442		291590
TRIKLÓR-BENZOLOK, FOLYÉKONY	6.1	2321		290369
TRIKLÓR-BUTÉN	6.1	2322		290329
TRIKLÓR-ECETSAV	8	1839		291540
TRIKLÓR-ECETSAV OLDAT	8	2564		291540
1,1,1-TRIKLÓR-ETÁN	6.1	2831		290319
TRIKLÓR-ETILÉN	6.1	1710		290322
TRIKLÓR-IZOCIANURSAV, SZÁRAZ	5.1	2468		293369
(Triklór-metil)-benzol: lásd BENZO-TRIKLORID				
TRIKLÓR-SZILÁN	4.3	1295		281290
TRIKREZIL-FOSZFÁT 3%-nál több ortoizomer-tartalommal	6.1	2574		291990
TRIMETIL-ACETIL-KLORID	6.1	2438		291590
TRIMETIL-AMIN VIZES OLDAT legfeljebb 50 tömeg% trimetil-amin tartalommal	3	1297		292111
TRIMETIL-AMIN, VÍZMENTES	2	1083		292111
1,3,5-TRIMETIL-BENZOL	3	2325		290290
TRIMETIL-BORÁT	3	2416		292090
TRIMETIL-CIKLOHEXIL-AMIN	8	2326		292130
TRIMETIL-FOSZFIT	3	2329		292090
TRIMETIL-HEXAMETILÉN-DIAMINOK	8	2327		292129
TRIMETIL-HEXAMETILÉN-DIIZOCIANÁT	6.1	2328		292910
TRIMETIL-KLÓR-SZILÁN	3	1298		293100
TRINITRO-ANILIN (PIKRAMID)	1.1D	0153		292142
TRINITRO-ANIZOL	1.1D	0213		290930
TRINITRO-BENZOESAV, legalább 10 tömeg% vízzel NEDVESÍTETT	4.1	3368		291639
TRINITRO-BENZOÉSAV, legalább 30 tömeg% vízzel NEDVESÍTETT	4.1	1355		291639
TRINITRO-BENZOESAV, száraz vagy 30 tömeg%-nál kevesebb vízzel nedvesített	1.1D	0215		291639
TRINITRO-BENZOL, legalább 10 tömeg% vízzel NEDVESÍTETT	4.1	3367		290420

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
TRINITRO-BENZOL, legalább 30 tömeg% vízzel NEDVESÍTETT	4.1	1354		290420
TRINITRO-BENZOL, száraz vagy 30 tömeg%-nál kevesebb vízzel nedvesített	1.1D	0214		290420
TRINITRO-BENZOL-SZULFONSAV	1.1D	0386		290490
TRINITRO-FENETOL	1.1D	0218		290899
TRINITRO-FENIL-METIL-NITRAMIN (TETRIL)	1.1D	0208		292149
TRINITRO-FENOL (PIKRINSAV), legalább 10 tömeg% vízzel NEDVESÍTETT	4.1	3364		290899
TRINITRO-FENOL (PIKRINSAV), száraz vagy 30 tömeg%-nál kevesebb vízzel nedvesített	1.1D	0154		290899
TRINITRO-FENOL (PIKRINSAV), legalább 30 tömeg% vízzel NEDVESÍTETT	4.1	1344		290899
TRINITRO-FLUORENON	1.1D	0387		291470
TRINITRO-KLÓR-BENZOL (PIKRIL-KLORID)	1.1D	0155		290490
TRINITRO-KLÓR-BENZOL (PIKRIL-KLORID), legalább 10 tömeg% vízzel NEDVESÍTETT	4.1	3365		290490
TRINITRO-m-KREZOL	1.1D	0216		290899
TRINITRO-NAFTALIN	1.1D	0217		290420
TRINITRO-REZORCIN (SZTIFNINSAV), legalább 20 tömeg% vízzel vagy alkohol és víz keverékével NEDVESÍTETT	1.1D	0394		290899
TRINITRO-REZORCIN (SZTIFNINSAV), száraz vagy 20 tömeg%-nál kevesebb vízzel vagy alkohol és víz keverékével nedvesített	1.1D	0219		290899
TRINITRO-TOLUOL (TNT) ÉS HEXANITRO-SZTILBÉN KEVERÉKE	1.1D	0388		290420
TRINITRO-TOLUOL (TNT) ÉS TRINITRO-BENZOL KEVERÉKE	1.1D	0388		290420
TRINITRO-TOLUOL (TNT) KEVERÉK TRINITRO-BENZOL ÉS HEXANITRO-SZTILBÉN TARTALOMMAL	1.1D	0389		290420
TRINITRO-TOLUOL (TROTIL, TNT), legalább 30 tömeg% vízzel NEDVESÍTETT	4.1	1356		290420
TRINITRO-TOLUOL (TROTIL, TNT), legalább 10 tömeg% vízzel NEDVESÍTETT	4.1	3366		290420
TRINITRO-TOLUOL (TROTIL, TNT), száraz vagy 30 tömeg%-nál kevesebb vízzel nedvesített	1.1D	0209		290420
TRIPROPIL-AMIN	3	2260		292119
TRIPROPILÉN (PROPILEN-TRIMER)	3	2057		290129
TRISZ-(1-AZIRIDINIL)-FOSZFIN-OXID OLDAT	6.1	2501		293399
TRITONAL	1	0390		360200
TROTIL, legalább 10 tömeg% vízzel nedvesített	4.1	3366		290420
TROTIL, legalább 30 tömeg% vízzel NEDVESÍTETT	4.1	1356		290420
TROTIL, száraz vagy 30 tömeg%-nál kevesebb vízzel nedvesített	1.1D	0209		290420
TŰZELŐANYAG REPÜLŐGÉP TURBINAMOTORHOZ	3	1863		+++++
TŰZIJÁTÉK TESZTEK	1.1G 1.2G 1.3G 1.4G 1.4S	0333 0334 0335 0336 0337	lásd a 2.2.1.1.7 pontot	360410
TŰZOLTÓKÉSZÜLÉK TÖLTETEK maró folyékony anyag tartalommal	8	1774		381300
TŰZOLTÓKÉSZÜLÉKEK sűrített vagy cseppfolyósított gázzal	2	1044		842410
UNDEKÁN	3	2330		290110
Urán-hexafluorid: lásd RADIOAKTÍV ANYAG, URÁN-HEXAFLUORID vagy RADIOAKTÍV ANYAG, HASADÓ URÁN-HEXAFLUORID				
ÜRES TÖLTÉNYHÜVELYEK, ÉGHETŐK, GYUTACS NÉLKÜL	1.4C 1.3C	0446 0447		930690
ÜRES TÖLTÉNYHÜVELYEK GYUTACCSAL	1.4S 1.4C	0055 0379		930690
ÜZEMANYAGCELLA KAZETTA gyúlékony, cseppfolyósított gáz tartalommal	2	3478		8473++
ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN gyúlékony, cseppfolyósított gáz tartalommal	2	3478		847+++
ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBE-CSOMAGOLVA, gyúlékony,cseppfolyósított gáz tartalommal	2	3478		847+++

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
ÜZEMANYAGCELLA KAZETTA fémhidridben levő hidrogén-tartalommal	2	3479		847+++
ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN fémhidridben levő hidrogén-tartalommal				
ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBE- CSOMAGOLVA, fémhidridben levő hidrogén-tartalommal				
ÜZEMANYAGCELLA KAZETTA gyúlékony folyadék tartalommal	3	3473		8473++
ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN gyúlékony folyadék tartalommal	3	3473		847+++
ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBE- CSOMAGOLVA gyúlékony folyadék tartalommal				
ÜZEMANYAGCELLA KAZETTA maró anyag tartalommal	8	3477		847+++
ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN maró anyag tartalommal				
ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBE- CSOMAGOLVA, maró anyag tartalommal				
ÜZEMANYAGCELLA KAZETTA vízzel reaktív anyag tartalommal	4.3	3476		847+++
ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKBEN vízzel reaktív anyag tartalommal				
ÜZEMANYAGCELLA KAZETTA KÉSZÜLÉKKEL EGYBE- CSOMAGOLVA, vízzel reaktív anyag tartalommal				
VAJSÁV	8	2820		291560
VAJSÁVANHIDRID	8	2739		291590
VAKTÖLTÉNYEK FEGYVEREKHEZ	1.4S 1.1C 1.3C 1.4C 1.2C	0014 0326 0327 0338 0413		930630 930621
VAKTÖLTÉNYEK KÉZIFEGYVEREHEZ	1.4S 1.3C 1.4C	0014 0327 0338		930630 930621
VALERALDEHID	3	2058		291219
VALERIL-KLORID	8	2502		291590
VANADIL-SZULFÁT	6.1	2931		283329
VANÁDIUM-OXI-TRIKLORID	8	2443		282749
VANÁDIUM-PENTOXID nem olvasztott formában	6.1	2862		282530
VANÁDIUM-TETRAKLORID	8	2444		282739
VANÁDIUM-TRIKLORID	8	2475		282739
VANÁDIUMVEGYÜLET, M.N.N.	6.1	3285		+++++
VÁROSI GÁZ, SŰRÍTETT	2	1023		270500
VAS(II)-ARZENÁT	6.1	1608		284290
VAS(III)-ARZENÁT	6.1	1606		284290
VAS(III)-ARZENIT	6.1	1607		284290
VAS(III)-KLORID OLDAT	8	2582		282739
VAS(III)-KLORID, VÍZMENTES	8	1773		282739
VAS(III)-NITRÁT	5.1	1466		283429
VAS-OXID, KIMERÜLT, a generátorgáz tisztításából	4.2	1376		282110
VAS-PENTAKARBONIL	6.1	1994		293100
VASSZIVACS, KIMERÜLT, a generátorgáz tisztításából	4.2	1376		282110
VASTARTALMÚ FORGÁCS DARABOLÁSBÓL önmelegedésre hajlamos formában	4.2	2793		720441
VASTARTALMÚ FORGÁCS ESZTERGÁLÁSBÓL, önmelegedésre hajlamos formában	4.2	2793		720441
VASTARTALMÚ FORGÁCS FÚRÁSBÓL, önmelegedésre hajlamos formában	4.2	2793		720441
VASTARTALMÚ FORGÁCS KÖSZÖRÜLÉSBÓL, önmelegedésre hajlamos formában	4.2	2793		720441

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
DURRANTYÚK	1.1G 1.4S 1.3G 1.4G	0192 0193 0492 0493		360490
VEGYIANYAG MINTA, MÉRGEZŐ	6.1	3315		++++++
VESTA-VIASZ GYUFA	4.1	1945		360500
VESZÉLYES ÁRU BERENDEZÉSBEN	9	3363	Nem tartozik a RID hatálya alá [lásd még az 1.1.3.1 b) pontot]	8+++++
VESZÉLYES ÁRU KÉSZÜLÉKBEN	9	3363	Nem tartozik a RID hatálya alá [lásd még az 1.1.3.1 b) pontot]	8+++++
VÉSZJELZŐK, tengeri	1.1G 1.3G 1.4G 1.4S	0194 0195 0505 0506		360490
VIHARGYUFA	4.1	2254		360500
VILÁGÍTÓTESTEK, FÖLDI	1.3G 1.1G 1.2G	0092 0418 0419		360490
VILÁGÍTÓTESTEK, LÉGI	1.3G 1.4G 1.4S 1.1G 1.2G	0093 0403 0404 0420 0421		360490
VILLAMOS GYUTACSOK robbantáshoz	1.1B 1.4B 1.4S	0030 0255 0456		360300
VILLANÓFÉNY-PATRONOK	1.1G 1.3G	0049 0050		360490
VILLANÓFÉNYPOR	1.1G 1.3G	0094 0305		360490
VINIL-ACETÁT, STABILIZÁLT	3	1301		291532
VINIL-BROMID, STABILIZÁLT	2	1085		290339
VINIL-BUTIRÁT, STABILIZÁLT	3	2838		291560
VINIL-FLUORID, STABILIZÁLT	2	1860		290339
VINILIDÉN-KLORID, STABILIZÁLT	3	1303		290329
VINIL-KLÓR-ACETÁT	6.1	2589		291540
VINIL-KLORID, STABILIZÁLT	2	1086		290321
VINIL-METIL-ÉTER, STABILIZÁLT	2	1087		290919
VINIL-PIRIDINEK, STABILIZÁLT	6.1	3073		293339
VINIL-TOLUOLOK, STABILIZÁLT	3	2618		290290
VINIL-TRIKLÓR-SZILÁN, STABILIZÁLT	3	1305		293100
VÍZIBOMBÁK	1.1D	0056		930690
VÍZZEL AKTÍVÁLHATÓ SZERKEZETEK robbanó-, kidobó- vagy hajtótöltettel	1.2L 1.3L	0248 0249		930690
VÍZZEL REAKTÍV FÉMES ANYAG, M.N.N.	4.3	3208		++++++
VÍZZEL REAKTÍV FOLYÉKONY ANYAG, M.N.N.	4.3	3148		++++++
VÍZZEL REAKTÍV, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N.	5.1	3121	A fuvarozásból ki van zárva	
VÍZZEL REAKTÍV, GYÚJTÓ HATÁSÚ SZILÁRD ANYAG, M.N.N.	4.3	3133	A fuvarozásból ki van zárva	
VÍZZEL REAKTÍV, GYÚLÉKONY SZILÁRD ANYAG, M.N.N.	4.3	3132		++++++
VÍZZEL REAKTÍV, MARÓ, FOLYÉKONY ANYAG, M.N.N.	4.3 8	3129 3094		++++++
VÍZZEL REAKTÍV, MARÓ SZILÁRD ANYAG, M.N.N.	4.3 8	3131 3096		++++++
VÍZZEL REAKTÍV, MÉRGEZŐ FOLYÉKONY ANYAG, M.N.N.	4.3 6.1	3130 3123		++++++
VÍZZEL REAKTÍV, MÉRGEZŐ SZILÁRD ANYAG, M.N.N.	6.1 4.3	3125 3134		++++++

Megnevezés	Osztály	UN szám	Megjegyzés	NHM kód
VÍZZEL REAKTÍV, ÖNMELEGEDŐ FÉMES ANYAG, M.N.N.	4.3	3209		++++++
VÍZZEL REAKTÍV, ÖNMELEGEDŐ SZILÁRD ANYAG, M.N.N.	4.3	3135		++++++
VÍZZEL REAKTÍV SZILÁRD ANYAG, M.N.N.	4.3	2813		++++++
VIZSGÁLÓKÉSZLET	9	3316		382200
VOLFRAM-HEXAFLUORID	2	2196		282619
VÖRÖSEN FÜSTÖLGŐ SALÉTROMSAV	8	2032		280800
Vörösfoszfor: lásd AMORF FOSZFOR				
White spirit: lásd TERPENTINPÓTLÓ				
XANTÁTOK	4.2	3342		293090
XENON	2	2036		280429
XENON, MÉLYHÚTOTT, CSEPPFOLYÓSÍTOTT	2	2591		280429
XILENOLOK, FOLYÉKONY	6.1	3430		290719
XILENOLOK, SZILÁRD	6.1	2261		290719
XILIDINEK, FOLYÉKONY	6.1	1711		292149
XILIDINEK, SZILÁRD	6.1	3452		292149
XILIL-BROMID, FOLYÉKONY	6.1	1701		290369
XILIL-BROMID, SZILÁRD	6.1	3417		290369
XIOLMÓSZUSZ	4.1	2956		290420
XILOLOK	3	1307		29024+ 270730
Zománcok: lásd FESTÉK				

### 3.3 fejezet

#### Egyes anyagokra vagy tárgyra vonatkozó különleges előírások

##### 3.3.1

Amennyiben a 3.2 fejezet „A” táblázatának 6 oszlopában egy anyagra vagy tárgyra különleges előírás vonatkozik, ezen különleges előírás jelentése és követelményei a következők:

- 16 Az új vagy régebben létező robbanóanyagok vagy robbanótárgyak mintái – az illetékes hatóságok által előírt módon (lásd a 2.2.1.1.3 pontot) – vizsgálati, besorolási, kutatási és fejlesztési vagy minőségellenőrzési célból, vagy mint kereskedelmi minták szállíthatók. A nem nedvesített vagy nem deszenzibilizált robbanóanyag minták mennyisége az illetékes hatóságok előírásai szerinti kis küldeménydarabokban 10 kg-ra van korlátozva. A nedvesített vagy deszenzibilizált robbanóanyag minták mennyisége 25 kg-ra van korlátozva.
- 23 Bár ez az anyag a gyúlékonyság veszélyével bír, ez csak zárt térben bekövetkező rendkívüli tűz esetén jelent tényleges veszélyt.
- 32 Ez az anyag semmilyen más formában nem tartozik a RID előírásainak hatálya alá.
- 37 Ez az anyag bevont formában nem tartozik a RID előírásainak hatálya alá.
- 38 Ez az anyag 0,1 tömeg%-nál nem több kalcium-karbid tartalommal nem tartozik a RID előírásainak hatálya alá.
- 39 Ez az anyag 30 tömeg% alatti vagy legalább 90 tömeg% szilícium tartalommal nem tartozik a RID előírásainak hatálya alá.
- 43 Ha peszticidként adják fel, akkor ezeket az anyagokat a megfelelő peszticid tétel alatt és a peszticidekre vonatkozó előírások (lásd a 2.2.61.1.10 – 2.2.61.1.11.2 pontot) szerint kell szállítani.
- 45 Azok az antimon-oxidok és antimon-szulfidok, amelyek arzéntartalma összes tömegükhöz viszonyítva a 0,5%-ot nem haladja meg, nem tartoznak a RID előírásainak hatálya alá.
- 47 A ferri-cianidok és ferro-cianidok nem tartoznak a RID előírásainak hatálya alá.
- 48 Ezt az anyagot tilos szállítani, ha 20%-nál több hidrogén-cianidot tartalmaz.
- 59 Ezek az anyagok nem tartoznak a RID előírásainak hatálya alá, ha legfeljebb 50% magnéziumot tartalmaznak.
- 60 Amennyiben a koncentráció meghaladja a 72%-ot, az anyag nem szállítható.
- 61 A műszaki névnek, aminek a helyes szállítási megnevezést kell kiegészítenie, az elfogadott ISO névnek, (lásd az ISO 1750:1981 „Peszticidek és más agrokémikáliák – szokásos elnevezések” c. szabványt módosított formában) vagy „A WHO ajánlása a peszticidek veszély szerinti osztályozására és az osztályozás irányelvei” („The WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification”) c. kiadványban felsorolt névnek, illetve a hatóanyag nevének kell

lennie (lásd a 3.1.2.8.1 és a 3.1.2.8.1.1 pontot is).

- 62** Ez az anyag nem tartozik a RID előírásainak hatálya alá, ha nem tartalmaz 4%-nál több nátrium-hidroxidot.
- 65** A hidrogén-peroxid vizes oldatok 8%-nál kisebb hidrogén-peroxid tartalommal nem tartoznak a RID előírásainak hatálya alá.
- 103** Az ammónium-nitritek, valamint a szervesetlen nitritek keverékei ammóniumsóval nem szállíthatók.
- 105** Az UN 2556 vagy UN 2557 leírásának megfelelő nitrocellulóz a 4.1 osztályba sorolható.
- 113** A vegyileg nem állandó keverékek nem szállíthatók.
- 119** Hűtőgépeknek számítanak azok a gépek vagy készülékek, amelyek belső tere élelmiszerek és egyéb cikkek alacsony hőmérsékleten való tartására szolgál, valamint a légkondicionáló berendezések. Nem tartoznak a RID előírásainak hatálya alá azok a hűtőgépek és hűtőgép részegységek, amelyek a 2 osztály 2.2.2.1.3 pont szerinti A vagy O csoportjába tartozó gázból 12 kg-nál kevesebbet, illetve 12 l-nél kevesebb ammóniaoldatot (UN 2672) tartalmaznak.
- 122** A járulékos veszélyeket és az UN számot (generikus tételt) a jelenleg besorolt szerves peroxid készítményekhez a 2.2.52.4 bekezdés tartalmazza.
- 127** Egyéb inert anyag vagy inert anyag keverék használható, amennyiben ez az inert anyag azonos flegmatizáló tulajdonságokkal rendelkezik.
- 131** A flegmatizált anyagnak lényegesen érzéketlenebbnek kell lennie, mint a száraz PETN.
- 135** A diklór-izocianursav dihidratált nátrium-sója nem tartozik a RID előírásainak hatálya alá.
- 138** A p-bróm-benzil-cianid nem tartozik a RID előírásainak hatálya alá.
- 141** Azok az anyagok, amelyeket megfelelő hőkezelésnek vetettek alá, és ezáltal nem jelentenek veszélyt a szállítás alatt, nem tartoznak a RID előírásainak hatálya alá.
- 142** A legfeljebb 1,5% olaj-, és legfeljebb 11% nedvességtartalmú, oldószerrel extrahált szójaliszt, amely gyakorlatilag nem tartalmaz gyúlékony oldószert, nem tartozik a RID előírásainak hatálya alá.
- 144** A legfeljebb 24 tf.% alkoholt tartalmazó vizes oldat nem tartozik a RID előírásainak hatálya alá.
- 145** A III csomagolási csoportba tartozó alkoholos italok legfeljebb 250 liter űrtartalmú tartályokban szállítva nem tartoznak a RID előírásainak hatálya alá.
- 152** Ezen anyag besorolása a szemcsemérettől és a csomagolástól függően változik, de a határokat kísérletileg még nem állapították meg. A megfelelő besorolást a 2.2.1 szakasz előírásai szerint kell elvégezni.



- 153** Ezt a tételt csak akkor lehet alkalmazni, ha a vizsgálatok alapján bizonyított, hogy az anyagok vízzel érintkezve nem gyúlékonyak, nem mutatnak öngyulladás hajlamot és a fejlődött gázok keveréke sem gyúlékony.
- 162** (törölve)
- 163** A 3.2 fejezet „A” táblázatában név szerint említett anyag ilyen tételként nem szállítható. Az ilyen tételként szállított anyagok legfeljebb 20% olyan nitrocellulózt tartalmazhatnak, amely legfeljebb 12,6% nitrogént tartalmaz (száraz tömegre vetítve).
- 168** Azok az azbesztek, amelyek természetes vagy mesterséges kötőanyagba (pl. cement, műanyagok, aszfalt, gyanták vagy ásványérc) oly módon vannak beágyazva vagy azon rögzítve, hogy abból belélegezhető azbeszt szálak a szállítás során veszélyes mennyiségben nem szabadulhatnak ki, nem tartoznak a RID előírásainak hatálya alá. Azok az azbesztet tartalmazó gyártmányok, amelyek ezt a feltételt nem elégték ki, de úgy vannak csomagolva, hogy belélegezhető azbeszt szálak a szállítás során veszélyes mennyiségben nem szabadulhatnak ki, nem tartoznak a RID előírásainak hatálya alá.
- 169** A ftálsavanhidrid szilárd állapotban és a tetrahidro-ftálsavanhidridek legfeljebb 0,05% maleinsavanhidriddel nem tartozik a RID előírásainak hatálya alá. A legfeljebb 0,05% maleinsavanhidridet tartalmazó, olvasztott ftálsavanhidridet lobbanáspontján vagy annál magasabb hőmérsékleten az UN 3256 alá kell besorolni.
- 172** A járulékos veszéllyel rendelkező radioaktív anyagok esetén:
- a) a küldeménydarabokat el kell látni az anyagra jellemző minden járulékos veszélynek megfelelő veszélyességi bárcával; a kocsikon és a nagykonténereken pedig az ezeknek megfelelő nagybárcákat kell az 5.3.1 szakasz vonatkozó előírásai szerint elhelyezni;
  - b) amennyiben szükséges, a radioaktív anyagot az I, a II vagy a III csomagolási csoporthoz a 2. részben a döntő járulékos veszélyre előírt csoportba sorolási kritériumok szerint kell hozzárendelni.
- Az 5.4.1.2.5.1 b) pontban előírt leírásnak tartalmaznia kell a járulékos veszély leírását (pl. „Járlékos veszély: 3, 6.1”), azon összetevők megnevezését, amelyek ezen veszély(ek)e túlnyomórészt okozzák, és amennyiben van, a csomagolási csoportot is.
- 177** A bárium-szulfát nem tartozik a RID előírásainak hatálya alá.
- 178** Ezt a megnevezést csak a származási ország illetékes hatóságának engedélyével (lásd a 2.2.1.1.3 pontot) lehet használni, és csak akkor, ha egyéb alkalmas megnevezés nincs a 3.2 fejezet „A” táblázatában.
- 181** Az ilyen típusú anyagot tartalmazó küldeménydarabokat kiegészítésképpen el kell látni 1 számú veszélyességi bárcával (lásd az 5.2.2.2.2 pontot), kivéve, ha a származási ország illetékes hatósága engedélyezte ezen bárca elhagyását kifejezetten az alkalmazott csomagolásra, mivel a vizsgálatok eredményei bizonyították, hogy az anyag ebben a csomagolásban nem robbanásveszélyes (lásd az 5.2.2.1.9 pontot).
- 182** Az alkálifémek csoportját a lítium, a nátrium, a kálium, a rubídium és a cézium alkotja.



- 183** Az alkáliföldfémek csoportját a magnézium, a kalcium, a stroncium és a bárium alkotja.
- 186** Az ammónium-nitrát tartalom meghatározása során mindazon nitrát-ion mennyiséget, amellyel egyenértékű tömegű ammónium-ion van jelen a keverékben, ammónium-nitrátként kell számításba venni.
- 188** Nem tartoznak a RID előírásainak hatálya alá azok a cellák és akkumulátorok, amelyek megfelelnek a következő előírásoknak:
- a) egy fémlítium- vagy lítiumötvözet-cella legfeljebb 1 g lítiumot tartalmaz, illetve lítiumion cella esetén a névleges kapacitás legfeljebb 20 Wh;
  - b) egy fémlítium- vagy lítiumötvözet-akkumulátor összesen legfeljebb 2 g lítiumot tartalmaz, illetve lítiumion akkumulátor esetén a névleges kapacitás legfeljebb 100 Wh. Az ezen követelménynek megfelelő lítiumion akkumulátornak a külső házán fel kell tüntetni a névleges kapacitást (Wh-ban), kivéve a 2009. január 1-je előtt gyártott akkumulátorokat, amelyek ezen különleges előírás szerint 2010. december 31-ig szállíthatók anélkül, hogy a jelölés rajtuk lenne;
  - c) minden cella, ill. akkumulátor olyan típusú, amelyről bizonyított, hogy a „Vizsgálatok és kritériumok kézikönyv” III. rész 38.3 pontjának minden vizsgálati követelményének megfelel;
  - d) a cellákat, ill. akkumulátorokat, kivéve, ha készülékben vannak, a cellát, ill. akkumulátort teljesen magába foglaló belső csomagolásba kell helyezni. A cellákat, ill. akkumulátorokat a rövidzárlat ellen védeni kell. A védelemnek ki kell terjednie az ugyanabban a csomagolásban lévő vezetőképes anyaggal való érintkezésre is, mivel az is rövidzárlatot okozhat. A belső csomagolást a 4.1.1.1, a 4.1.1.2 és a 4.1.1.5 bekezdés előírásainak megfelelő, erős külső csomagolásba kell helyezni;
  - e) a készülékben lévő cellákat, ill. akkumulátorokat sérülés és rövidzárlat ellen védeni kell, és a készüléket olyan hatékony eszközzel kell ellátni, amely megakadályozza, hogy véletlenszerűen működésbe lépjen. Készülékben lévő akkumulátorok esetén a készüléket olyan erős külső csomagolóeszközbe kell csomagolni, amely a csomagolóeszköz ürtartalmának és rendeltetésének megfelelő szilárdságú, alkalmas anyagból és kialakítással készült, kivéve ha a készülék maga ugyanilyen védelmet nyújt a benne lévő akkumulátornak.
  - f) az olyan küldeménydarabot, amely négynél több, készülékben lévő cellát, vagy kettőnél több készülékben lévő akkumulátort tartalmaz, a következőképpen kell megjelölni:
    - i) fel kell rajta tüntetni, hogy „fémlítium”, ill. „lítiumion” cellát, ill. akkumulátort tartalmaz;
    - ii) fel kell rajta tüntetni, hogy a küldeménydarabot óvatosan kell kezelni és a küldeménydarab sérülése tűzveszélyt okoz;
    - iii) fel kell rajta tüntetni, hogy a küldeménydarab sérülése esetén különleges eljárásra (ellenőrzésre, átcsomagolásra) van szükség;
    - iv) fel kell rajta tüntetni a további információért hívható telefonszámot;
  - g) az f) pont szerinti jelöléssel ellátott küldeménydarabo(ka)t tartalmazó küldeményhez olyan okmányt kell mellékelni, amely a következőket

tartalmazza

- i) utalást arra, hogy a küldeménydarab „fémlítium”, ill. „lítiumion” cellát, ill. akkumulátort tartalmaz;
  - ii) utalást arra, hogy a küldeménydarabo(ka)t óvatosan kell kezelni és a küldeménydarab(ok) sérülése tűzveszélyt okoz;
  - iii) utalást arra, hogy a küldeménydarab sérülése esetén különleges eljárásra (ellenőrzésre, átcsomagolásra) van szükség;
  - iv) a további információért hívható telefonszámot;
- h) a készülékben lévő akkumulátorokat tartalmazók kivételével minden küldeménydarabnak alkalmasnak kell lennie, hogy elviselje az 1,2 m-ről bármilyen helyzetben végrehajtott ejtési próbát anélkül, hogy a benne levő cellák vagy akkumulátorok megsérülne, a tartalom olyan mértékben elmozdulna, ami az akkumulátorok (vagy a cellák) érintkezését eredményezi, ill. a tartalom kiszabadulna; és
- i) egy küldeménydarab bruttó tömege legfeljebb 30 kg lehet, kivéve, ha készülékben lévő vagy készülékkel egybe csomagolt akkumulátorokat tartalmaz.

Az előzőekben, illetve bárhol a RID-ben szereplő „lítiumtartalom” egy fémlítium vagy lítiumötvözet cella anódjában levő lítium tömegét jelenti.

A fémlítium és a lítiumion akkumulátorokra külön tételek vannak, hogy különböző módon lehessen szállítani, ill. eltérő vészhelyzeti eljárásokat lehessen alkalmazni.

- 190** Az aeroszol csomagolásokat az akaratlan működtetés ellen védelemmel kell ellátni. A legfeljebb 50 ml űrtartalmú aeroszokok, amelyek csak nem mérgező alkotórészeket tartalmaznak, nem tartoznak a RID előírásainak hatálya alá.
- 191** A legfeljebb 50 ml űrtartalmú, kisméretű tartályok, amelyek csak nem mérgező alkotórészeket tartalmaznak, nem tartoznak a RID előírásainak hatálya alá.
- 194** Az UN számok (generikus tételek) a jelenleg besorolt önreaktív anyagokhoz a 2.2.41.4 bekezdésben találhatók.
- 196** Azok a készítmények szállíthatók e tételként, amelyek a laboratóriumi vizsgálat során nem detonálnak kavitált állapotban, nem deflagálnak, nem mutatnak semmiféle hatást zárt térben hevítve és nincs robbanóerejük. A készítménynek termikusan stabilnak kell lennie (öngyorsuló bomlási hőmérséklet 50 kg-os küldeménydarabban 60 °C vagy annál magasabb). Az e kritériumokat nem teljesítő készítményeket az 5.2 osztály előírásai szerint kell szállítani (lásd a 2.2.52.4 bekezdést).
- 198** A legfeljebb 20% nitrocellulóz tartalmú nitrocellulóz oldatok festékként vagy nyomdafestékként szállíthatók (lásd UN 1210, UN 1263, UN 3066, UN 3469 és UN 3470).
- 199** Azok az ólomvegyületek, amelyek 0,07M sósavoldattal 1:1000 arányban vegyítve, 23°C ± 2 °C-on történő, egy órán keresztül tartó keveréssel legfeljebb 5%-ban oldhatók (lásd az ISO 3711:1990 „Ólom-kromát pigmentek és ólom-kromát/ólom-molibdát pigmentek – Meghatározások és vizsgálati módszerek” c. szabványt), oldhatatlannak tekinthetők és nem tartoznak a RID előírásainak hatálya alá, kivéve,

ha valamely más osztály besorolási kritériumainak megfelelnek.

- 201** Az öngyújtóknak és öngyújtó utántöltőknek meg kell felelniük azon ország előírásainak, ahol megtöltötték. A véletlen működésbe lépés ellen védeni kell. A gáz folyadékfázisa 15 °C-on nem haladhatja meg a tartály űrtartalmának 85%-át. A tartályoknak, beleértve a zárószerveket, el kell viselniük a cseppfolyósított szénhidrogén-gáz által 55 °C-on kifejtett nyomás kétszeresével egyenlő belső nyomást. A szelepeket és a gyújtószerveket reteszeléssel, tapadószalagos lezárással vagy más alkalmas módon rögzíteni kell, vagy eleve úgy kell kialakítani, hogy a szállítás alatt ne léphessen működésbe, ill. a tartalom ne szabadulhasson ki. Az öngyújtók nem tartalmazhatnak 10 g-nál több cseppfolyósított szénhidrogén-gázt. Az öngyújtó utántöltők nem tartalmazhatnak 65 g-nál több cseppfolyósított szénhidrogén-gázt.

***Megjegyzés:** Az elkülönítve összegyűjtött hulladék öngyújtókra lásd a 3.3 fejezet 654 különleges előírását.*

- 203** Ez a tétel nem használható az UN 2315 folyékony, poliklórozott bifenilekhez és az UN 3432 szilárd, poliklórozott bifenilekhez.
- 204** (törölve)
- 205** Ez a tétel nem használható az UN 3155 pentaklór-fenolhoz.
- 207** A polimer gyöngyök és sajtolóanyagok lehetnek polisztirolból, poli(metil-metakrilát)-ból vagy más polimerből.
- 208** A kalcium-nitrát műtrágyák kereskedelmi formái, amelyek főleg kettős sóból (kalcium-nitrátból és ammónium-nitrátból) állnak és nem tartalmaznak 10%-nál több ammónium-nitrátot, de legalább 12% kristályvíz tartalmúak, nem tartoznak a RID előírásainak hatálya alá.
- 210** A fertőző anyagokat tartalmazó növényi, állati vagy baktérium forrásokból származó toxinokat és a fertőző anyagokban levő toxinokat a 6.2 osztályba kell besorolni.
- 215** Ez a tétel csak az olyan, technikailag tiszta anyagra, illetve belőle készült formulázásokra vonatkozik, amelyek ÖBH-ja (öngyorsuló bomlási hőmérséklete) meghaladja a 75 °C-ot. Nem vonatkozik tehát olyan formulázásokra, amelyek önreaktív anyagok. (Az önreaktív anyagokra lásd a 2.2.41.4 bekezdést.)

A legfeljebb 35 tömeg% azo-dikarbonamidot és legalább 65 tömeg% inert anyagot tartalmazó homogén keverékek nem tartoznak a RID előírásainak hatálya alá, kivéve, ha más osztály kritériumait is kielégítik.

- 216** A RID előírásainak hatálya alá nem tartozó szilárd anyagok és gyúlékony folyadékok keverékei e tétel alatt szállíthatók anélkül, hogy előzetesen a 4.1 osztály besorolási kritériumait alkalmaznák, amennyiben az anyag berakodása során, illetve a csomagolóeszköz, a kocsi vagy a konténer lezárásakor szabad folyadék szemmel nem látható. Nem tartoznak a RID hatálya alá azok a légmentesen zárt csomagolások, ill. tárgyak, amelyek a II vagy a III csomagolási csoportba tartozó gyúlékony folyadékot tartalmaznak szilárd anyagban abszorbeálva, 10 ml-nél kisebb mennyiségben, ha a csomagolásban, ill. a tárgyban nincs szabad folyadéktartalom.
- 217** A RID előírásainak hatálya alá nem tartozó szilárd anyagok és mérgező folyadékok keverékei e tétel alatt szállíthatók anélkül, hogy előzetesen a 6.1 osztály besorolási

kritériumait alkalmazzák, amennyiben az anyag berakodása során, illetve a csomagolóeszköz, a kocsi vagy a konténer lezárásakor szabad folyadék szemmel nem látható. Ez a tétel nem használható az I csomagolási csoportba tartozó folyadékot tartalmazó szilárd anyagokhoz.

- 218** A RID előírásainak hatálya alá nem tartozó szilárd anyagok és maró folyadékok keverékei e tétel alatt szállíthatók anélkül, hogy előzetesen a 8 osztály besorolási kritériumait alkalmazzák, amennyiben az anyag berakodása során, illetve a csomagolóeszköz, a kocsi vagy a konténer lezárásakor szabad folyadék szemmel nem látható.
- 219** Azokat a géntechnológiával módosított mikroorganizmusokat és géntechnológiával módosított élő szervezeteket, amelyek a 2.2.62 szakasz szerint kielégítik a fertőző anyag meghatározását és a 6.2 osztályba sorolás feltételeit, az esettől függően az UN 2814, az UN 2900, ill. az UN 3373 tételként kell szállítani.
- 220** Csak az oldat vagy keverék gyúlékony folyadék összetevőjének műszaki nevét kell a helyes szállítási megnevezés után zárójelben feltüntetni.
- 221** Az I csomagolási csoportba tartozó anyagokat nem lehet ebbe a tételbe felvenni.
- 224** Hacsak vizsgálatokkal nem lehet bizonyítani, hogy az érzékenység fagyasztott állapotban nem nagyobb, mint folyékony állapotban, a hajtóanyagoknak normális szállítási feltételek között folyékony állapotban kell maradnia, és  $-15\text{ }^{\circ}\text{C}$  feletti hőmérsékleten nem szabad megfagynia.
- 225** Az e tétel alá sorolt tűzoltókészülékek tartalmazhatnak beépített működtető töltetet (az 1.4C vagy 1.4S osztályozási kód alá tartozó munkavégző töltetet), anélkül, hogy a 2 osztály 2.2.2.1.3 pont szerinti A vagy O csoportjába történő besorolás megváltozna, feltéve, hogy a deflagráló robbanóanyag (hajtóanyag) összes mennyisége nem haladja meg tűzoltókészülékenként a 3,2 g-ot.
- 226** Ennek az anyagnak azok a formulázásai, amelyek legalább 30% nem illékony, nem gyúlékony flegmatizálószer tartalmaznak, nem tartoznak a RID előírásainak hatálya alá.
- 227** Ha a flegmatizáláshoz vizet és szervesetlen, inert anyagot használnak, a karbamid-nitrát tartalom nem haladhatja meg a 75 tömeg%-ot, és a keverék a „Vizsgálatok és kritériumok kézikönyv” I. Rész szerinti 1 vizsgálati sorozat, a) próbája során nem lehet képes a detonálásra.
- 228** Azokat a keverékeket, amelyek a gyúlékony gázokra vonatkozó kritériumok (lásd a 2.2.2.1.5 pontot) szerint nem gyúlékonyak, az UN 3163 tételként kell szállítani.
- 230** Ez a tétel a lítiumot bármilyen formában (beleértve a lítium polimert is) tartalmazó cellákra és akkumulátorokra, valamint a lítium-ion cellákra és akkumulátorokra vonatkozik.

A lítium-cellák és -akkumulátorok e tétel alatt akkor szállíthatók, ha kielégítik a következő követelményeket:

- a) minden cella és akkumulátor olyan típusú, amelyről bizonyított, hogy a „Vizsgálatok és kritériumok kézikönyv” III. rész 38.3 pontjának minden vizsgálati követelményének megfelel;

- b) minden cellát és akkumulátort el kell látni biztonsági szellőző készülékkel, vagy olyan szerkezeti kialakításúnak kell lenniük, hogy normális szállítási körülmények között hirtelen felszakadásuk ne következhesen be;
- c) minden cellát és akkumulátort el kell látni hatékony szerkezettel a külső rövidzárlat megakadályozására;
- d) a több cellából álló vagy párhuzamos kapcsolású cellákat tartalmazó akkumulátorokat hatékony szerkezettel (pl. diódákkal, biztosítókkal stb.) kell ellátni a veszélyes visszáram kiküszöbölésére.

**235** Ez a tétel azokra a tárgyakra vonatkozik, amelyek az 1 osztályba tartozó robbanóanyagot tartalmaznak és emellett tartalmazhatnak egyéb osztályba tartozó veszélyes árut is, és amelyeket járművekben életmentő légszák gázgenerátorként, légszák modulként vagy biztonsági öv előfeszítőként használnak.

**236** A poliészter gyanta készlet két komponensből áll: az alapanyagból (3 osztály, II vagy III csomagolási csoport) és az aktiváló anyagból (szerves peroxidokból). A szerves peroxidnak D, E vagy F típusúnak kell lennie és nem igényelhet hőmérséklet-szabályozást. A csomagolási csoportnak a 3 osztály feltételei szerint az alapanyagra meghatározva II-nek vagy III-nak kell lennie. A 3.2 fejezet „A” táblázat 7a oszlopában látható mennyiségi határokat az alapanyagra kell alkalmazni.

**237** A membránszűrők, beleértve a szállításnál jelen lévő papír szeparátorokat, bevonó és hordozó anyagokat stb., nem lehetnek hajlamosak a detonáció továbbvitelére a „Vizsgálatok és kritériumok kézikönyv” I. Rész 1.a) vizsgálati sorozat szerinti bármely próba során.

Ezen kívül az illetékes hatóság megfelelő égési sebesség vizsgálatok eredményei alapján (figyelembe véve a „Vizsgálatok és kritériumok kézikönyv” III. Rész 33.2.1 bekezdésében található standard vizsgálatokat) meghatározhatja, hogy a nitrocellulóz membránszűrők abban a formában, ahogyan szállítják, nem tartoznak a 4.1 osztályba tartozó gyúlékony szilárd anyagokra vonatkozó előírások hatálya alá.

**238** a) Az akkumulátortelemek akkor tekinthetők kifolyásmentesnek, amennyiben képesek ellenállni a következők szerinti rezgés- és nyomáskülönbség-vizsgálatoknak az akkumulátorfolyadék kifolyása nélkül.

Rezgésvizsgálat: az akkumulátort mereven rögzíteni kell a rázóasztal lapjára és egyszerű harmonikus rezgőmozgásnak kell kitenni, amelynek amplitúdója 0,8 mm (1,6 mm maximális kitérés). A frekvenciát 1 Hz/min sebességgel kell változtatni 10 Hz és 55 Hz határok között. A teljes frekvenciamenetnek és a visszatérésnek 95 ± 5 perc alatt kell végbemennie minden egyes szerelési helyzetben (rezgési irány). Az akkumulátort három egymásra kölcsönösen merőleges helyzetben (beleértve a töltőnyílások és szellőzőnyílások, ha ilyenek vannak, fordított helyzetben történő vizsgálatát) azonos időtartamig kell vizsgálni.

Nyomáskülönbség vizsgálat: a rezgésvizsgálatot követően az akkumulátorokat 6 órán át 24 °C ± 4 °C-on kell tárolni, miközben legalább 88 kPa nyomáskülönbségnek kell kitenni. Az akkumulátorokat három egymásra kölcsönösen merőleges irányban (beleértve a töltőnyílások és szellőzőnyílások, ha ilyenek vannak, fordított helyzetben történő vizsgálatát) minden egyes helyzetben legalább 6 órán át kell vizsgálni.

- b) A kifolyásbiztos akkumulátortelepek nem tartoznak a RID előírásainak hatálya alá abban az esetben, ha 55 °C-on az elektrolit nem folyik ki a sérült vagy repedt akkumulátorból, és nincs szabad folyadék, ami kifolyhatna, illetve a szállításra kész csomagolásban a sorkapcsok a rövidzárlat ellen védve vannak.

**239** Az akkumulátorok vagy cellák nátriumon, kénen és/vagy poliszulfidokon kívül nem tartalmazhatnak más veszélyes anyagot. Az akkumulátorok vagy cellák olyan hőmérsékleten, amelynél a bennük levő elemi nátrium folyékonyvá válhat, csak a származási ország illetékes hatóságának jóváhagyásával és az általa meghatározott feltételek mellett adhatók fel szállításra. Ha a származási ország nem valamely COTIF Tagállam, akkor a küldemény által érintett első COTIF Tagállam illetékes hatóságának kell a jóváhagyást és a szállítási feltételeket elismernie.

A celláknak tömören zárt fémházakból kell állniuk, melyek a veszélyes anyagokat teljesen magukba zárják, és kialakításuk és zárásuk normális szállítási feltételek mellett megakadályozza ezen anyagok kiszabadulását.

Az akkumulátoroknak fémházba teljesen bezárt és rögzített cellákból kell állniuk, amelynél a ház kialakítása és zárása normális szállítási feltételek mellett megakadályozza a veszélyes anyagok kiszabadulását.

**241** A formulázást úgy kell készíteni, hogy a szállítás alatt homogén maradjon és ne váljon szét. Nem tartoznak a RID előírásainak hatálya alá alacsony nitrocellulóz tartalmú formulázások, amelyek a „Vizsgálatok és kritériumok kézikönyv” I. Rész 1.a), 2.b), illetve 2.c) vizsgálati sorozat szerint elvégzett, zárt térben való hevítés hatására történő detonálási, deflagrálsai vagy robbanási tulajdonságok vizsgálata során nem mutatnak semmiféle veszélyes tulajdonságot, és a „Vizsgálatok és kritériumok kézikönyv” III. Rész 33.2.1.4 bekezdése szerinti N.1 vizsgálatban nem viselkednek gyúlékony szilárd anyagként (ehhez a vizsgálathoz a lemezes anyagot szükség esetén meg kell őrölni és szitálni, hogy szemcsemérete 1,25 mm-nél kisebb legyen).

**242** A kén nem tartozik a RID előírásainak hatálya alá, ha különleges alakúra van formázva (pl. szemcsés, granulált, pellet, pasztilla vagy pehely).

**243** A szikragyújtású motorokhoz (pl. gépjárművekhez, helyhez kötött és egyéb motorokhoz) használt motorbenzint, benzint és gázolint e tétel alá kell besorolni, függetlenül az eltérő illékonyaságuktól.

**244** E tétel alá tartozik pl. az alumíniumhamu, alumíniumsalak, alumínium leförlözés, elhasznált katódok, elhasznált üstbélések és alumíniumsó salak.

**247** A 24 tf. %-nál több, de legfeljebb 70 tf. % alkoholtartalmú alkoholos italok, ha a gyártási eljárás részeként szállítják, a 4.1.1. szakasz általános előírásainak megfelelő, 250 liternél nagyobb, de legfeljebb 500 liter űrtartalmú fahordókban is szállíthatók a következő feltételek mellett:

- a) a fahordókat töltés előtt szemrevételezni és tömíteni kell;
- b) megfelelő folyadékmentes teret kell hagyni (legalább 3%), lehetővé téve a folyadék tágulását;
- c) a fahordókat a hordónyílással fölfelé kell szállítani; és
- d) a fahordókat „A Biztonságos Konténerekről szóló 1972. évi Nemzetközi



Egyezmény” (CSC) módosított kiadása követelményeit kielégítő konténerekben kell szállítani. Minden fahordót hozzá igazított keretvázban kell rögzíteni és megfelelő módon ki kell ékelni, megakadályozva bármilyen irányú elmozdulást a szállítás alatt.

**249** A korrózióval szemben stabilizált ferrocérium (tűzkő) legalább 10% vastartalommal nem tartozik a RID előírásainak hatálya alá.

**250** Ez a tétel csak az elemzési célokra szolgáló vegyianyag mintákhoz használható a „Vegyifegyverek kifejlesztésének, gyártásának, felhalmozásának és használatának tilalmáról, valamint megsemmisítéséről” szóló Egyezmény” teljesítésével kapcsolatosan. Az anyagok szállítása ezen tétel alatt a Vegyifegyver Tilalmi Szervezet által meghatározott felügyeleti rendszabályokkal és biztonsági eljárások szerint végezhető.

A vegyianyag minta csak az illetékes hatóság vagy a Vegyifegyver Tilalmi Szervezet főigazgatójának előzetes engedélyével szállítható, amennyiben a minta kielégíti a következő feltételeket:

- a) az ICAO Műszaki Utasítások (ICAO-TI) 623 csomagolási utasítása szerint (lásd a Kiegészítés S-3-8 pontját) kell csomagolni, és
- b) a szállítás idején a fuvarokmányhoz kell csatolni a szállítást engedélyező okmány egy példányát, amely feltünteti a mennyiségi korlátozást és a csomagolási utasítást is.

**251** Az UN 3316 vizsgálókészlet vagy elsősegély felszerelés tétel olyan dobozokra, kazettákra stb. vonatkozik, amelyek különböző vegyianyagokat tartalmaznak kis mennyiségben, amelyeket pl. gyógyászati, analitikai, vizsgálati vagy javítási célra használnak. Az ilyen vizsgálókészletek és felszerelések nem tartalmazhatnak a 3.2 fejezet „A” táblázat 7a oszlopában „LQ0” kóddal megjelölt anyagokat.

Az alkotórészek nem reagálhatnak egymással veszélyesen (lásd a „veszélyes reakciót” az 1.2.1 szakaszban). A veszélyes anyag összes mennyisége vizsgálókészletenként vagy felszerelésenként nem haladhatja meg az 1 litert vagy 1 kg-ot. A vizsgálókészlet vagy felszerelés egészét a benne levő anyagokhoz tartozó legszigorúbb csomagolási csoportba kell sorolni.

Azok a vizsgálókészletek vagy felszerelések, amelyeket a kocsikban elsősegély vagy helyi felhasználás céljából szállítanak, nem tartoznak a RID előírásainak hatálya alá.

A 3.4 fejezet szerint szállíthatók azok a vizsgálókészletek és elsősegély felszerelések, amelyeknél a belső csomagolásban a veszélyes áru mennyisége nem haladja meg azt a korlátozott mennyiségre vonatkozó határt, amelyet a 3.2 fejezet „A” táblázat 7a oszlopában az egyes anyagokra megadott LQ kódhoz a 3.4.6 szakasz meghatároz.

**252** Az ammónim-nitrát vizes oldatait legfeljebb 0,2% éghető anyag tartalommal és legfeljebb 80%-os koncentrációval nem tartoznak a RID előírásainak hatálya alá, feltéve, hogy az ammónium-nitrát a szállítás alatt minden körülmények között oldatban marad.

**266** Ez az anyag a megadottnál kevesebb alkohol-, víz- vagy flegmatizálószer-tartalommal csak az illetékes hatóság külön engedélyével szállítható (lásd a 2.2.1.1 bekezdést).

- 267** A klorátokat tartalmazó, C típusú robbantóanyagokat el kell különíteni az ammónium-nitrátot vagy más ammóniumsót tartalmazó robbanóanyagoktól.
- 270** Az 5.1 osztályba tartozó szerves, szilárd nitrátok azon vizes oldatait, amelyek koncentrációja nem haladja meg a szállítás alatt felléphető legkisebb hőmérséklethez tartozó telítési határ 80%-át, úgy tekinthetők, hogy nem rendelkeznek az 5.1 osztály kritériumaival.
- 271** Flegmatizálószerként laktóz, glukóz vagy hasonló anyagok használhatók, feltéve, hogy az anyag legalább 90 tömeg% flegmatizálószeret tartalmaz. Az illetékes hatóság a „Vizsgálatok és kritériumok kézikönyv” I. Rész 16. fejezet 6 vizsgálati sorozat c) próba alapján, amelyet legalább 3, szállításra előkészített csomagoláson hajtottak végre, engedélyezheti ezen keverék 4.1 osztályba történő besorolását. A legalább 98 tömeg% flegmatizálószer-tartalmú keverékek nem tartoznak a RID előírásainak hatálya alá. A legalább 90 tömeg% flegmatizálószer-tartalmú keverékeket tartalmazó küldeménydarabokat nem kell 6.1 számú bárcával ellátni.
- 272** Ez az anyag a 4.1 osztály anyagaként csak az illetékes hatóság külön engedélyével szállítható (lásd UN 0143).
- 273** Az önmelegedéssel szemben stabilizált manebet és maneb készítményeket nem kell a 4.2 osztályba sorolni, ha vizsgálatokkal bizonyítható, hogy az anyag 1 m<sup>3</sup>-es kockája nem mutat öngyulladás hajlamot és a hőmérséklet a minta közepén nem haladja meg a 200 °C-ot, ha a mintát 24 órán át legalább 75 °C ± 2 °C-on tartják.
- 274** A 3.1.2.8 bekezdés előírásait kell alkalmazni.
- 278** Ez az anyag csak akkor sorolható be és szállítható, ha az illetékes hatóság a szállításra előkészített csomagoláson végzett, a „Vizsgálatok és kritériumok kézikönyv” I. Rész 2 vizsgálati sorozat és a 6 vizsgálati sorozat c) próba eredménye alapján (lásd a 2.2.1.1 bekezdést) engedélyezte. A csomagolási csoportot a 2.2.3 szakasz kritériumai és a 6 vizsgálati sorozat c) próbához használt csomagolóeszköz típusa alapján kell az illetékes hatóságnak meghatároznia.
- 279** Az anyag besorolása vagy csomagolási csoporthoz rendelése sokkal inkább az embereken szerzett tapasztalatokon, semmint a RID-ben található besorolási kritériumok szigorú alkalmazása alapján történt.
- 280** E tétel alá tartoznak azok a járművekben használt életmentő légszák gázgenerátorok, légszák modulok és biztonsági öv előfeszítők, amelyek az 1 osztályba vagy más osztály(ok)ba tartozó veszélyes árukat tartalmaznak, ha alkatrész-egységként szállítják és ha a szállításra kész csomagolásban a „Vizsgálatok és kritériumok kézikönyv” I. Rész 6.c) vizsgálati sorozat szerint bevizsgálták és ennek során nem robbantak fel, burkolatuk vagy a nyomástartó edény nem tört szét és nem következett be veszélyes kivetődés vagy hőhatás, ami jelentősen akadályozná a tűzoltást vagy más vészhelyzeti intézkedés végrehajtását a közvetlen környezetben.
- 282** (törölve)
- 283** A lengéscsillapítóként szolgáló, gázt tartalmazó tárgyak, beleértve az ütközési energia elnyelésére használt eszközöket és a légrugókat, nem tartoznak a RID előírásainak hatálya alá, feltéve, hogy:
- a) a gáztér ürtartalma legfeljebb 1,6 liter és a töltési nyomás legfeljebb 280 bar,



úgy, hogy az űrtartalom (liter) és a töltési nyomás (bar) szorzata legfeljebb 80 (azaz 0,5 literes gáztér és 160 bar töltési nyomás, 1 literes gáztér és 80 bar töltési nyomás, 1,6 literes gáztér és 50 bar töltési nyomás, 0,28 literes gáztér és 280 bar töltési nyomás);

- b) a legkisebb repesztőnyomás a legfeljebb 0,5 literes gáztérű gyártmányoknál a 20 °C-hoz tartozó töltési nyomás 4-szerese, a 0,5 literesnél nagyobb gáztérű gyártmányoknál a 20 °C-hoz tartozó töltési nyomás 5-szöröse;
- c) olyan anyagból készültek, amelyből törés esetén nem képződnek szilánkok;
- d) az illetékes hatóság által elfogadott minőségbiztosítási rendszernek megfelelően gyártották;
- e) a gyártási típus tűzállósági vizsgálata bizonyítja, hogy az olvadóbiztosíték vagy a belső nyomást csökkentő biztonsági szelep által olyan mértékben csökken a szerkezetben a nyomás, hogy az nem törik el, illetve nem vetődik ki.

A járművek üzemelése során használt felszerelésekre lásd az 1.1.3.2 d) pontot.

**284** A gyújtó hatású anyagot tartalmazó kémiai oxigénfejlesztőknek a következő feltételeknek kell megfelelniük:

- a) az oxigénfejlesztő, ha robbanóanyagos működtető szerkezetet tartalmaz, csak akkor szállítható ezen tétel alatt, ha a 2.2.1.1.1 b) ponthoz fűzött megjegyzés értelmében nem tartozik az 1 osztályba;
- b) a csomagolás nélküli oxigénfejlesztőnek a tartalom kiszivárgása, illetve a szerkezet működésbe lépése nélkül ki kell állnia az 1,8 m-ről végrehajtott ejtőpróbát, melynél az ütközőlap merev, rugalmatlan, sík és vízszintes, és az ejtés olyan helyzetben történik, ami a legnagyobb valószínűséggel eredményez sérülést; és
- c) a működtető szerkezettel ellátott oxigénfejlesztőknél a működtető szerkezetnek legalább két olyan hatásos eszközzel kell rendelkeznie, ami megakadályozza a szerkezet nem szándékos működésbe lépését.

**286** Az e tétel alá tartozó nitrocellulóz membránszűrők nem tartoznak a RID előírásainak hatálya alá, ha egyenként valamely tárgyban vagy lezárt csomagban vannak és tömegük legfeljebb 0,5 g.

**288** Ezek az anyagok csak akkor sorolhatók be és szállíthatók, ha az illetékes hatóság a szállításra előkészített csomagoláson végzett, a „Vizsgálatok és kritériumok kézikönyv” I. Rész 2 vizsgálati sorozat és a 6 vizsgálati sorozat c) próba eredménye alapján (lásd 2.2.1.1 bekezdést) engedélyezte.

**289** A járműbe szerelt vagy komplett jármű alkatrészekben (kormányoszlop, ajtópanel, ülés stb.) lévő légszák gázgenerátorok, légszák modulok és biztonsági öv előfeszítők nem tartoznak a RID előírásainak hatálya alá.

**290** Ha ez az anyag valamely más osztály(ok) 2. részben szereplő meghatározásának és kritériumainak is megfelel, akkor a döntő járulékos veszély szerint kell besorolni. Az áru megnevezésének a döntő veszély szerinti osztályban a megfelelő UN számból és helyes szállítási megnevezésből kell állnia, amit ki kell egészíteni a 3.2 fejezet „A” táblázatának 2 oszlopában szereplő, erre az anyagra vonatkozó névvel. Az anyagot

az UN számnak megfelelő előírások szerint kell szállítani, emellett az 1.7.1.5 bekezdésben meghatározott követelményeket is be kell tartani, az 5.2.1.7.2 pont kivételével.

- 291** A gyúlékony cseppfolyósított gáznak a hűtőgép szerkezeti elemein belül kell lennie. Ezeket a szerkezeti elemeket a hűtőgép üzemi nyomásának legalább háromszorosára kell méretezni. A hűtőgépet úgy kell méretezni és kialakítani, hogy a cseppfolyósított gázt megtartsa, és normál szállítási feltételek mellett kizárja a nyomástartó szerkezeti elemek törésének vagy repedésének veszélyét. A 12 kg-nál kevesebb gázt tartalmazó hűtőgépek és hűtőgép részegységek nem tartoznak a RID előírásainak hatálya alá.
- 292** A legfeljebb 23,5 térf.% oxigént tartalmazó keverékek szállíthatók ezen tétel alatt, ha más gyújtó hatású gáz nincs a keverékben. E határértéket meg nem haladó koncentrációknál nem szükséges 5.1 számú bárca.
- 293** A gyufákra a következő meghatározások vonatkoznak:
- a) a „vihargyufa” olyan gyufa, amelynek feje dörzsölésre érzékeny gyújtóeleggyel és pirotechnikai anyaggal van impregnálva, ami kis lánggal vagy láng nélkül, de intenzív hőfejlődéssel ég;
  - b) a „biztonsági gyufa” olyan gyufa, amely dobozban van, illetve levél vagy kártya formájú és csak preparált felületen való dörzsöléssel gyújtható meg;
  - c) a „mindenütt gyulladó gyufa” olyan gyufa, amely bármely szilárd felületen való dörzsöléssel meggyújtható;
  - d) A „Vesta-viasz gyufa” olyan gyufa, amely akár preparált felületen, akár szilárd felületen való dörzsöléssel meggyújtható.
- 295** Ha az egységrakomány el van látva jelöléssel és bárcákkal, az egyes akkumulátorokat nem kell külön jelölni és bárcázni.
- 296** Ide tartoznak a mentőeszközök, pl. mentőtutajok, egyéni mentőeszközök és önfelfúvó csúszdák. Az UN 2990 tétel alá az önfelfúvó mentőeszközök, míg az UN 3072 tétel alá a nem önfelfúvó mentőeszközök tartoznak. A mentőeszközök tartalmazhatnak:
- a) jelzőtesteket (1 osztály), mint pl. füstjelzők vagy fényjelzők olyan csomagolásban, ami megakadályozza, hogy nem szándékosan működésbe lépjenek;
  - b) csak az UN 2990 tétel esetén az önfelfúvó szerkezet aktiválásához az 1.4 alosztály S összeférhetőségi csoportjába tartozó munkavégző tölteteket, amennyiben a robbanóanyag mennyisége készülékenként nem haladja meg a 3,2 g-ot;
  - c) a 2 osztály 2.2.2.1.3 pont szerinti A vagy O csoportjába tartozó sűrített gázokat;
  - d) elektromos akkumulátorokat (8 osztály) és lítium-akkumulátorokat (9 osztály);
  - e) elsősegély felszerelést vagy javítókészleteket kis mennyiségű veszélyes anyag (pl. a 3, 4.1, 5.2, 8 és 9 osztály anyagai) tartalommal; vagy
  - f) „mindenütt gyulladó gyufát” olyan csomagolásban, ami megakadályozza, hogy

nem szándékosan működésbe lépjen.

**298** (törölve)

**300** A halliszt vagy halhulladék nem rakható be, ha hőmérséklete a berakodáskor nagyobb, mint a 35 °C, ill. a környezeti hőmérsékletet 5 °C-kal meghaladó hőmérséklet, amelyik magasabb.

**302** A helyes szállítási megnevezésben az „EGYSÉG” jelentése:

kocsi,  
konténer vagy  
tartány.

A gázosítószer hatása alatt álló kocsik, konténerek és tartányok csak az 5.5.2 szakasz előírásainak hatálya alá tartoznak.

**303** Ezeket a tartályokat a bennük levő gáznak, ill. gázkeveréknek a 2.2.2 szakasz előírásai szerint meghatározott osztályozási kódjához kell besorolni.

**304** Azok a száraz akkumulátorok, amelyekből a bennük levő maró elektrolit nem folyik ki az akkumulátor ház törése esetén, nem tartoznak a RID előírásainak hatálya alá, amennyiben az akkumulátorok szorosan vannak csomagolva és rövidzárlat ellen védve vannak. Ilyen akkumulátor például: alkáli-mangán, cink-szén, nikkel-fémhidrid és nikkel-kadmium akkumulátor.

**305** Ezek az anyagok nem tartoznak a RID előírásainak hatálya alá, ha koncentrációjuk legfeljebb 50 mg/kg.

**306** Ez a tétel csak olyan anyagokhoz használható, amelyek az 1 osztály 1 és 2 vizsgálati sorozata szerint (lásd „Vizsgálatok és kritériumok kézikönyv”, I. Rész) vizsgálva nem mutatnak az 1 osztályra jellemző robbanási tulajdonságot.

**307** Ez a tétel csak olyan egynemű keverékekhez használható, amelyek fő alkotórésze az ammónium-nitrát, a következő összetétel határokkal:

- a) legalább 90% ammónium-nitrát legfeljebb 0,2% összes éghető anyag tartalommal (beleértve a szerves anyagokat szénegyenértékre számítva) és esetleges olyan adalékokkal, amelyek szervesetlenek és az ammónium-nitráttal szemben semlegesek; vagy
- b) 90%-nál kevesebb, de 70%-nál több ammónium-nitrát egyéb szervesetlen anyagokkal, vagy 80%-nál több, de 90%-nál kevesebb ammónium-nitrát kalcium-karbonáttal és/vagy dolomittal és/vagy ásványi kalcium-szulfáttal keverve, és legfeljebb 0,4% összes éghető anyag tartalommal (beleértve a szerves anyagokat szénegyenértékre számítva); vagy
- c) nitrogén típusú, ammónium-nitrát alapú műtrágya, amely ammónium-nitrát és ammónium-szulfát keverékéből áll 45%-nál több, de 70%-nál kevesebb ammónium-nitrát tartalommal és legfeljebb 0,4% összes éghető anyag tartalommal (beleértve a szerves anyagokat szénegyenértékre számítva), oly módon, hogy ammónium-nitrát és ammónium-szulfát tartalom együtt meghaladja a 70%-ot.

**309** Ezt a tételt a főleg ammónium-nitrát és tüzelőanyag keverékéből álló, érzékenyítés

nélküli emulziókra, szuszpenziókra és gélekre kell alkalmazni, amelyek csak a felhasználás előtti további feldolgozás után válnak E típusú robbantóanyaggá.

Az emulzió jellegzetes összetétele: 60...85% ammónium-nitrát; 5...30% víz; 2...8% tüzelőanyag; 0,5...4% emulgáló szer; 0...10% oldható égésgátló, valamint nyomjelző adalék. Az ammónium-nitrát egy részét más szerves nitrátok helyettesíthetik.

A szuszpenzió és a gél jellegzetes összetétele: 60...85% ammónium-nitrát; 0...5% nátrium- vagy kálium-perklorát; 0...17% hexamin-nitrát vagy monometilamin-nitrát; 5...30% víz; 2...15% tüzelőanyag; 0,5...4% sűrítőanyag; 0...10% oldható égésgátló, valamint nyomjelző adalék. Az ammónium-nitrát egy részét más szerves nitrátok helyettesíthetik.

Az anyagoknak ki kell állniuk a „Vizsgálatok és kritériumok kézikönyv” I. rész, 18. szakasz 8 vizsgálati sorozatot és a besorolást az illetékes hatóságnak jóvá kell hagynia.

- 310** A „Vizsgálatok és kritériumok kézikönyv” 38.3 fejezetében található vizsgálati követelményeket nem kell alkalmazni a legfeljebb 100 cellából vagy akkumulátorból álló gyártási sorozatokra, ill. a cellák és akkumulátorok gyártási mintáira, ha vizsgálat céljából szállítják és:
- a) a cellák és akkumulátorok fém-, műanyag- vagy rétegelt falemez hordó vagy fém-, műanyag- vagy faláda külső csomagolásban vannak és a csomagolóeszköz teljesíti az I csomagolási csoport kritériumait; és
  - b) a külső csomagoláson belül minden cella és akkumulátor egyedileg belső csomagolásban van és nem éghető, nem vezetőképes párnázóanyaggal van körülvéve.
- 311** Az anyagok csak akkor szállíthatók ezen tétel alatt, ha azt az illetékes hatóság a „Vizsgálatok és kritériumok kézikönyv” I. rész szerinti, megfelelő vizsgálatok alapján engedélyezte. A csomagolásnak biztosítania kell, hogy a hígítószer százalékos mennyisége a szállítás alatt soha ne csökkenjen az illetékes hatóság engedélyében meghatározott érték alá.
- 312** (fenntartva)
- 313** A 8 osztály kritériumait kielégítő anyagokat és keverékeket el kell látni a járulékos veszélyre utaló 8 számú bárcával is (lásd az 5.2.2.2.2 pontot).
- 314**
- a) Ezek az anyagok magasabb hőmérsékleteken hajlamosak az exoterm bomlásra. A bomlást hő vagy szennyeződések [pl. fémporok (vas, mangán, kobalt, magnézium) és keverékeik] is kiválthatják;
  - b) A szállítás alatt ezeket az anyagokat árnyékolással a közvetlen napsugárzástól és mindenfajta hőforrástól védeni kell és megfelelően szellőztetett helyre kell elhelyezni.
- 315** Ez a tétel nem használható azokra a 6.1 osztályba tartozó anyagokra, amelyek mérgezőképessége belélegzés esetén a 2.2.61.1.8 pontban leírtak szerint az I csomagolási csoportnak felel meg.
- 316** Ezt a tételt csak a száraz kalcium-hipokloritra lehet alkalmazni, ha nem-morzsolódó

tabletta formában szállítják.

- 317** A „hasadó-engedményes” megnevezés csak a 6.4.11.2 bekezdésnek megfelelő küldeménydarabokra használható.
- 318** Az okmányokban a helyes szállítási megnevezést ki kell egészíteni a műszaki megnevezéssel (lásd a 3.1.2.8 bekezdést). Ha a szállítandó fertőző anyag ismeretlen, de vélhetően kielégíti az „A” kategóriába való felvétel és az UN 2814 vagy az UN 2900 alá történő besorolás kritériumait, a fuvarokmányba a helyes szállítási megnevezést követően zárójelbe téve a **„feltehetően „A” kategóriájú fertőző anyag”** bejegyzést kell tenni.
- 319** A P650 csomagolási utasítás szerint csomagolt és jelöléssel ellátott anyagok nem tartoznak a RID többi előírásainak hatálya alá.
- 320** (törölve)
- 321** Ezt a tároló rendszert mindig úgy kell tekinteni, hogy hidrogént tartalmaz.
- 322** Ezt az árut a III csomagolási csoportba lehet sorolni, ha nem-morzsolódó tablettá formában szállítják.
- 323** (fenntartva)
- 324** A 99%-os vagy az alatti koncentrációjú anyagot stabilizálni kell.
- 325** Ha az anyag nem hasadó vagy hasadó-engedményes urán-hexafluorid, akkor az UN 2978 tételhez kell sorolni.
- 326** Ha az anyag hasadó urán-hexafluorid, akkor az UN 2977 tételhez kell sorolni.
- 327** Ez a tétel alkalmazható az 5.4.1.1.3 pont szerint feladott, hulladékká vált aeroszol csomagolások újrahasznosítás vagy ártalmatlanítás céljából történő szállításakor is. Ilyen esetben az aeroszol csomagolást nem kell az akaratlan működtetés elleni védelemmel ellátni, feltéve, hogy megtették a szükséges óvintézkedéseket a veszélyes nyomásnövekedés, ill. veszélyes atmoszféra kialakulásának megakadályozására. Azokat az aeroszolókat, amelyek nem szivárognak, ill. nincsenek nagyon deformálódva, a P003 csomagolási utasításnak és a PP87 különleges csomagolási előírásnak megfelelően kell csomagolni, vagy az LP02 csomagolási utasításnak és az L2 különleges csomagolási előírásnak megfelelően. A szivárgó vagy erősen deformálódott aeroszol csomagolásokat kármentő csomagolásban kell szállítani, megfelelő óvintézkedésekkel biztosítva, hogy nem lép fel veszélyes nyomásnövekedés.

**Megjegyzés:** *Nem szállíthatók a hulladék aeroszol csomagolások zárt konténerben, ha tengeri úton szállítják tovább.*

- 328** Ez a tétel az üzemanyagcella kazettákra vonatkozik, beleértve a készülékben lévőket, ill. készülékkel egybecsomagoltakat is. Készülékben lévő üzemanyagcella kazettának minősül az olyan kazetta, amely az üzemanyagcella-rendszerbe van illesztve vagy annak szerves részét képezi. Az üzemanyagcella kazetta olyan tárgy, amelyben az üzemanyag van, ami az adagolást vezérlő szelep(ek)en keresztül jut az üzemanyagcellába. Az üzemanyagcella kazettákat, beleértve a készülékben lévőket is, úgy kell megtervezni és gyártani, hogy szokásos szállítási körülmények között az

üzemanyag szivárgását megelőzzék.

A folyékony üzemanyagú üzemanyagcella kazetta gyártási típusának szivárgás nélkül ki kell állnia a 100 kPa túlnyomással végzett belső nyomásállósági próbát.

A fémhidridben lévő hidrogén tartalmú üzemanyagcella kazetták kivételével, amelyeknek a 339 különleges előírásnak kell megfelelniük, minden üzemanyagcella kazetta gyártási típusra bizonyítani kell, hogy a tartalom szivárgása nélkül kiállja az olyan ejtőpróbát, mely során 1,2 m magasról merev felületre ejtik abban a helyzetben, amely a legnagyobb valószínűséggel eredményezi a tárolórendszer sérülését.

- 329 (fenntartva)
- 330 (törölve)
- 331 (fenntartva)
- 332 A magnézium-nitrát-hexahidrát nem tartozik a RID előírásainak hatálya alá.
- 333 A szikragyújtású motorokhoz (pl. gépjárművekhez, helyhez kötött és egyéb motorokhoz) használt etanol és benzin, motorbenzin vagy gazolin keveréket e tétel alá kell besorolni, függetlenül az eltérő illékonyságuktól.
- 334 Az üzemanyagcella kazetta aktiválószer is tartalmazhat, feltéve, hogy két, egymástól független szerkezettel van ellátva, amely megakadályozza, hogy a szállítás során az aktiválószer és az üzemanyag véletlenszerűen keveredjen.
- 335 A RID előírásainak hatálya alá nem tartozó szilárd anyagok és a környezetre veszélyes folyékony vagy szilárd anyagok keverékeit az UN 3077 tétel alá kell sorolni és e tétel alatt szállíthatók, amennyiben az anyag berakodása során, illetve a csomagolóeszköz, a jármű vagy a konténer lezárásakor szabad folyadék szemmel nem látható. Az ömlesztett szállításra használt jármű felépítményének, ill. konténernek szivárgásmentesnek kell lennie. Ha a keverék berakodása során, ill. a csomagolóeszköz, a jármű vagy a konténer lezárásakor szabad folyadék látható, a keveréket az UN 3082 tétel alá kell sorolni. Nem tartoznak a RID előírásainak hatálya alá az olyan lezárt csomagok vagy tárgyak, amelyekben legfeljebb 10 ml, környezetre veszélyes folyékony anyag van szilárd anyagban elnyelve és a csomag vagy a tárgy nem tartalmaz szabad folyadékot, és azok, amelyekben legfeljebb 10 g környezetre veszélyes szilárd anyag van.
- 336 Egy nem gyúlékony, szilárd *LSA-II* vagy *LSA-III* anyagot tartalmazó küldeménydarab légi szállítás esetén nem tartalmazhat 3000A<sub>2</sub>-nél nagyobb aktivitást.
- 337 A *B(U)* és a *B(M)* típusú küldeménydarabok légi szállítás esetén nem tartalmazhatnak nagyobb aktivitást, mint:
- a) kis mértékben diszpergálódó radioaktív anyagok esetén: a küldeménydarab-mintára engedélyezett aktivitás, a küldeménydarab-minta engedélyben meghatározottak szerint;
  - b) különleges formájú radioaktív anyag esetén: a 3000A<sub>1</sub>, ill. a 100 000 A<sub>2</sub> közül a kisebb érték; vagy

- c) minden más radioaktív anyag esetén: a  $3000A_2$  érték.

**338** Az e tétel alatt szállított, gyúlékony, cseppfolyósított gázt tartalmazó üzemanyag cella kazettát úgy kell kialakítani, hogy

- a) repedés, ill. szivárgás nélkül el tudja viselni a tartalom  $55\text{ °C}$ -on fennálló egyensúlyi nyomásának legalább kétszeresével egyenlő nyomást;
- b) legfeljebb 200 ml cseppfolyósított gázt tartalmazzon, melynek gőznyomása  $55\text{ °C}$ -on legfeljebb 1000 kPa;
- c) kiállja a 6.2.6.3.1 pontban leírt, forró vizes fürdőben végzett próbát.

**339** Az e tétel alatt szállított, fémhidridben lévő hidrogén tartalmú üzemanyagcella kazetta víztérfogata legfeljebb 120 ml lehet.

Az üzemanyagcella kazettában a nyomás  $55\text{ °C}$ -on nem lehet 5 MPa-nál nagyobb. A gyártási típusnak repedés, ill. szivárgás nélkül el kell tudnia viselni a kazetta  $55\text{ °C}$ -ra vonatkozó tervezési nyomásának kétszerese és a kazetta  $55\text{ °C}$ -ra vonatkozó tervezési nyomása plusz 200 kPa nyomás értékek közül a nagyobbat. Az e próba során alkalmazott nyomás felel meg az ejtőpróbánál és a hidrogén töltési – ürítési sorozat vizsgálatnál a „burkolat legkisebb repesztőnyomása”-ként említett nyomásnak.

Az üzemanyagcella kazettát a gyártó által meghatározott eljárással kell tölteni. Minden üzemanyagcella kazettához a gyártónak a következő információt kell megadnia:

- a) az üzemanyagcella kazetta első töltése, ill. újratöltése előtt végrehajtandó vizsgálati eljárást;
- b) a betartandó biztonsági óvintézkedéseket és a lehetséges veszélyek ismertetését;
- c) azt a módszert, amellyel a névleges töltési kapacitás meghatározható;
- d) a nyomástartomány legkisebb és legnagyobb értékét;
- e) a hőmérséklettartomány legkisebb és legnagyobb értékét; és
- f) az első töltés, ill. az újratöltés során betartandó minden egyéb követelményt, beleértve az első töltéshez, ill. az újratöltéshez használandó eszköz típusát is.

Az üzemanyagcella kazettákat úgy kell megtervezni és gyártani, hogy szokásos szállítási körülmények között az üzemanyag ne szivároghasson. Minden üzemanyagcella kazetta gyártási típusnak, beleértve az üzemanyagcella részét képező kazettákat is, sikeresen ki kell állnia a a következő vizsgálatokat:

#### **Ejtőpróba**

1,8 m magasról merev felületre történő ejtés négy, különböző helyzetben:

- a) függőleges helyzetben arra a végére, ahol a zárószelep van;
- b) függőleges helyzetben arra a végére, amelyik a zárószeleppel szemben van;



- c) vízszintes helyzetben egy 38 mm átmérőjű, a hegyével fölfelé álló acéltüskére; és
- d) 45°-os szögben arra a végére, ahol a zárószelep van.

Minden lehetséges szivárgási helyet szappanoldattal vagy más, egyenértékű módszerrel vizsgálva a névleges töltési nyomásig feltöltött kazetta nem szivároghat. Ezután az üzemanyagcella kazettát hidrosztatikus nyomással szét kell ronszolni. Az észlelt repesztőnyomásnak nagyobbnak kell lennie, mint a burkolat legkisebb repesztőnyomásának a 85%-a.

#### **Tűzállósági próba**

Az üzemanyagcella kazettát a névleges kapacitásáig fel kell tölteni hidrogénnel, és olyan tűz hatásának kell kitenni, amely teljesen elborítja. Az üzemanyagcella kazetta gyártási típus (amelyen lehet szellőzőberendezés is) akkor állta ki sikeresen a tűzállósági próbát, ha:

- a) a kazetta ronszolódása nélkül a belső nyomás (túlnyomás) lecsökken nullára,; vagy
- b) a kazetta legalább 20 percig ronszolódás nélkül viseli el a tüzet.

#### **Hidrogén töltési – ürítési sorozat vizsgálat**

A vizsgálat célja annak igazolása, hogy az üzemanyagcella kazetta tervezési feszültség határokat a használat során nem lépik túl.

Az üzemanyagcella kazettát sorozatosan fel kell tölteni a névleges hidrogén kapacitás legfeljebb 5%-áról legalább 95%-ára, és visszaüríteni legfeljebb 5%-ára. A töltést a névleges töltési nyomással kell végezni, a hőmérsékletet az üzemi hőmérséklet tartományon belül kell tartani. A vizsgálati sorozatnak legalább 100 ciklusból kell állnia.

A vizsgálat sorozat után az üzemanyagcella kazettát fel kell tölteni és meg kell mérni a kazetta által kiszorított víz térfogatát. A kazetta gyártási típus akkor állta ki sikeresen a hidrogén töltési – ürítési sorozat vizsgálatot, ha a vizsgálaton átesett kazetta által kiszorított víz térfogata nem több, mint az olyan, nem vizsgált kazetta által kiszorított víz térfogata, amely 95% névleges kapacitásig van töltve, és a burkolat legkisebb repesztőnyomásának a 75%-át kitevő nyomás alá van helyezve.

#### **Gyártásközi tömörségi próba**

Minden üzemanyagcella kazettát a névleges töltési nyomásán,  $15\text{ °C} \pm 5\text{ °C}$ -on tömörségi próbának kell alávetni. Minden lehetséges szivárgási helyet szappanoldattal vagy más, egyenértékű módszerrel vizsgálva a kazetta nem szivároghat.

Minden üzemanyagcella kazettán tartósan fel kell tüntetni a következőket:

- a) a névleges töltési nyomást MPa-ban;
- b) az üzemanyagcella kazetta gyártási sorozatszámát vagy egyedi azonosító számát; és



- c) a legnagyobb használati élettartam alapján meghatározott lejáratú időpontot (az évet négy számjeggyel és a hónapot két számjeggyel megadva).

- 340** A 3.5 fejezet szerint szállíthatók azok a vizsgálókészletek, elsősegély felszerelések és poliészter gyanta készletek, amelyeknél a belső csomagolásban a veszélyes anyag mennyisége nem haladja meg a 3.2 fejezet „A” táblázat 7b oszlopában az erre az anyagra meghatározott, engedményes mennyiségre vonatkozó határt. Az ilyen készletekben lehetnek 5.2 osztályba tartozó anyagok is, és bár az 5.2 osztály anyagaira a 3.2 fejezet „A” táblázat 7b oszlopában nincs engedményes mennyiség engedélyezve, ilyen esetben az E2 kód vonatkozik rájuk (lásd a 3.5.1.2 bekezdést).
- 341 –**  
**499** (fenntartva)
- 500** Az UN 3064 nitroglicerín alkoholos oldatban 1%-nál több, de legfeljebb 5% nitroglicerín-tartalommal a 4.1.4.1 bekezdés P300 csomagolási utasítása szerint csomagolva a 3 osztály anyaga.
- 501** Az olvasztott naftalinra lásd az UN 2304 tételt.
- 502** Az UN 2006 nitrocellulóz alapú, önmelegedő műanyag, m.n.n. és az UN 2002 celluloid hulladék a 4.2 osztály anyaga.
- 503** A fehér- vagy sárgafoszforra olvasztott formában lásd az UN 2447 számot.
- 504** Az UN 1847 hidratált kálium-szulfid legalább 30% kristályvíz-tartalommal, az UN 1849 hidratált nátrium-szulfid legalább 30% kristályvíz-tartalommal és az UN 2949 hidratált nátrium-hidrogén-szulfid legalább 25% kristályvíz-tartalommal a 8 osztály anyaga.
- 505** Az UN 2004 magnézium-diamid a 4.2 osztály anyaga.
- 506** Az alkálifémek és alkáliföldfémek piroforos formában a 4.2 osztály anyagai. Az UN 1869 magnézium vagy magnézium ötvözetek 50%-nál több magnézium tartalommal, szemcse, forgács vagy szalagok formájában a 4.1 osztály anyagai.
- 507** Az UN 3048 alumínium-foszfid peszticid mérgező, gyúlékony gázok fejlődését gátló adalékokkal a 6.1 osztály anyaga.
- 508** Az UN 1871 titán-hidrid és az UN 1437 cirkónium-hidrid a 4.1 osztály anyaga. Az UN 2870 alumínium-bór-hidrid a 4.2 osztály anyaga.
- 509** Az UN 1908 klorit oldat a 8 osztály anyaga.
- 510** Az UN 1755 krómsav oldat a 8 osztály anyaga.
- 511** Az UN 1625 higany(II)-nitrát, az UN 1627 higany(I)-nitrát, az UN 2727 tallium-nitrát a 6.1 osztály anyaga. A szilárd tórium-nitrát, az uranil-nitrát-hexahidrát oldat és a szilárd uranil-nitrát a 7 osztály anyaga.
- 512** Az UN 1730 folyékony antimon-pentaklorid, az UN 1731 antimon-pentaklorid oldat, az UN 1732 antimon-pentafluorid és az UN 1733 antimon-triklorid a 8 osztály anyaga.
- 513** Az UN 0224 bárium-azid, száraz vagy 50 tömeg%-nál kevesebb vízzel nedvesített a

vasúti fuvarozásból ki van zárva. Az UN 1571 legalább 50% vízzel nedvesített bárium-azid a 4.1 osztály anyaga. Az UN 1854 piroforos bárium ötvözetek a 4.2 osztály anyagai. Az UN 1445 szilárd bárium-klorát, az UN 1446 bárium-nitrát, az UN 1447 szilárd bárium-perklorát, az UN 1448 bárium-permanganát, az UN 1449 bárium-peroxid, az UN 2719 bárium-bromát, az UN 2741 bárium-hipoklorit 22%-nál több aktív klórtartalommal, az UN 3405 bárium-klorát oldat és az UN 3406 bárium-perklorát oldat az 5.1 osztály anyaga. Az UN 1565 bárium-cianid és az UN 1884 bárium-oxid a 6.1 osztály anyaga.

- 514** Az UN 2464 berillium-nitrát az 5.1 osztály anyaga.
- 515** Az UN 1581 klórpikrin és metil-bromid keveréke és az UN 1582 klórpikrin és metil-klorid keveréke a 2 osztály anyaga.
- 516** Az UN 1912 metil-klorid és diklór-metán keveréke a 2 osztály anyaga.
- 517** Az UN 1690 szilárd nátrium-fluorid, az UN 1812 szilárd kálium-fluorid, az UN 2505 ammónium-fluorid, az UN 2674 nátrium-fluoro-szilikát, az UN 2856 fluoro-szilikátok, m.n.n., az UN 3415 nátrium-fluorid oldat és az UN 3422 kálium-fluorid oldat a 6.1 osztály anyagai.
- 518** Az UN 1463 vízmentes króm-trioxid (szilárd krómsav) az 5.1 osztály anyaga.
- 519** Az UN 1048 vízmentes hidrogén-bromid a 2 osztály anyaga.
- 520** Az UN 1050 vízmentes hidrogén-klorid a 2 osztály anyaga.
- 521** A szilárd kloritok és hipokloritok az 5.1 osztály anyagai.
- 522** Az UN 1873 perklórsav vizes oldat 50 tömeg%-nál több, de legfeljebb 72 tömeg% tiszta savtartalommal az 5.1 osztály anyaga. A perklórsav vizes oldat 72 tömeg%-nál több tiszta savtartalommal és a perklórsav keverékei vízen kívül más folyadékkal szállításra nem fogadhatók el.
- 523** Az UN 1382 vízmentes kálium-szulfid és az UN 1385 vízmentes nátrium-szulfid, valamint hidrátjaik 30%-nál kevesebb kristályvíz-tartalommal, valamint az UN 2318 nátrium-hidrogén-szulfid 25%-nál kevesebb kristályvíz-tartalommal a 4.2 osztály anyaga.
- 524** Az UN 2858 kész cirkónium termékek 18 µm vagy annál nagyobb vastagsággal a 4.1 osztály anyagai.
- 525** A szervetlen cianidok oldatait 30%-nál több összes cianid-ion koncentrációval az I csomagolási csoportba, 3%-nál több, de legfeljebb 30% összes cianid-ion koncentrációval a II csomagolási csoportba, 0,3%-nál több, de legfeljebb 3% összes cianid-ion koncentrációval a III csomagolási csoportba kell besorolni.
- 526** Az UN 2000 celluloid a 4.1 osztály anyaga.
- 527** (fenntartva)
- 528** Az UN 1353 gyengén nitrált cellulózzal impregnált szálak vagy szövetek, amelyek nem önmelegedőek, a 4.1 osztály anyagai.

- 529** Az UN 0135 nedvesített higany-fulminát legalább 20 tömeg% vízzel (vagy víz és alkohol keverékével) nedvesítve a vasúti fuvarozásból ki van zárva. A higany(I)-klorid (kalomel) a 9 osztály anyaga (UN 3077).
- 530** Az UN 3293 hidrazin vizes oldat legfeljebb 37 tömeg% hidrazintartalommal a 6.1 osztály anyaga.
- 531** A 23 °C-nál alacsonyabb lobbanáspontú, 55%-nál nagyobb nitrocellulóz-tartalmú keverékek bármilyen nitrogéntartalommal vagy legfeljebb 55% olyan nitrocellulóz-tartalommal, amelynek nitrogéntartalma meghaladja a 12,6%-ot (száraz anyagra vetítve) az 1 osztály anyagai (lásd UN 0340 vagy UN 0342) vagy a 4.1 osztály anyagai.
- 532** Az UN 2672 ammónia oldat 10%-nál több, de legfeljebb 35% ammónia-tartalommal a 8 osztály anyaga.
- 533** Az UN 1198 gyúlékony formaldehid oldatok a 3 osztály anyagai. A 25%-nál kevesebb formaldehid-tartalmú, nem gyúlékony formaldehid oldatok nem tartoznak a RID előírásainak hatálya alá.
- 534** A benzint (gazolint), bár bizonyos klimatikus viszonyok mellett 50 °C hőmérsékleten 110 kPa-nál (1,10 bar-nál) nagyobb gőznyomása lehet anélkül, hogy meghaladná a 150 kPa-t (1,50 bar-t), mégis olyan anyagnak kell tekinteni, amelynek gőznyomása 50 °C-on nem haladja meg a 110 kPa-t (1,10 bar-t).
- 535** Az UN 1469 ólom-nitrát, az UN 1470 szilárd ólom-perklorát és az UN 3408 ólom-perklorát oldat az 5.1 osztály anyaga.
- 536** A szilárd naftalinra lásd az UN 1334 számot.
- 537** Az UN 2869 nem piroforos titán-triklorid keverék a 8 osztály anyaga.
- 538** A szilárd kénre lásd az UN 1350 számot.
- 539** Az izocianát oldatok, amelyek lobbanáspontja 23 °C vagy annál magasabb, a 6.1 osztály anyagai.
- 540** A legalább 25% víztartalommal nedvesített UN 1326 hafniumpor, UN 1352 titánpor és UN 1358 cirkóniumpor a 4.1 osztály anyaga.
- 541** A megadott határnál kisebb víz-, alkohol- vagy lágyítótartalmú nitrocellulóz keverékek az 1 osztály anyagai.
- 542** A tremolitot és/vagy aktinolitot tartalmazó zsírkő ezenétel alá tartozik.
- 543** Az UN 1005 vízmentes ammónia, az UN 3318 vizes ammónia oldat 50%-nál több ammóniatartalommal és az UN 2073 vizes ammónia oldat 35%-nál több, de legfeljebb 50% ammóniatartalommal a 2 osztály anyaga. A legfeljebb 10% ammóniát tartalmazó ammóniaoldatok nem tartoznak a RID előírásainak hatálya alá.
- 544** Az UN 1032 vízmentes dimetil-amin, az UN 1036 etil-amin, az UN 1061 vízmentes metil-amin és az UN 1083 vízmentes trimetil-amin a 2 osztály anyaga.
- 545** Az UN 0401 dipikril-szulfid 10 tömeg%-nál kevesebb vízzel nedvesítve az 1 osztály

anyaga.

- 546** A 18 µm-nél vékonyabb, UN 2009 száraz cirkónium lemez, szalag vagy huzal a 4.2 osztály anyaga. A legalább 254 µm vastagságú száraz cirkónium lemez, szalag vagy huzal nem tartozik a RID előírásainak hatálya alá.
- 547** Az UN 2210 maneb vagy az UN 2210 maneb készítmények önmelegedő formában a 4.2 osztály anyagai.
- 548** Azok a klór-szilánok, amelyek vízzel érintkezve gyúlékony gázokat fejlesztenek, a 4.3 osztály anyagai.
- 549** Azok a klór-szilánok, amelyek lobbanáspontja 23 °C alatti, és vízzel érintkezve nem fejlesztenek gyúlékony gázokat, a 3 osztály anyagai. Azok a klór-szilánok, amelyek lobbanáspontja 23 °C vagy ennél magasabb, és vízzel érintkezve nem fejlesztenek gyúlékony gázokat, a 8 osztály anyagai.
- 550** Az UN 1333 cérium lemezek, rudak, öntecsek a 4.1 osztály anyagai.
- 551** Ezen izocianátok oldatai, ha lobbanáspontjuk 23 °C alatt van, a 3 osztály anyagai.
- 552** A fémek és fémötvözetek por vagy egyéb gyúlékony formában, ha öngyulladásra hajlamosak, a 4.2 osztály anyagai. A fémek és fémötvözetek por vagy egyéb gyúlékony formában, ha vízzel érintkezve gyúlékony gázokat fejlesztenek, a 4.3 osztály anyagai.
- 553** A hidrogén-peroxid és a peroxi-ecetsav ezen keveréke a laboratóriumi vizsgálat során (lásd a „Vizsgálatok és kritériumok kézikönyv” II. Rész 20. fejezetét) nem detonálhat kavitált állapotban, egyáltalán nem deflagrálhat, nem mutathat semmiféle hatást zárt térben hevítve és nem lehet robbanóereje. A formuláznak termikusan stabilnak kell lennie (öngyorsuló bomlási hőmérséklet 60 °C vagy annál magasabb 50 kg-os küldeménydarabnál), és az érzéketlenítéshez a peroxi-ecetsavval összeférhető folyadékot kell használni. Az ezen kritériumokat nem teljesítő formulázásokat az 5.2 osztály anyagának kell tekinteni [lásd a „Vizsgálatok és kritériumok kézikönyv” II. Rész 20.4.3.g) pontját].
- 554** Azok a fém-hidridek, amelyek vízzel érintkezve gyúlékony gázokat fejlesztenek, a 4.3 osztály anyagai. Az UN 2870 alumínium-bór-hidrid vagy UN 2870 alumínium-bór-hidrid készülékekben a 4.2 osztály anyaga.
- 555** Azok a nem mérgező fémporok és finom porok, amelyek öngyulladásra nem hajlamos formában vannak, de amelyek vízzel érintkezve gyúlékony gázokat fejlesztenek, a 4.3 osztály anyagai.
- 556** Azok a szerves fémvegyületek és oldataik, amelyek öngyulladásra hajlamosak, a 4.2 osztály anyagai. A szerves fémvegyületeket olyan koncentrációban tartalmazó gyúlékony oldatok, amelyek vízzel érintkezve sem gyúlékony gázokat nem fejlesztenek veszélyes mennyiségben, sem öngyulladásra nem hajlamosak, a 3 osztály anyagai.
- 557** A fémporok és finom porok piroforos állapotban 4.2 osztály anyagai.
- 558** A fémek és fémötvözetek piroforos állapotban a 4.2 osztály anyagai. Azok a fémek és fémötvözetek, amelyek a vízzel érintkezve nem fejlesztenek gyúlékony gázokat

és nem piroforosak, vagy nem önmelegedők, de amelyek könnyen meggyulladnak, a 4.1 osztály anyagai.

**559** A hipokloritok keverékei ammóniumsóval nem szállíthatók. Az UN 1791 hipoklorit oldat a 8 osztály anyaga.

**560** Az UN 3257 magas hőmérsékletű folyékony anyag, m.n.n. 100 °C-on vagy annál magasabb hőmérsékleten, de lobbanásponttal rendelkező anyag esetében a lobbanáspont alatti hőmérsékleten (beleértve az olvasztott fémeket, sókat stb.) a 9 osztály anyaga.

**561** A túlnyomórészt maró tulajdonságokkal bíró klór-formiátok a 8 osztály anyagai.

**562** Az öngyulladó szerves fémvegyületek a 4.2 osztály anyagai. A vízzel reaktív, gyúlékony szerves fémvegyületek a 4.3 osztály anyagai.

**563** Az UN 1905 szelénsav a 8 osztály anyaga.

**564** Az UN 2443 vanádium-oxi-triklorid, az UN 2444 vanádium-tetraklorid és az UN 2475 vanádium-triklorid a 8 osztály anyaga.

**565** Azokat az állatok vagy emberek gyógykezeléséből vagy biológiai kísérletekből származó nem specifikált hulladékokat, amelyeknél kicsi annak a valószínűsége, hogy a 6.2 osztály anyagait tartalmazzák, ezen tétel alá kell sorolni. Azok az előzőleg fertőző anyagokat tartalmazó kórházi hulladékok vagy biológiai kísérletekből származó hulladékok, amelyek fertőtlenítve vannak, nem tartoznak a 6.2 osztály előírásainak hatálya alá.

**566** Az UN 2030 hidrazin vizes oldat 37 tömeg%-nál több hidrazintartalommal a 8 osztály anyaga.

**567** A 21 tf.-%-nál nagyobb oxigéntartalmú gázkeverékeket gyújtó hatásúnak kell besorolni.

**568** A megállapított határnál kisebb víztartalmú bárium-azid az 1 osztály UN 0224 szám anyaga és a vasúti fuvarozásból ki van zárva.

**569 –**

**579** (fenntartva)

**580** A tartálykocsikat, a különleges kocsikat és az ömlesztett szállításra szolgáló, különlegesen felszerelt kocsikat el kell látni mindkét oldalukon az 5.3.3 szakasz szerinti jelöléssel. Tankkonténerek, mobil tartányok, különleges konténerek és az ömlesztett szállításra szolgáló, különlegesen felszerelt konténerek esetében ezt a jelölést mind a négy oldalon el kell helyezni.

**581** Ez a tétel a metil-acetilén és propadién szénhidrogénnel való keverékeire terjed ki, amely mint a

P1 keverék legfeljebb 63 tf.% metil-acetilént és propadiént és legfeljebb 24 tf.% propánt és propilént tartalmaz, és a telített C<sub>4</sub>-szénhidrogén részaránya legalább 14 tf.%; és mint a

P2 keverék legfeljebb 48 tf.% metil-acetilént és propadiént és legfeljebb 50 tf.% propánt és propilént tartalmaz, és a telített C<sub>4</sub>-szénhidrogén részaránya legalább

5 tf.%; valamint kiterjed a

propadién keverékeire 1...4% metil-acetilénnel.

A fuvarokmányra vonatkozó követelmények (lásd az 5.4.1.1 bekezdést) szempontjából megfelelő a „P1 keverék” vagy a „P2 keverék” kifejezés használata a műszaki megnevezés helyett.

**582** Ez a tétel többek között az R... jelű gázok keverékeire terjed ki, mint az:

F1 keverék, amelynek gőznyomása 70 °C-on legfeljebb 1,3 MPa (13 bar) és sűrűsége 50 °C-on a diklór-fluor-metánénál (1,30 kg/l) nem kisebb;

F2 keverék, amelynek gőznyomása 70 °C-on legfeljebb 1,9 MPa (19 bar) és sűrűsége 50 °C-on a diklór-difluor-metánénál (1,21 kg/l) nem kisebb;

F3 keverék, amelynek gőznyomása 70 °C-on legfeljebb 3 MPa (30 bar) és sűrűsége 50 °C-on a klór-difluor-metánénál (1,09 kg/l) nem kisebb;

**Megjegyzés:** A triklór-monofluor-metán (R 11 hűtőgáz), az 1,1,2-triklór-1,2,2-trifluor-etán (R 113 hűtőgáz), az 1,1,1-triklór-2,2,2-trifluor-etán (R 113a hűtőgáz), az 1-klór-1,2,2-trifluor-etán (R 133 hűtőgáz) és az 1-klór-1,1,2-trifluor-etán (R 133b hűtőgáz) nem a 2 osztály anyaga, az F1, F2, F3 keverékekben azonban előfordulhatnak.

A fuvarokmányra vonatkozó követelmények (lásd az 5.4.1.1 bekezdést) szempontjából megfelelő az „F1 keverék”, „F2 keverék” vagy „F3 keverék” kifejezés használata a műszaki megnevezés helyett.

**583** Ez a tétel többek között olyan keverékekre terjed ki, mint az:

A gázkeverék, amelynek gőznyomása 70 °C-on legfeljebb 1,1 MPa (11 bar) és sűrűsége 50 °C-on legalább 0,525 kg/l;

A01 gázkeverék, amelynek gőznyomása 70 °C-on legfeljebb 1,6 MPa (16 bar) és sűrűsége 50 °C-on legalább 0,516 kg/l;

A02 gázkeverék, amelynek gőznyomása 70 °C-on legfeljebb 1,6 MPa (16 bar) és sűrűsége 50 °C-on legalább 0,505 kg/l;

A0 gázkeverék, amelynek gőznyomása 70 °C-on legfeljebb 1,6 MPa (16 bar) és sűrűsége 50 °C-on legalább 0,495 kg/l;

A1 gázkeverék, amelynek gőznyomása 70 °C-on legfeljebb 2,1 MPa (21 bar) és sűrűsége 50 °C-on legalább 0,485 kg/l;

B1 gázkeverék, amelynek gőznyomása 70 °C-on legfeljebb 2,6 MPa (26 bar), és sűrűsége 50 °C-on legalább 0,474 kg/l;

B2 gázkeverék, amelynek gőznyomása 70 °C-on legfeljebb 2,6 MPa (26 bar) és sűrűsége 50 °C-on legalább 0,463 kg/l;

B gázkeverék, amelynek gőznyomása 70 °C-on legfeljebb 2,6 MPa (26 bar) és sűrűsége 50 °C-on legalább 0,450 kg/l;

C gázkeverék, amelynek gőznyomása 70 °C-on legfeljebb 3,1 MPa (31 bar) és

sűrűsége 50 °C-on legalább 0,440 kg/l.

A fuvarokmánya vonatkozó követelmények (lásd az 5.4.1.1 bekezdést) szempontjából megfelelő a következő kifejezések használata a műszaki megnevezés helyett:

- „A keverék” vagy „bután”;
- „A01 keverék” vagy „bután”;
- „A02 keverék” vagy „bután”;
- „A0 keverék” vagy „bután”;
- „A1 keverék”;
- „B1 keverék”;
- „B2 keverék”;
- „B keverék”;
- „C keverék” vagy „propán”.

Tartányban történő szállítás esetén a bután vagy propán kereskedelmi név csak kiegészítésként használható.

**584** Ez a gáz nem esik a RID előírásainak hatálya alá, ha:

- gáz halmazállapotú;
- legfeljebb 0,5% levegőt tartalmaz;
- fémkapszulákban (szifonpatronok, habszifon patronok) van, amelyek mentesek a szilárdságukat gyengítő hibáktól;
- a kapszula zárásának szivárgásmentessége garantált;
- egy kapszula legfeljebb 25 g ilyen gázt tartalmaz;
- egy kapszula legfeljebb 0,75 g ilyen gázt tartalmaz 1 cm<sup>3</sup> térfogatra vonatkoztatva.

**585** A cinóber nem tartozik a RID előírásainak hatálya alá.

**586** A hafnium-, titán- és cirkóniumpornak szemmel látható vízfelesleget kell tartalmaznia. Azok a mechanikailag előállított, nedvesített hafnium-, titán- és cirkóniumporok, melyek részecskemérete legalább 53 µm, és azok a kémiaiilag előállítottak, melyek részecskemérete legalább 840 µm, nem tartoznak a RID hatálya alá.

**587** A bárium-sztearát és a bárium-titanát nem tartozik a RID előírásainak hatálya alá.

**588** Az alumínium-bromid és az alumínium-klorid szilárd, hidratált formái nem tartoznak a RID előírásainak hatálya alá.

- 589** A száraz kalcium-hipoklorit keverékek legfeljebb 10% szabad klórtartalommal nem tartoznak a RID előírásainak hatálya alá.
- 590** A vas(III)-klorid-hexahidrát nem tartozik a RID előírásainak hatálya alá.
- 591** A legfeljebb 3% szabad kénsavat tartalmazó ólom-szulfát nem tartozik a RID előírásainak hatálya alá.
- 592** Azok a tisztítatlan, üres csomagolóeszközök (beleértve az üres IBC-ket és nagycsomagolásokat is), üres tartálykocsik, üres leszerelhető tartályok, üres mobil tartályok, üres tankkonténerek és üres kiskonténerek, amelyek ezt az anyagot tartalmazták, nem tartoznak a RID előírásainak hatálya alá.
- 593** Ez a gáz nem tartozik a RID előírásainak hatálya alá, amennyiben pl. gyógyászati vagy biológiai minták hűtésére szolgál és a 4.1.4.1 bekezdés P203 csomagolási utasítás 12) pont előírásainak megfelelő, kettős falú tartályban van.
- 594** A következő tárgyak, amelyeket a gyártó ország előírásai szerint állítottak elő és töltöttek meg, erős külső csomagolásba helyezve nem tartoznak a RID előírásainak hatálya alá:
- UN 1044 tűzoltókészülékek, a nem szándékos működtetés elleni védelemmel ellátva;
  - UN 3164 pneumatikus vagy hidraulikus nyomás alatti tárgyak, amelyek az erőátvitelük, alaktartásuk vagy konstrukciójuk révén a belső gáz nyomásánál nagyobb nyomás elviselésére vannak méretezve.
- 596** Az olyan kadmimpigmentek, mint a kadmium-szulfidok, a kadmium-szulfoszelenidek és a hosszabb láncú zsírsavak kadmiumsói (pl. kadmium-sztearát) nem tartoznak a RID előírásainak hatálya alá.
- 597** Az ecetsav oldatok legfeljebb 10 tömeg% tiszta savtartalommal nem tartoznak a RID előírásainak hatálya alá.
- 598** A következő tárgyak nem tartoznak a RID előírásainak hatálya alá:
- a) Új akkumulátortelepek abban az esetben, ha:
- úgy vannak rögzítve, hogy nem tudnak elcsúszni, leesni vagy megrongálódni;
  - el vannak látva kitámasztó eszközzel vagy megfelelően vannak halmazolva, pl. rakodólapon;
  - nincs a külsejükön veszélyes sav vagy lúg maradvány;
  - rövidzárlat ellen védve vannak.
- b) Használt akkumulátortelepek abban az esetben, ha:
- házuk sértetlen;
  - úgy vannak rögzítve, hogy nem tudnak szivárogni, elcsúszni, leesni vagy megrongálódni, pl. rakodólapon vannak rögzítve;
  - nincs a külsejükön veszélyes sav vagy lúg maradvány;
  - rövidzárlat ellen védve vannak.



„Használt akkumulátortelep”-eken azokat az akkumulátortelepeket kell érteni, amelyeket élettartamuk leteltével újrafeldolgozás céljából szállítanak.

- 599** A legfeljebb 1 kg higanyt tartalmazó készülékek vagy egyéb gyártmányok nem tartoznak a RID előírásainak hatálya alá.
- 600** Az olvasztott és megszilárdult vanádium-pentoxid nem tartozik a RID előírásainak hatálya alá.
- 601** A felhasználásra kész gyógyszerészeti termékek (gyógyszerek), amelyeket személyes vagy háztartási felhasználás vagy kiskereskedelmi értékesítés céljára gyártanak és erre szolgáló csomagolásban vannak, nem tartoznak a RID előírásainak hatálya alá.
- 602** Azok a foszfor-szulfidok, amelyek fehér- és sárgafoszfortól nem mentesek, nem szállíthatók.
- 603** Az UN 1051 vagy UN 1614 tétel leírásának nem megfelelő vízmentes hidrogén-cianid nem szállítható. A hidrogén-cianid (cián-hidrogénsav) 3% alatti víztartalommal akkor stabil, ha a pH érték  $2,5 \pm 0,5$  és a folyadék átlátszó és színtelen.
- 604** Az ammónium-bromát és vizes oldatai, valamint a bromátok keverékei ammóniumsóval nem szállíthatók.
- 605** Az ammónium-klorát és vizes oldatai, valamint a klorátok keverékei ammóniumsóval nem szállíthatók.
- 606** Az ammónium-klorit és vizes oldatai, valamint a kloritok keverékei ammóniumsóval nem szállíthatók.
- 607** A kálium-nitrát és nátrium-nitrit keverékei valamely ammóniumsóval nem szállíthatók.
- 608** Az ammónium-permanganát és vizes oldatai, valamint a permanganátok keverékei ammóniumsóval nem szállíthatók.
- 609** Az éghető szennyeződésektől nem mentes tetranitro-metán nem szállítható.
- 610** Ez az anyag 45%-nál nagyobb hidrogén-cianid tartalommal nem szállítható.
- 611** Az ammónium-nitrát 0,2%-nál több éghető anyag tartalommal (beleértve bármilyen szerves anyagot szénegyenértékre átszámítva) nem szállítható, hacsak nem valamely 1 osztályba tartozó anyag vagy tárgy alkotórésze.
- 612** (fenntartva)
- 613** A klórsav oldatok 10% feletti klórsav-tartalommal és a klórsav keverékek vízen kívül bármilyen más folyadékkal nem szállíthatók.
- 614** A 2,3,7,8-tetraklór-dibenzo-1,4-dioxin (TCDD) olyan koncentrációban, amely a 2.2.61.1 bekezdésben foglalt feltételek alapján nagyon mérgező, nem szállítható.
- 615** (fenntartva)

- 616** A 40%-nál nagyobb folyékony salétromsav-észter tartalmú anyagoknak ki kell elégíteniük a 2.3.1 szakasz szerinti kiizzadási próba feltételeit.
- 617** A robbantóanyag típusán kívül az adott robbantóanyag kereskedelmi nevét is fel kell tüntetni a küldeménydarabon.
- 618** Az 1,2-butadiénnel töltött tartályokban a gázfázis oxigénkoncentrációja legfeljebb 50 ml/m<sup>3</sup> lehet.
- 619–**  
**622** (fenntartva)
- 623** Az UN 1829 kén-trioxidot inhibitor hozzáadásával stabilizálni kell. A 99,95%-os vagy annál nagyobb tisztaságú, nem stabilizált (inhibitor nélküli) kén-trioxid a vasúti fuvarozásból ki van zárva. A 99,95%-os vagy annál nagyobb tisztaságú kén-trioxid azonban inhibitor nélkül tartályban közúton szállítható, amennyiben hőmérsékletét legalább 32,5 °C-on tartják.
- 625** Az ilyen tárgyakat tartalmazó küldeménydarabokon jól olvasható módon fel kell tüntetni az „UN 1950 AEROSZOLOK” feliratot.
- 626 –**  
**631** (fenntartva)
- 632** Öngyulladónak (piroforosnak) tekintendő.
- 633** Ezt az anyagot tartalmazó küldeménydarabokat és kiskonténereket el kell látni a következő felirattal: „Gyújtóforrástól távol tartandó”. Ezt a feliratot a feladási ország valamely hivatalos nyelvén és ezenkívül, ha ez a nyelv nem a francia, a német, az olasz vagy az angol, akkor francia, német, olasz vagy angol nyelven kell szövegezni, kivéve, ha a szállítás által érintett országok közötti megállapodások, ha ilyenek vannak, másként rendelkeznek.
- 634** (törölve)
- 635** Az ezen tárgyakat tartalmazó küldeménydarabokat csak akkor kell 9 számú bárcával ellátni, ha a tárgy a csomagolásba, rekeszbe vagy más eszközbe úgy van teljesen bezárva, hogy a tárgy gyors azonosítása nem lehetséges.
- 636** a) A készülékekben levő cellák a szállítás alatt nem sühetnek ki olyan mértékben, hogy a kapocsfeszültség nyitott áramkörben 2 V alá, vagy a nem kisütött cella feszültségének kétharmada alá csökkenjen aszerint, hogy ezen két feszültség közül melyik az alacsonyabb.
- b) Abban az esetben, ha az összegyűjtött és ártalmatlanításra szánt, egyenként legfeljebb 500 gr bruttó tömegű lítium-cellákat és akkumulátorokat másféle (nemlítium-) cellákkal és akkumulátorokkal együtt a fogyasztói gyűjtőhely és a köztes feldolgozó létesítmény közötti szállításra adják fel, a RID többi előírását nem kell betartani, ha kielégítik a következő feltételeket:

- i) a P903b csomagolási utasítás előírásait betartják;
  - ii) minőségbiztosítási programot alkalmaznak annak biztosítására, hogy a lítium-cellák, ill. akkumulátorok összes mennyisége nem haladja meg a szállítóegységenkénti 333 kg-ot;
  - iii) a küldeménydarabokat el kell látni „**Használt lítium-cellák**” felirattal.
- 637** A géntechnológiával módosított mikroorganizmusok és a géntechnológiával módosított élő szervezetek azok, amelyek bár nem veszélyesek az emberekre vagy állatokra, de amelyek képesek az állatokat, növényeket, mikrobiológiai anyagokat és az ökoszisztémát oly módon megváltoztatni, ami a természetben nem következhet be.
- Azok a géntechnológiával módosított mikroorganizmusok és géntechnológiával módosított élő szervezetek, amelyek felhasználását a származási, a tranzit és a célország illetékes hatóságai engedélyezték<sup>1)</sup>, nem tartoznak a RID előírásainak hatálya alá. Gerinces vagy gerinctelen élő állatok ezen UN szám alá besorolt anyagok szállítására nem használhatók, hacsak az anyag más módon nem szállítható.
- 638** Ezek az anyagok önreaktív anyagokkal rokon anyagok (lásd a 2.2.41.1.19 pontot).
- 639** Lásd a 2.2.2.3 bekezdés, 2F osztályozási kód, UN 1965, 2. megjegyzést.
- 640** A 3.2 fejezet „A” táblázat 2 oszlopában említett fizikai és műszaki jellemzők különböző tartánykódokat határoznak meg ugyanazon csomagolási csoportba tartozó anyagok RID-tartányokban történő szállításához.
- A tartányban szállított termék ezen fizikai és műszaki jellemzőinek megállapításához kizárólag RID-tartányok esetén a következő bejegyzéssel kell a fuvarokmányban feltüntetendő adatokat kiegészíteni:
- „**640X különleges előírás**”, ahol „X” a 3.2 fejezet „A” táblázat 6 oszlopában a 640 különleges előírás után szereplő nagybetű.
- Ez a bejegyzés azonban elhagyható olyan típusú tartányban történő szállítás esetén, amely legalább az adott UN szám adott csomagolási csoportjához tartozó legszigorúbb követelményeknek felel meg.
- 642** Az UN Minta Szabályzat ezen tételét csak az 1.1.4.2 bekezdés szerinti esetben lehet a szabad ammónia tartalmú ammónia műtrágya oldat szállításához használni.
- 643** Az aszfaltkeverékek nem tartoznak a 9 osztály előírásainak hatálya alá.
- 644** Ez az anyag csak akkor szállítható, ha
- a szállított anyag 10%-os vizes oldatában mért pH érték 5 és 7 között van;
  - az oldat nem tartalmaz sem 0,2%-nál több éghető anyagot, sem klórvegyületet olyan mennyiségben, hogy a klórtartalom meghaladja a 0,02%-ot.

1) Lásd részletesen a géntechnológiával módosított szervezeteknek a környezetben történő szándékos kibocsátásáról és a 90/220/EGK Tanácsi Irányelv hatályon kívül helyezéséről szóló 2001/18/EK Európai Parlamenti és Tanácsi Irányelv (az EK Hivatalos Lapja, L 106. szám, 2001.04.17., 8 – 14 o.) C részét, amely tartalmazza az Európai Közösség engedélyezési eljárásait. Magyarországon lásd az 1998. évi XXVII. tv-t a géntechnológiai tevékenységről, ill. a végrehajtására kiadott rendeleteket.

- 645** A 3.2 fejezet „A” táblázat 3b oszlopban található osztályozási kódot csak valamely COTIF Tagállam illetékes hatóságának a szállítás előtti jóváhagyásával lehet alkalmazni. Ha az alosztályt a 2.2.1.1.7.2 pontban ismertetett eljárással határozzák meg, az illetékes hatóság előírhatja, hogy a besorolást a „Vizsgálatok és kritériumok kézikönyv” I. Rész 16 fejezet 6 vizsgálati sorozat próbái során nyert adatok alapján ellenőrizték.
- 646** A gőzzel aktivált szén nem tartozik a RID előírásainak hatálya alá.
- 647** A legfeljebb 25% tisztasav tartalmú (biológiai erjesztésű) ételecet és (étkezési) ecetsav oldat csak a következő előírások hatálya alá tartozik:
- a) a csomagolóeszközöket (IBC-ket, nagycsomagolásokat) és a tartányokat rozsdamentes acélból vagy műanyagból kell gyártani, ami tartósan ellenáll az ételecet, ill. ecetsav oldat korróziós hatásának;
  - b) a csomagolóeszközöket (IBC-ket, nagycsomagolásokat) és a tartányokat évente legalább egyszer a tulajdonosnak szemrevételezéssel meg kell vizsgálnia. A vizsgálat eredményét írásban kell rögzíteni és legalább egy évig meg kell őrizni. A sérült csomagolóeszközöket (IBC-ket, nagycsomagolásokat) és tartányokat nem szabad megtölteni;
  - c) a csomagolóeszközöket (IBC-ket, nagycsomagolásokat) és a tartányokat úgy kell megtölteni, hogy a termék ne csepegjen és ne tapadjon a külső felületükre.
  - d) a tömítéseknek és zárószerkezeteknek ételecettel, ill. ecetsav oldattal szemben ellenállónak kell lenniük. A csomagolóeszközöket (IBC-ket, nagycsomagolásokat) és a tartányokat, a csomagolónak, ill. töltőnek légmentesen kell lezárnia úgy, hogy normális szállítási feltételek mellett ne következhesen be szivárgás;
  - e) használhatók a 4.1.1.1, 4.1.1.2, 4.1.1.4, 4.1.1.5, 4.1.1.6, 4.1.1.7 és 4.1.1.8 bekezdés általános csomagolási előírásainak megfelelő kombinált csomagolások üveg vagy műanyag belső csomagolóeszközökkel (lásd a 4.1.4.1 bekezdésben a P001 csomagolási utasítást).
- A RID egyéb előírásait nem kell betartani.
- 648** Az ezzel a peszticiddal impregnált tárgyak, pl. papírtányérok, papírszalagok, vattagolyók, műanyag lapok, légmentesen zárt burkolatban nem tartoznak a RID előírásainak hatálya alá.

- 649** A 2.2.3.1.3 pontban az I csomagolási csoportnál említett forráskezdet meghatározására alkalmas az ASTM D86-01 szabvány<sup>2)</sup> szerinti vizsgálati módszer.

Azok az anyagok, amelyek forráskezdete ezzel a módszerrel meghatározva meghaladja a 35 °C-ot, a II csomagolási csoport anyagai és e csomagolási csoport megfelelő tétele szerint kell besorolni.

- 650** A festékek csomagolóeszközeiből, beszáradt vagy folyékony festék maradványokból álló hulladék a II csomagolási csoport feltételei szerint szállítható. Az UN 1263 tétel II csomagolási csoportjára vonatkozó előírásokon kívül ez a hulladék a következők szerint is csomagolható és szállítható:

- a) a hulladék a 4.1.4.1 bekezdés P002 csomagolási utasítása, ill. a 4.1.4.2 bekezdés IBC06 csomagolási utasítása szerint is csomagolható;
- b) a hulladék teljes falú egyesítőcsomagolásba helyezett 13H3, 13H4 vagy 13H5 típusú hajlékony falú IBC-be is csomagolható;
- c) az a), ill. a b) pont alatt jelzett csomagolóeszközöket, ill. IBC-eket a 6.1, ill. a 6.5 fejezet előírásai szerint a II csomagolási csoportra, szilárd anyagra elég vizsgálni.

A vizsgálatokat a hulladékot reprezentáló mintával megtöltött, szállításra előkészített csomagolóeszkővel, ill. IBC-vel kell elvégezni;

- d) megengedett az ömlesztett szállítás teljes falú, ponyvás kocsikban, teljes falú, eltolható tetejű kocsikban, teljes falú, zárt konténerekben vagy teljes falú, ponyvás nagykonténerekben is. A kocsik felépítményének, ill. a konténereknek szivárgás mentesnek kell lenniük, vagy azokat pl. alkalmas és elég erős béléssel szivárgás mentessé kell tenni;
- e) ha a hulladékot e különleges előírás feltételei szerint szállítják, az árut az 5.4.1.1.3 pont értelmében a következő szöveggel kell a fuvarokmányba bejegyezni:

**„HULLADÉK, UN 1263 FESTÉK, 3, II”.**

- 651** (fenntartva)

- 652** (fenntartva)

- 653** Legfeljebb 0,5 l űrtartalmú palackokban szállítva ez a gáz nem tartozik a RID többi előírásának hatálya alá, a következő feltételekkel:

- a palackok gyártására és vizsgálatára vonatkozó előírásokat betartják;
- a palackok olyan külső csomagolóeszkőben vannak, amely legalább a 4. Rész kombinált csomagolásokra vonatkozó követelményeinek megfelel; a 4.1.1.1, a 4.1.1.2 és a 4.1.1.5 – 4.1.1.7 bekezdés általános csomagolási előírásait be kell

2) Standard vizsgálati módszer kőolajtermékek desztillálására atmoszférikus nyomáson, kiadta az ASTM International 2001. szeptemberében.

tartani;

- a palackokat nem csomagolják egybe más veszélyes áruval;
- egy küldeménydarab össztömege legfeljebb 30 kg;
- minden küldeménydarabon jól látható módon és tartósan fel van tüntetve az UN 1013 jelölés. Ezt a jelölést egy vonallal körberajzolt, legalább 100 x 100 mm nagyságú, csúcsára állított négyzetben kell feltüntetni.

**654** Ez a tétel alkalmazható az 5.4.1.1.3 pont szerint feladott, elkülönítve összegyűjtött hulladék öngyújtók ártalmatlanítás céljából történő szállításakor is. Ilyen esetben nem kell az akaratlan működtetés ellen védeni, feltéve, hogy megtették a szükséges óvintézkedéseket a veszélyes nyomásnövekedés, ill. veszélyes atmoszféra kialakulásának megakadályozására. Azokat az öngyújtókat, amelyek nem szivárognak, ill. nincsenek nagyon deformálódva, a P003 csomagolási utasításnak megfelelően kell csomagolni, és ezenkívül a következő előírásokat kell betartani:

- csak legfeljebb 60 l űrtartalmú, merev falú csomagolóeszközök használhatók;
- a gyulladás elkerülése érdekében a csomagolóeszközt vízzel vagy más, alkalmas védőközzel kell feltölteni;
- normális szállítási körülmények között a védőközegnek el kell lepnie az öngyújtók gyújtószerkezetét;
- a csomagolóeszközöket megfelelően szellőztetni kell, hogy gyúlékony atmoszféra, ill. nyomás kialakulását megelőzzék;
- a küldeménydarabok csak jól szellőző vagy nyitott járművel, ill. konténerben vihetők.

A szivárgó vagy erősen deformálódott öngyújtókat kármentő csomagolásban kell szállítani, megfelelő óvintézkedésekkel biztosítva, hogy nem lép fel veszélyes nyomásnövekedés.

**Megjegyzés:** *A hulladék öngyújtókra nem kell alkalmazni sem a 201 különleges előírást, sem a 4.1.4.1 bekezdés P002 csomagolási utasításának PP84 és RR5 különleges csomagolási előírását.*

### 3.4 fejezet

#### Korlátozott mennyiségben csomagolt veszélyes áruk

##### 3.4.1 Általános előírások

**3.4.1.1** A 3.4.3 – 3.4.6 szakasz alapján használt csomagolóeszközöknek csak a 4.1.1.1, a 4.1.1.2 és a 4.1.1.4 – 4.1.1.8 bekezdés általános előírásainak kell megfelelniük.

**3.4.1.2** A kombinált csomagolás legnagyobb össztömege nem haladhatja meg a 30 kg-ot, a zsugor-fóliás vagy nyújtható fóliás alátétálcás csomagolása a 20 kg-ot.

***Megjegyzés:** A kombinált csomagolásra ezt a korlátozást nem kell betartani LQ5 esetén.*

**3.4.1.3** A veszélyes áruk, a 3.4.1.2 bekezdésben meghatározott felső határok és a 3.4.6 táblázatban meghatározott egyedi határok betartásával, más anyagokkal és tárgyakkal egybecsomagolhatók, amennyiben szivárgás esetén nem lépnek egymással veszélyes reakcióba.

**3.4.2** Amennyiben egy adott anyagra vagy tárgyra a 3.2 fejezet „A” táblázat 7a oszlopában az LQ0 kód található, akkor ez az anyag vagy tárgy még korlátozott mennyiségben csomagolva sem mentesül a RID egyetlen vonatkozó előírása alól sem, hacsak nincsen más előírva.

**3.4.3** Amennyiben egy adott anyagra vagy tárgyra a 3.2 fejezet „A” táblázat 7a oszlopában az LQ1 vagy LQ2 kód található, akkor – hacsak ez a fejezet másként nem rendelkezik – a RID többi fejezeteinek előírásai nem vonatkoznak ennek az anyagnak vagy tárgynak a szállítására, azzal a feltétellel, hogy:

- a) a 3.4.5 a) – c) bekezdés előírásait betartják; ezen előírások szempontjából a tárgyak belső csomagolásnak minősülnek;
- b) a belső csomagolások megfelelnek a 6.2.5.1 és a 6.2.6.1 – 6.2.6.3 bekezdés feltételeinek.

**3.4.4** Amennyiben egy adott anyagra a 3.2 fejezet „A” táblázat 7a oszlopában LQ3 kód található, akkor – hacsak ez a fejezet másként nem rendelkezik – a RID többi fejezeteinek előírásai nem vonatkoznak ennek az anyagnak a szállítására, azzal a feltétellel, hogy:

- a) az anyagot kombinált csomagolásban szállítják, amelyhez a következő külső csomagolóeszközök engedélyezettek:
  - acél- vagy alumíniumhordók levehető tetővel,
  - acél- vagy alumíniumkannák levehető tetővel,
  - rétegelt falemez vagy papírlemez hordók,
  - műanyaghordók vagy -kannák levehető tetővel,
  - fa-, rétegelt falemez, farostlemez, papírlemez, műanyag-, acél- vagy alumíniumládák,amelyek kielégítik a 6.1.4 szakasz vonatkozó gyártási előírásait;
- b) a legnagyobb nettó mennyiség nem haladja meg belső csomagolásonként a 3.4.6 táblázat (2) vagy (4) oszlopában, és küldeménydarabonként a (3) vagy (5) oszlopában előírt értéket, ha van érték feltüntetve;
- c) minden küldeménydarabon jól látható módon és tartósan fel van tüntetve:

- i) a benne lévő áru UN száma, amint azt a 3.2 fejezet „A” táblázat 1 oszlopa tartalmazza, amely elé az „UN” rövidítés van írva, vagy
- ii) amennyiben egy küldeménydarabban különböző UN számú, különböző áruk vannak:
  - a benne lévő áruk UN száma, amely elé az „UN” rövidítés van írva, vagy
  - az „LQ” rövidítés<sup>3)</sup>.

Ezt a jelölést egy vonallal körberajzolt, legalább 100 x 100 mm nagyságú, csúcsára állított négyzetben kell feltüntetni. A keretező vonal vastagságának legalább 2 mm-nek, a számok magasságának legalább 6 mm-nek kell lennie. Ha a küldeménydarab egynél több UN szám alá tartozó anyagot tartalmaz, a négyzetnek elég nagynak kell lenni ahhoz, hogy az összes UN szám beleférjen. Ha a küldeménydarab mérete úgy kívánja, a jelölés méretei csökkenthetők, feltéve, hogy jól látható marad.

#### 3.4.5

Amennyiben egy adott anyagra a 3.2 fejezet „A” táblázat 7a oszlopában LQ4 – LQ19 vagy LQ22 – LQ28 kód található, akkor – hacsak ez a fejezet másként nem rendelkezik – a RID többi fejezeteinek előírásai nem vonatkoznak ennek az anyagnak a szállítására, azzal a feltétellel, hogy:

- a) az anyagot
  - a 3.4.4 a) bekezdésnek megfelelő kombinált csomagolásban szállítják; vagy
  - olyan fém, illetve olyan műanyag belső csomagolásokban vannak, amelyek törésre nem hajlamosak és nem lyukadnak át könnyen, ha zsugorfóliás vagy nyújtható fóliás alátétálcás csomagolásokban vannak;
- b) a legnagyobb nettó mennyiség nem haladja meg belső csomagolásonként a 3.4.6 táblázat (2) vagy (4) oszlopában, és küldeménydarabonként a (3) vagy (5) oszlopában előírt értéket, ha van érték feltüntetve;
- c) minden küldeménydarab jól látható és tartós jelöléssel van ellátva, amint azt a 3.4.4 c) bekezdés előírja.

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3) Az „LQ” betűk az angol „limited quantity” (magyarul „korlátozott mennyiség”) rövidítése. Az „LQ” rövidítés használatát az IMDG Kódex és az ICAO Műszaki Utasítások előírásai nem engedélyezik.



## 3.4.6 Táblázat

Kód	Kombinált csomagolás <sup>a)</sup>		Zsugorfóliás vagy nyújtható fóliás alátétálcára <sup>a)</sup> helyezett belső csomagolások	
	Legnagyobb nettó mennyiség		Legnagyobb nettó mennyiség	
	belső csomagolásonként	Küldeménydarabonként <sup>b)</sup>	belső csomagolásonként	Küldeménydarabonként <sup>b)</sup>
(1)	(2)	(3)	(4)	(5)
LQ0	A 3.4.2 szakasz szerint nincs mentesség.			
LQ1	120 ml		120 ml	
LQ2	1 l		1 l	
LQ3 <sup>c)</sup>	500 ml	1 l	nem engedélyezett	nem engedélyezett
LQ4 <sup>c)</sup>	3 l		1 l	
LQ5 <sup>c)</sup>	5 l	korlátlan	1 l	
LQ6 <sup>c)</sup>	5 l		1 l	
LQ7 <sup>c)</sup>	5 l		5 l	
LQ8	3 kg		500 g	
LQ9	6 kg		3 kg	
LQ10	500 ml		500 ml	
LQ11	500 g		500 g	
LQ12	1 kg		1 kg	
LQ13	1 l		1 l	
LQ14	25 ml		25 ml	
LQ15	100 g		100 g	
LQ16	125 ml		125 ml	
LQ17	500 ml	2 l	100 ml	2 l
LQ18	1 kg	4 kg	500 g	4 kg
LQ19	5 kg		5 kg	
LQ20	Fenntartva	fenntartva	fenntartva	fenntartva
LQ21	Fenntartva	fenntartva	fenntartva	fenntartva
LQ22	1 l		500 ml	
LQ23	3 kg		1 kg	
LQ24	6 kg		2 kg	
LQ25 <sup>d)</sup>	1 kg		1 kg	
LQ26 <sup>d)</sup>	500 ml	2 l	500 ml	2 l
LQ27	6 kg		6 kg	
LQ28	3 l		3 l	

a) Lásd a 3.4.1.2 bekezdést.

b) Lásd a 3.4.1.3 bekezdést.

c) A 3 osztályba tartozó, víztartalmú homogén keverékek esetén a jelzett mennyiségek csak a keverékben található, 3 osztályba tartozó anyagokra vonatkoznak.

d) Amennyiben az UN 2315, 3151, 3152 és 3432 anyagait készülékekben szállítják, a belső csomagolásonkénti mennyiségek készülékenként értendők. A készülékeket szivárgásmentes csomagolásban kell szállítani és a kész küldeménydarabnak meg kell felelnie a 3.4.4 c) bekezdés előírásainak. Ezekhez a készülékekhez zsugorfóliás vagy nyújtható fóliás alátétálcás csomagolás nem használható.

- 3.4.7** A 3.4.3, a 3.4.4, ill. a 3.4.5 szakasznak megfelelő küldeménydarabokat tartalmazó egyesítőcsomagolásokat minden, bennük levő veszélyes árura vonatkozóan a 3.4.4 c) bekezdésben előírt jelöléssel kell ellátni, kivéve, ha az egyesítőcsomagolásban levő minden veszélyes árufajta jelölése kívülről látható.
- 3.4.8** Az e fejezet előírásai szerint szállított küldeménydarabokra, ill. egyesítőcsomagolásokra:
- a) a küldeménydarab álló helyzetét jelző nyilakkal való megjelölésre az 5.2.1.9 bekezdés;
  - b) az egyesítőcsomagolás álló helyzetét jelző nyilakkal való megjelölésre az 5.1.2.1 bekezdés b) pontja; és
  - c) a küldeménydarabok elhelyezésére a 7.5.1.5 bekezdés követelményeit ugyancsak alkalmazni kell.
- 3.4.9** A korlátozott mennyiségben csomagolt veszélyes áru feladása előtt (kivéve ha tengeri szállítást is magában foglaló szállításra adják fel) a feladónak közölnie kell a fuvarozóval a feladni szándékozott áru összes bruttó tömegét.
- A korlátozott mennyiségben csomagolt veszélyes áru berakójának a 3.4.10 – 3.4.12 szakaszok jelölésre vonatkozó előírásait is be kell tartani.
- 3.4.10**
- a) A korlátozott mennyiségben csomagolt veszélyes árut tartalmazó küldeménydarabokat szállító kocsit mindkét oldalán a 3.4.12 szakasz szerinti jelöléssel kell ellátni, kivéve, ha az 5.3.1 szakasz szerint nagybárcákkal már meg van jelölve.
  - b) A korlátozott mennyiségben csomagolt veszélyes árut tartalmazó küldeménydarabokat szállító nagykonténert mind a négy oldalán a 3.4.12 szakasz szerinti jelöléssel kell ellátni, kivéve, ha az 5.3.1 szakasz szerint nagybárcákkal már meg van jelölve.
- Ha a nagykonténeren lévő jelölés a hordozó kocsin kívülről nem látható, akkor a kocsi mindkét oldalára ugyanolyan jelölést kell elhelyezni.
- 3.4.11** A 3.4.10 szakaszban előírt jelölés elhagyható, ha a korlátozott mennyiségben csomagolt veszélyes árut tartalmazó küldeménydarabok összes bruttó tömege egy kocsiban vagy nagykonténerben legfeljebb 8 tonna.
- 3.4.12** A jelölés egy fehér alapon, legalább 65 mm magas fekete betűkkel feltüntetett „LTD QTY”<sup>4)</sup> felirat.
- 3.4.13** A tengeri szállítást is magában foglaló szállítási láncban történő továbbításnál az IMDG kódex 3.4 fejezete szerinti jelölés is elfogadható.

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4) Az „LTD QTY” az angol „limited quantity” (magyarul „korlátozott mennyiség”) kifejezés rövidítése.

### 3.5 fejezet

#### Engedményes mennyiségben csomagolt veszélyes áruk

##### 3.5.1 Engedményes mennyiségek

**3.5.1.1** Bizonyos osztályok engedményes mennyiségű veszélyes áruira (a tárgyak kivételével) – amennyiben megfelelnek ezen fejezet előírásainak – a RID összes többi előírása közül csak a következőket kell betartani:

- a) az 1.3 fejezet képzési követelményeit;
- b) a 2. rész osztályozási (besorolási) eljárását és a csomagolási csoporthoz való hozzárendelés kritériumait;
- c) a 4.1.1.1, a 4.1.1.2, a 4.1.1.4 és a 4.1.1.6 bekezdés csomagolási előírásait.

**Megjegyzés:** *Radioaktív anyagok esetén az 1.7.1.5 bekezdésben található, az engedményes küldeménydarabban lévő radioaktív anyagokra vonatkozó követelmények érvényesek.*

**3.5.1.2** Az ezen fejezet előírásai szerint engedményes mennyiségben szállítható veszélyes áruknál a 3.2 fejezet „A” táblázat 7b oszlopában egy betűből és számból álló kód van feltüntetve a következők szerint:

Kód	Legnagyobb nettó mennyiség belső csomagolásonként  (szilárd anyagra g-ban, folyékony anyagra és gázra ml-ben)	Legnagyobb nettó mennyiség külső csomagolásonként (szilárd anyagra g-ban, folyékony anyagra és gázra ml-ben, egybecsomagolás esetén a g-ban és a ml-ben kifejezett mennyiség összege )
E0	engedményes mennyiségként nem engedélyezett	
E1	30	1000
E2	30	500
E3	30	300
E4	1	500
E5	1	300

Gázok esetén a belső csomagolásra megadott mennyiség a belső tartály víztérfogatát jelenti, a külső csomagolásra megadott mennyiség az egy külső csomagolásban lévő összes belső csomagolás együttes víztérfogatát jelenti.

**3.5.1.3** Ha olyan veszélyes árukat csomagolnak egybe engedményes mennyiségben, amelyekhez különböző kódok tartoznak, a külső csomagolásonkénti legnagyobb mennyiségre a (leg)kisebb értéket kell betartani.

##### 3.5.2 Csomagolóeszközök

Az engedményes mennyiségben szállított veszélyes áruk csomagolóeszközeinek a következőknek kell megfelelniük:

- a) Minden esetben kell belső csomagolóeszközt alkalmazni. A belső csomagolóeszköz lehet műanyagból (amely, ha folyékony anyagokhoz használják legalább 0,2 mm vastagságú legyen), üvegből, porcelánból, kőből, kerámiából vagy fémből (lásd a 4.1.1.2 bekezdést is). A belső csomagolóeszközök zárószerkezetét zárt helyzetében rögzíteni kell huzallal, ragasztószalaggal vagy más hatásos eszközzel, az öntött csavarmentes nyakú tartályokat folyadéktömör menetes kupakkal kell ellátni. A zárószerkezetnek a tartalommal szemben ellenállónak kell lennie. ;
- b) Minden belső csomagolóeszközt párnázóanyag közé, közbenső csomagolásba kell biztonságosan elhelyezni oly módon, hogy szokásos szállítási körülménynek között ne törhessenek el, ne lyukadhassanak ki, ill. tartalmuk ne szivároghasson ki. Törés vagy szivárgás esetén a közbenső csomagolásnak a teljes tartalmat meg kell tartania, függetlenül attól, hogy a küldeménydarab milyen helyzetben van. Folyadékok esetén a közbenső csomagolásnak a belső csomagolóeszköz teljes tartalmának felszívására elegendő nedvszívó anyagot kell tartalmaznia. Ilyen esetben a nedvszívó anyag párnázóanyagként is szolgálhat. A veszélyes anyag nem léphet veszélyes reakcióba sem a párnázóanyaggal, sem a nedvszívó anyaggal, sem a csomagolóeszköz anyagával, ill. nem gyengítheti épségüket vagy védő tulajdonságaikat.;
- c) A közbenső csomagolást erős, merev falú (fa, papírlemez vagy ugyanennyire erős más anyagból készült) külső csomagolóeszközbe kell biztonságosan elhelyezni.;
- d) Minden küldeménydarab típusnak meg kell felelnie a 3.5.3 szakasz előírásainak.;
- e) A küldeménydaraboknak olyan méretűnek kell lenniük, hogy elegendő hely legyen a szükséges jelöléseknek.;
- f) Egyesítőcsomagolások is alkalmazhatók, amelyekbe veszélyes árut, ill. a RID hatálya alá nem tartozó árut tartalmazó küldeménydarabok is elhelyezhetők.

### 3.5.3 A küldeménydarabok vizsgálata

#### 3.5.3.1

A szállításra előkészített, teljes küldeménydarabnak alkalmasnak kell lennie a következőkben felsorolt vizsgálatok elviselésére, bármely belső csomagolóeszköz törése vagy szivárgása, ill. a hatásosság jelentős csökkenése nélkül. A belső csomagolóeszközöket szilárd anyag esetén ürtartalmuk legalább 95%-áig, folyékony anyag esetén ürtartalmuk legalább 98%-áig kell megtölteni, és az alkalmasságot kellően dokumentált vizsgálatokkal kell bizonyítani.

- a) Ejtés merev, rugalmatlan, sík és vízszintes felületre, 1,8 m magasságból:
  - i) ha a minta doboz (láda) formájú, akkor mindegyik, a következő helyzetekben kell leejteni:
    - laposan a fenéklapra;
    - laposan a tetőlapra;
    - laposan a leghosszabb oldallapra;
    - laposan a legrövidebb oldallapra;
    - valamelyik sarokra;
  - ii) ha a minta hordó formájú, akkor mindegyik, a következő helyzetekben kell leejteni:
    - átlósan a tetőlap peremére úgy, hogy a tömegközéppont függőlegesen a felütközési pont fölött legyen;

- átlósan a fenék peremére;
- laposan a palástra;

**Megjegyzés:** Az egyes ejtéseket teljesen azonos küldeménydarabok más-más példányán is végre lehet hajtani.

- b) 24 órán keresztül akkora erőnek kell a tetőlapra hatnia, amely megegyezik a mintadarabbal együtt 3 m magasságig halmazolt, teljesen azonos küldeménydarabok összes tömegének.

**3.5.3.2** A vizsgálat céljára a szállítandó anyagot helyettesíteni lehet más anyaggal, feltéve, hogy ez a vizsgálat eredményét nem hamisítja meg. Ha szilárd anyagok esetén más anyagot használnak, annak ugyanolyan fizikai jellemzőkkel (tömeg, szemcseméret, stb.) kell rendelkeznie, mint a szállítandó anyagnak. Folyékony anyagok esetén, ha az ejtőpróbánál más anyagot használnak, annak a szállítandó anyaggal azonos relatív sűrűségűnek és viszkozitásúnak kell lennie.

#### **3.5.4 A küldeménydarabok jelölése**

**3.5.4.1** Az engedményes mennyiségű veszélyes árut tartalmazó, e fejezet szerint előkészített küldeménydarabokat a 3.5.4.2 bekezdés szerinti, jól látható és tartós jelöléssel kell ellátni. A jelölésen fel kell tüntetni a küldeménydarabban lévő mindegyik veszélyes árura vonatkozóan a 3.2 fejezet „A” táblázat 5 oszlopában feltüntetett első (vagy egyetlen) bárca számát. Ha a küldeménydarabon a feladó vagy a címzett neve nincs máshol feltüntetve, akkor azt is e jelölésen belül kell feltüntetni.

**3.5.4.2** A jelölésnek legalább 100 x 100 mm nagyságúnak kell lennie.



„Engedményes mennyiség” jelölés

A vonalkázás és a jelkép azonos színű (vörös vagy fekete), fehér vagy más, kellően elütő színű alapon.

\* Itt kell feltüntetni a 3.2 fejezet „A” táblázat 5 oszlopában feltüntetett első (vagy egyetlen) bárca számát.

\*\* Itt kell feltüntetni a feladó vagy a címzett nevét, ha a küldeménydarabon nincs máshol feltüntetve.

**3.5.4.3** Az engedményes mennyiségű veszélyes árut tartalmazó egyesítőcsomagolásokat is el kell látni a 3.5.4.1 bekezdésben előírt jelöléssel, kivéve, ha az egyesítőcsomagolásban levő küldeménydarabok jelölése kívülről jól látható.

**3.5.5            A kocsiban, ill. konténerben lévő küldeménydarabok száma**

Egy kocsiban, ill. konténerben nem lehet 1000-nél több küldeménydarab.

**3.5.6            Okmányok**

Ha az engedményes mennyiségű veszélyes áruhoz tartozik (egy vagy több) kísérő-okmány (úgy mint hajóraklevél, légi fuvarlevél, CMR vagy CIM fuvarlevél), akkor legalább az egyik okmányba be kell írni a „**veszélyes áru engedményes mennyiségben**” bejegyzést és a küldeménydarabok számát.

**4. rész****A csomagolásra és a tartányokra  
vonatkozó előírások**

## 4.1 fejezet

### A csomagolóeszközök, a nagyméretű csomagoló eszközök (IBC-k) és a nagycsomagolások használata

#### 4.1.1 A veszélyes áruk csomagolóeszközbe, IBC-be és nagycsomagolásba történő csomagolására vonatkozó általános előírások

**Megjegyzés:** A 2, a 6.2 és a 7 osztály anyagainak csomagolására ezen szakasz általános előírásait csak úgy kell alkalmazni, ahogy a 4.1.8.2 bekezdés (a 6.2 osztályra), a 4.1.9.1.5 pont (a 7 osztályra), valamint a 4.1.4 szakasz alkalmazandó csomagolási utasításai (P201 és LP02 a 2 osztályra, ill. P620, P621, IBC620 és LP621 a 6.2 osztályra) ezt előírják.

**4.1.1.1** A veszélyes árut olyan, jó minőségű csomagolóeszközbe (IBC-be, nagycsomagolásba), kell csomagolni, amely elég erős ahhoz, hogy ellenálljon azoknak az igénybevételeknek, ütődéseknek, amelyeknek rendes körülmények között a szállítás során, a szállítóeszközök közötti átrakás, a szállítóeszközből a raktárba való berakodás során ki van téve, illetve amelyek akkor léphetnek fel, amikor további kézi vagy gépi árukezelés céljából a rakodólapról vagy az egyesítőcsomagolásból eltávolítják. A csomagolóeszközöket (IBC-ket, nagycsomagolásokat), úgy kell gyártani és lezárni, hogy a szállításra kész küldeménydaraboknál elkerülhető legyen a tartalom bármilyen szivárgása vagy kiszóródása. Ez a szokásos szállítási körülmények között különösen a rezgésekből, illetve a hőmérséklet, a páratartalom vagy a nyomás változásából adódhat (pl. a tengerszint feletti magasság változásának eredményeként). A csomagolóeszközöket (az IBC-ket és a nagycsomagolásokat) a gyártó előírásai szerint kell lezárni. Veszélyes anyagnak nem szabad a csomagolóeszköz (IBC, nagycsomagolás) külsejére tapadnia. Ezek az előírások egyaránt érvényesek az új, az ismételten felhasznált, az átalakított, ill. a felújított csomagolóeszközökre, az új, az ismételten felhasznált, a javított, ill. az átalakított IBC-kre, valamint az új vagy ismételten használt nagycsomagolásokra.

**4.1.1.2** A csomagolóeszközök (IBC-k, nagycsomagolások) veszélyes áruval közvetlenül érintkező

- a) részeit a veszélyes áru nem támadhatja meg, sem lényegesen nem gyengítheti, és
- b) ezek a részek nem okozhatnak veszélyes hatást, pl. reakció katalizálását vagy a veszélyes áruval való reakciót.

Szükség esetén a csomagolóeszközt (IBC-t, nagycsomagolást) belső bevonattal vagy felületkezeléssel kell ellátni.

**Megjegyzés:** A polietilénből gyártott műanyag csomagolóeszközök (IBC-k) kémiai összeférhetőségére lásd a 4.1.1.19 bekezdést.

**4.1.1.3** A belső csomagolóeszközök kivételével minden csomagolóeszköznek (IBC-nek, nagycsomagolásnak) meg kell felelnie a 6.1.5, 6.3.2, 6.5.6, ill. 6.6.5 szakaszban (ill. a RID-ben máshol) levő előírások szerint vizsgált gyártási típusnak. Azokat a csomagolóeszközöket, amelyeknél nincs szükség tömörségi vizsgálatra, a 6.1.1.3 bekezdés tartalmazza.

**4.1.1.4** Ha a csomagolóeszközt (IBC-t, nagycsomagolást) folyadékkal töltik meg, folyadékmentes szabad teret kell hagyni ahhoz, hogy a folyadéknak a szállítás közben elért hőmérsékletek hatására bekövetkező tágulása esetén se a folyadék ki ne szivároгjon, se a csomagolóeszköz ne szenvedjen tartós alakváltozást. Hacsak nincsenek különleges követelmények előírva, a folyadékok 55 °C hőmérsékleten nem tölthetik ki teljesen a csomagolóeszközt. Ugyanakkor egy IBC-nél elegendő szabad teret kell hagyni, hogy 50 °C átlagos anyaghőmérséklet esetén a víztöltet kapacitásának legfeljebb 98 %-áig legyen megtöltve. Ha másként nincs előírva, a



15 °C töltési hőmérsékletre vonatkoztatott legnagyobb töltési fokot a következők szerint kell meghatározni:

a)	Az anyag forráspontja (forrás kezdőpontja), °C	< 60	≥ 60 < 100	≥ 100 < 200	≥ 200 < 300	≥ 300
	A töltési fok a csomagolóeszköz űrtartalmának %-a	90	92	94	96	98

vagy

$$b) \quad \text{a töltési fok} = \text{a csomagolóeszköz űrtartalmának} \frac{98}{1 + \alpha(50 - t_F)} \% - \text{a.}$$

A képletben  $\alpha$  a folyadék átlagos köbös hőtágulási együtthatója 15 °C és 50 °C között, vagyis 35 °C-os maximális hőmérséklet-változásra a következő képlettel számítható:

$$\alpha = \frac{d_{15} - d_{50}}{35 \times d_{50}}, \text{ ahol}$$

$d_{15}$  és  $d_{50}$  a folyadék relatív sűrűsége<sup>1)</sup> 15 °C-on, ill. 50 °C-on;

$t_F$  a folyadék középhőmérséklete a töltés során.

#### 4.1.1.5

A belső csomagolásokat a külső csomagolásban úgy kell elhelyezni, hogy a szokásos szállítási feltételek között ne törhessenek el, ne lyukadhassanak ki, és tartalmuk ne szóródhasson vagy folyhasson szét a külső csomagolásban. A folyékony anyagot tartalmazó belső csomagolásokat a zárószerkezetükkel felfelé, a külső csomagoláson lévő, az 5.2.1.9 bekezdésben előírt, az álló helyzetet jelző nyilaknak megfelelően kell a külső csomagolásban elhelyezni. A törekeny vagy könnyen átlukasztható belső csomagolásokat, mint az üveg, porcelán, kőagyag vagy bizonyos műanyag csomagolásokat a külső csomagolásban megfelelő tömítőanyag közé kell beágyazni. A tartalom elfolyásának nem szabad a tömítőanyag és a külső csomagolás védő tulajdonságait lényegesen gyengíteni.

#### 4.1.1.5.1

Amennyiben egy kombinált csomagolás, ill. nagycsomagolás külső csomagolóeszközét különböző típusú belső csomagolóeszközökkel sikeresen bevizsgálták, ebbe a külső csomagolóeszközbe, ill. nagycsomagolásba a különböző belső csomagolóeszközök tetszőleges kombinációban behelyezhetők. Ezenkívül, a csomagolás további vizsgálata nélkül használhatók a következő belső csomagolóeszköz változatok, ha azonos követelményszintnek felelnek meg:

- a) Azonos méretű vagy kisebb belső csomagolóeszközök használhatók, amennyiben:
  - i) a belső csomagolóeszközök hasonló kialakításúak, mint a bevizsgált belső csomagolóeszközök (pl. alak – hengeres, szögletes stb.);
  - ii) a belső csomagolóeszközök szerkezeti anyaga (üveg, műanyag, fém stb.) az eredetileg bevizsgált belső csomagolóeszközökkel azonos vagy nagyobb mértékben ellenáll az ütődéseknél és halmazolásnál fellépő erőkkel szemben;
  - iii) a belső csomagolóeszközök nyílásai azonos vagy kisebb átmérőjűek és zárásuk hasonló kialakítású (pl. csavarmenetes kupak, bepattanó fedél stb.);
  - iv) elegendő mennyiségű párnázóanyagot használnak a hézagok kitöltésére és a belső csomagolóeszközök jelentősebb elmozdulásának megakadályozására; és
  - v) a belső csomagolóeszközök ugyanolyan helyzetben vannak a külső csomagolóeszközbe elhelyezve, mint a bevizsgált csomagolóeszközök.
- b) Azokból a belső csomagolóeszközökből, amelyekkel bevizsgálták, vagy az előző a)

1) A relatív sűrűség ( $d$ ) kifejezés a „sűrűség” szinonimájának tekintendő, ez a fejezet végig ilyen értelemben használja.

pontban leírt eltérő belső csomagolóeszközökből kevesebb is használható, amennyiben elegendő mennyiségű párnázóanyagot használnak a hézagok kitöltésére és a belső csomagolóeszközök jelentősebb elmozdulásának megakadályozására.

- 4.1.1.6** A veszélyes árukat nem szabad más veszélyes áruval vagy egyéb árukkal ugyanazon külső csomagolásba vagy nagycsomagolásba egybe csomagolni, ha egymással veszélyesen reagálnak (l. az 1.2.1. szakaszt).

***Megjegyzés:** Az egybecsomagolásra vonatkozó különleges előírásokat lásd a 4.1.10 szakaszban.*

- 4.1.1.7** Nedvesített vagy hígított anyagokat tartalmazó csomagolások zárószervezetének olyannak kell lennie, hogy a folyadék (víz, oldószer vagy flegmatizálószer) részaránya szállítás közben ne csökkenjen az előírt határérték alá.

- 4.1.1.7.1** Amennyiben egy IBC-n egymás mögött két vagy több zárószervezet van beépítve, először a szállított anyaghoz legközelebb esőt kell elzárni.

- 4.1.1.8** Abban az esetben, ha a küldeménydarabban lévő anyag a hőmérséklet emelkedése vagy más ok miatt gázt bocsát ki, és ennek következtében a küldeménydarabban túlnyomás fejlődhet ki, a csomagolóeszközt, ill. az IBC-t szellőző-szerkezettel lehet ellátni, feltéve, hogy a kibocsátott gáz sem gyúlékonysága, sem mérgező tulajdonsága, vagy például a kiszabaduló mennyisége következtében nem okoz veszélyt.

Ha a veszélyes túlnyomás az anyag normális bomlása miatt léphet fel, szellőző-szerkezetet kell alkalmazni. A szellőző-szerkezetet úgy kell kialakítani, hogy a folyadék szivárgása és idegen anyagok behatolása normális szállítási körülmények között elkerülhető legyen, feltéve, hogy a csomagolóeszköz, ill. az IBC a szállításnak megfelelő helyzetben van.

***Megjegyzés:** A légi szállítás esetén a küldeménydarabok nem láthatók el szellőző-szerkezettel.*

- 4.1.1.8.1** Folyékony anyag csak olyan belső csomagolóeszközbe tölthető, amely megfelelő mértékben ellenáll azon belső nyomásnak, amely benne a normális szállítási körülmények között kialakulhat.

- 4.1.1.9** Az új, ismételten használt vagy átalakított csomagolóeszközöknek (IBC-knek, nagycsomagolásoknak), ill. a felújított csomagolóeszközöknek és a javított, ill. rendszeresen karbantartott IBC-knek ki kell tudniuk állni a 6.1.5, 6.3.2, 6.5.6, ill. 6.6.5 szakaszban előírt próbákat. Töltés és szállításra feladás előtt minden csomagolóeszköznél meg kell győződni arról, hogy az mentes rozsdától, szennyeződéstől vagy egyéb sérüléstől, minden IBC-nél ellenőrizni kell, hogy a kezelésre szolgáló szerelvényei megfelelően működnek. Az olyan csomagolóeszközt, amelynek ellenállóképessége a jóváhagyott gyártási típushoz viszonyítva gyengült, nem szabad tovább használni, ill. fel kell újítani oly módon, hogy képes legyen a gyártási típusvizsgálatok elviselésére. Az olyan IBC-t, amelynek ellenállóképessége a jóváhagyott gyártási típushoz viszonyítva gyengült, nem szabad tovább használni, ill. úgy kell megjavítani vagy rendszeres karbantartás keretében kijavítani, hogy képes legyen a gyártási típusvizsgálatok elviselésére.

- 4.1.1.10** Folyékony anyag csak olyan csomagolóeszközbe, IBC-be tölthető, amely megfelelő mértékben ellenáll azon belső nyomásnak, amely benne a normális szállítási körülmények között kialakulhat. Az olyan csomagolóeszközöket és IBC-ket, amelyeken a 6.1.3.1 d), ill. a 6.5.2.2.1 pont szerint a nyomáspróbánál alkalmazott próbanyomás értéke fel van tüntetve, csak olyan folyékony anyagokkal szabad megtölteni, melynek gőznyomása:

- a) akkora, hogy a csomagolóeszközben, IBC-ben 55 °C hőmérsékleten a teljes túlnyomás (vagyis a tartalmazott anyag gőznyomásának és a levegő vagy más inert gáz parciális nyomásának összegéből 100 kPa-t levonva) a 4.1.1.4 bekezdésben foglaltaknak

megfelelő legnagyobb töltési fok és 15 °C töltési hőmérséklet alapján meghatározva nem haladja meg a feltüntetett próbanyomás érték 2/3-át; vagy

- b) 50 °C-on kisebb, mint a feltüntetett próbanyomás és 100 kPa összegének 4/7-e; vagy  
c) 55 °C-on kisebb, mint a feltüntetett próbanyomás és 100 kPa összegének 2/3-a.

A folyékony anyagok szállítására szolgáló IBC-ket nem szabad olyan folyékony anyagok szállítására használni, amelyek gőznyomása 50 °C-on meghaladja a 110 kPa-t (1,1 bar-t) vagy 55 °C-on meghaladja a 130 kPa-t (1,3 bar-t).

A 4.1.1.10 c) pont szerint számított, feltüntetendő próbanyomás példái csomagolóeszközökre és IBC-kre:

UN szám	Megnevezés	Osztály	Csomagolási csoport	$V_{p55}$ (kPa)	$V_{p55} \times 1,5$ (kPa)	$(V_{p55} \times 1,5)$ mínusz 100 (kPa)	A 6.1.5.5.4 c) pont szerint szükséges legkisebb próbanyomás (túlnyomás) (kPa)	A csomagolóeszközön feltüntetendő legkisebb próbanyomás (túlnyomás) (kPa)
2056	Tetrahidro-furán	3	II	70	105	5	100	100
2247	n-Dekán	3	III	1,4	2,1	-97,9	100	100
1593	Diklór-metán	6.1	III	164	246	146	146	150
1155	Dietil-éter	3	I	199	299	199	199	250

**Megjegyzés: 1.** Tiszta folyadékokra az 55 °C-on fennálló gőznyomás ( $V_{p55}$ ) gyakran megtalálható a műszaki táblázatokban.

2. A táblázat csak a 4.1.1.10 c) pont használatára vonatkozik, ami azt jelenti, hogy a feltüntetendő próbanyomásnak meg kell haladnia az 55 °C-on fennálló gőznyomás 1,5-szerese mínusz 100 kPa értéket. Amennyiben például az n-dekánra a próbanyomást a 6.1.5.5.4 a) pont szerint határozzuk meg, a feltüntetendő legkisebb próbanyomás kisebb lehet.
3. A dietil-éterre a megkívánt legkisebb próbanyomás a 6.1.5.5.5 pont szerint 250 kPa.

**4.1.1.11** Azokra az üres csomagolóeszközökre, (IBC-kre, nagycsomagolásokra), amelyek veszélyes anyagot tartalmaztak, ugyanazok a követelmények vonatkoznak, mintha töltve lennének, kivéve, ha megfelelő intézkedéseket tettek az összes veszély megszüntetésére.

**4.1.1.12** A folyékony anyagokhoz szánt minden, a 6.1 fejezetben meghatározott csomagolóeszköznek sikeresen ki kell állnia a megfelelő tömörségi próbát, és a 6.1.5.4.3 pont szerinti megfelelő vizsgálati szintet teljesítenie kell a következők szerint

- a) a szállításhoz történő első használat előtt;  
b) a csomagolóeszköz felújítása vagy átalakítása után, mielőtt szállításhoz újból felhasználnák.

Ehhez a vizsgálatához a csomagolóeszközt nem kell saját zárószervezetével ellátni. Az összetett csomagolás belső tartálya a külső csomagolás nélkül is vizsgálható, ha ez a vizsgálati eredményeket nem befolyásolja.

Erre a vizsgálatra nincs szükség:

- a kombinált csomagolások és nagycsomagolások belső csomagolásainál;
- a 6.1.3.1.a) ii) pont szerint „RID/ADR” jellel ellátott összetett (üveg, porcelán és kőagyag) csomagolások belső tartályainál; és
- a 6.1.3.1.a) ii) pont szerint „RID/ADR” jellel ellátott finomlemez csomagolásoknál.

**4.1.1.13** Az olyan szilárd anyagokhoz, amelyek a szállítás alatt előforduló hőmérsékleteken

folyékonnyá válhatnak, csak olyan csomagolóeszközök, IBC-k használhatók, amelyek alkalmasak az anyag folyékony állapotban való megtartására.

**4.1.1.14** A porszerű vagy szemcsés anyagokhoz használt csomagolóeszközöknek, IBC-knek, portömörnek kell lenniük vagy béléssel kell rendelkezniük.

**4.1.1.15** Műanyag hordók és kannák, merev falú műanyag IBC-k és műanyag belső tartállyal rendelkező összetett IBC-k esetén, hacsak az illetékes hatóság másként nem engedélyezte, a veszélyes áruk szállításához történő használat engedélyezett időtartama gyártási időpontjától számítva öt év, kivéve, ha rövidebb felhasználási időtartam van előírva tekintettel a szállítandó anyag természetére.

**4.1.1.16** A RID szerinti szállításra felhasználhatók azok a 6.1.3 szakasz, a 6.2.2.7, a 6.2. 2.8 bekezdés, a 6.3.1, a 6.5.2, ill. a 6.6.3 szakasz szerinti jelöléssel ellátott olyan csomagolóeszközök (IBC-k és nagycsomagolások) is, amelyeket nem valamely COTIF Tagállamban hagytak jóvá.

**4.1.1.17** *Robbanóanyagok, önreaktív anyagok és szerves peroxidok*

Ha a RID-ben nincs ellentétes előírás, az 1 osztály anyagaihoz, a 4.1 osztály önkreatív anyagaihoz és az 5.2 osztály szerves peroxidjaihoz használt csomagolóeszközöknek (IBC-knek és nagycsomagolásoknak) a közepes veszélyre vonatkozó előírásoknak (II csomagolási csoport) kell megfelelniük.

**4.1.1.18** *A kármentő csomagolások használata*

**4.1.1.18.1** A veszélyes árut tartalmazó sérült, meghibásodott, tömítetlen vagy nem az előírások szerinti küldeménydarab vagy a kiszóródott vagy kifolyt veszélyes áru a 6.1.5.1.11 pont szerinti kármentő csomagolásban szállítható. Ez nem zárja ki a 4.1.1.18.2 és a 4.1.1.18.3 pont feltételeit kielégítő, megfelelő típusú és vizsgálati szintű, nagyobb méretű csomagolóeszköz alkalmazását.

**4.1.1.18.2** Megfelelő intézkedéseket kell tenni, hogy a kármentő csomagolásokon belül a sérült vagy tömítetlenné vált küldeménydarabok túlzott mozgása ne következhesen be; amennyiben a kármentő csomagolás folyékony anyagot tartalmaz, kielégítő mennyiségű nedvszívó anyagot kell alkalmazni, hogy szabad folyadék megjelenése kizárható legyen.

**4.1.1.18.3** Meg kell tenni a szükséges intézkedéseket annak biztosítására, hogy veszélyes nyomásnövekedés ne léphessen fel.

**4.1.1.19** *Műanyag csomagolóeszközök, ill. IBC-k kémiai összeférhetőségének bizonyítása a töltőanyag standardfolyadékkal történő helyettesítésével*

**4.1.1.19.1** *Alkalmazási terület*

A 6.1.5.2.6 pontban meghatározott, polietilénből készült csomagolóeszközöknek és a 6.5.6.3.5 pontban meghatározott, polietilénből készült IBC-knek a töltőanyagokkal való kémiai összeférhetősége a 4.1.1.19.3 – 4.1.1.19.5 pont szerinti eljárással, a 4.1.1.19.6 pontban lévő felsorolás alkalmazásával standardfolyadékkal való helyettesítéssel bizonyítható, feltéve, hogy az adott gyártási típust a 6.1.5, ill. a 6.5.6 szakasz szerint (figyelembevéve a 6.1.6 szakaszt is) a standardfolyadékkal vizsgálták, és a 4.1.1.19.2 pont feltételeit betartják. Ha ezen szakasz szerint helyettesítés nem lehetséges, a kémiai összeférhetőséget csomagolóeszközök esetén a 6.1.5.2.5 pont szerinti gyártási típus vizsgálattal vagy a 6.1.5.2.7 pont szerinti laboratóriumi vizsgálatokkal, ill. IBC-k esetén a 6.5.6.3.3 pont szerinti gyártási típus vizsgálattal vagy a 6.5.6.3.6 pont szerinti laboratóriumi vizsgálatokkal kell bizonyítani.

**Megjegyzés:** E szakasz előírásaitól függetlenül a csomagolóeszközök és IBC-k használata egy meghatározott töltőanyaghoz a 3.2 fejezet „A” táblázatában és a 4.1

*fejezet csomagolási utasításaiban található korlátozások hatálya alá esik.*

#### 4.1.1.19.2 Feltételek

A töltőanyag relatív sűrűsége nem haladhatja meg a helyettesítő standardfolyadékkal végrehajtott, a 6.1.5.3.5, ill. a 6.5.6.9.4 pont szerinti sikeres ejtőpróbánál az ejtési magasság meghatározásához használt és a 6.1.5.6, ill. – ha szükséges – a 6.5.6.6 bekezdés szerinti sikeres halmazolási próba során a terhelés meghatározásához használt sűrűség értéket. A töltőanyag gőznyomása 50 °C vagy 55 °C hőmérsékleten nem haladhatja meg a helyettesítő standardfolyadékkal végrehajtott, a 6.1.5.5.4 vagy a 6.5.6.8.4.2 pont szerinti sikeres folyadéknyomás-próbánál alkalmazott nyomás meghatározásához használt gőznyomás értéket. Abban az esetben, ha a töltőanyag valamely standardfolyadék-kombinációval helyettesíthető, a töltőanyag ugyanazon jellemzői nem haladhatják meg az alkalmazott ejtési magasságból, a halmazoláshoz használt terhelés tömegéből és a folyadéknyomás-próbánál alkalmazott nyomásból adódó legkisebb értékeket.

*Példa: az UN 1736 benzoil-klorid helyettesíthető a „szénhidrogén-keverék és nedvesítőszer oldat” standardfolyadék-kombinációval. A benzoil-klorid gőznyomása 50 °C-on 0,34 kPa és relatív sűrűsége kb. 1,2. A műanyag hordók és kannák gyártási típus vizsgálatát gyakran az előírt legalacsonyabb vizsgálati szinten végzik. A gyakorlatban ez azt jelenti, hogy a halmazolási próbát rendszerint csak a „szénhidrogén-keverék” 1,0 relatív sűrűségének és a „nedvesítőszer oldat” 1,2 relatív sűrűségének megfelelő halmazolási terheléssel végzik (a standardfolyadékok fogalom meghatározását lásd a 6.1.6 szakaszban). Ennek következtében az ily módon vizsgált gyártási típus benzoil-kloriddal való kémiai összeférhetősége nem bizonyított, mivel „szénhidrogén keverék” standardfolyadékkal vizsgálva a gyártási típus vizsgálati szintje nem megfelelő. (Mivel az esetek többségében a folyadéknyomás-próba során alkalmazott nyomás legalább 100 kPa, ez a szint a 4.1.1.10 bekezdés szerint a benzoil-klorid gőznyomásához megfelelő.)*

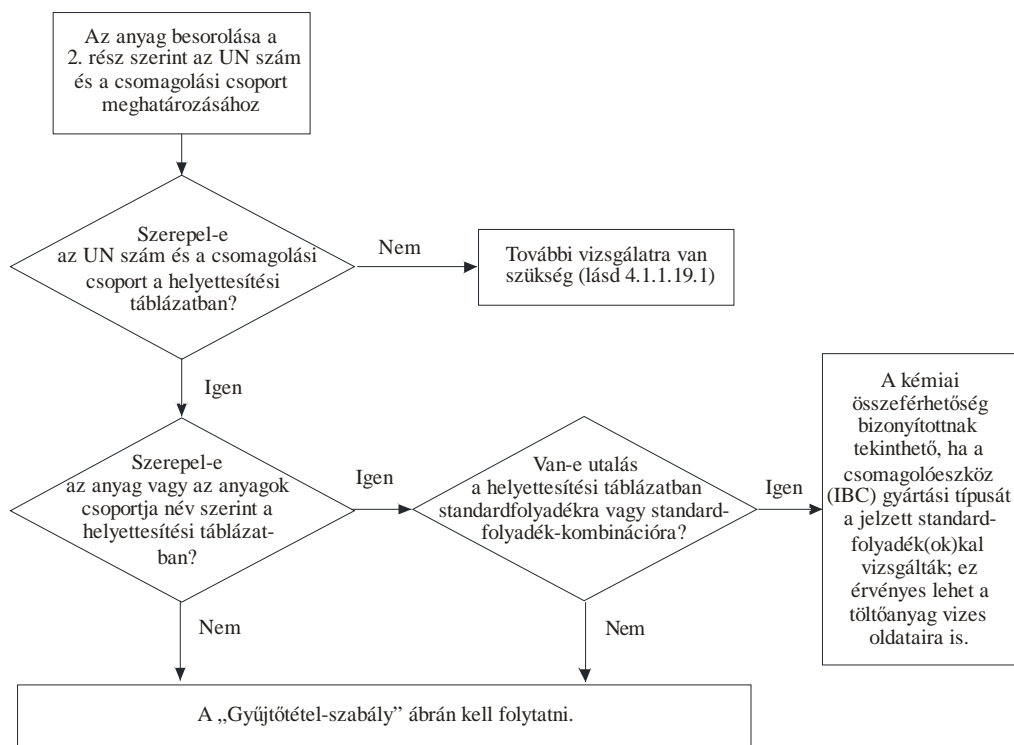
A helyettesítési eljárást a töltőanyagnak (ami lehet oldat, keverék vagy készítmény is) minden összetevőjére (pl. a tisztító- és fertőtlenítőszerekben levő nedvesítőszerekre) alkalmazni kell, függetlenül attól, hogy veszélyesek vagy nem.

#### 4.1.1.19.3 A helyettesítési eljárás

A töltőanyagot a 4.1.1.19.6 pontban felsorolt valamely anyaghoz, ill. anyagcsoporthoz a következő lépések szerint kell hozzárendelni (lásd még a 4.1.1.19.1 ábrát):

- Be kell sorolni a töltőanyagot a 2. rész eljárásai és kritériumai alapján (meg kell határozni az UN számot és a csomagolási csoportot);
- Meg kell keresni az UN számot a 4.1.1.19.6 pont helyettesítési táblázat 1 oszlopában;
- Ha az adott UN számhoz több tétel tartozik, akkor a csomagolási csoportnak, a koncentrációnak, a lobbanáspontnak, a nem veszélyes összetevőknek stb. megfelelő tételt a 2a, 2b és 4 oszlopban található információk segítségével kell kiválasztani. Ha ez nem lehetséges, akkor a kémiai összeférhetőséget csomagolóeszközök esetén a 6.1.5.2.5 vagy a 6.1.5.2.7, ill. IBC-k esetén a 6.5.6.3.3 vagy a 6.5.6.3.6 pont szerint kell bizonyítani (vizes oldatokra azonban lásd a 4.1.1.19.4 pontot);
- Ha a töltőanyag a) pont szerint meghatározott UN száma és csomagolási csoportja nem szerepel a helyettesítési táblázatban, a kémiai összeférhetőséget csomagolóeszközök esetén a 6.1.5.2.5 vagy a 6.1.5.2.7, ill. IBC-k esetén a 6.5.6.3.3 vagy a 6.5.6.3.6 pont szerint kell bizonyítani;
- Ha a kiválasztott sorban az 5 oszlopban „Gyűjtőtétel-szabály” bejegyzés szerepel, a továbbiakban a 4.1.1.19.5 pontban leírt szabályt kell követni;
- A töltőanyag kémiai összeférhetősége bizonyítottnak tekinthető, ha a 4.1.1.19.1 és

4.1.1.19.2 pont előírásait figyelembe vették, az 5 oszlopban standardfolyadék vagy standardfolyadék-kombináció van feltüntetve, és a gyártási típust erre (ezekre) a standardfolyadék(ok)ra jóváhagyták.



#### 4.1.1.19.1 ábra: A töltőanyagok helyettesítése standardfolyadékokkal

##### 4.1.1.19.4 Vizes oldatok

A 4.1.1.19.3 pont szerint standardfolyadék(ok)kal helyettesíthető anyagok, ill. anyagcsoportok vizes oldatai a következő feltételek teljesülése esetén ugyanazon standardfolyadék(ok)kal helyettesíthetők:

- a vizes oldat a 2.1.3.3 bekezdés kritériumai alapján ugyanazon UN szám alá sorolható, mint a táblázatban szereplő anyag;
- a vizes oldat nincs külön név szerint említve a 4.1.1.19.6 pont helyettesítési táblázatában; és
- nem következik be kémiai reakció a veszélyes anyag és az oldószerként használt víz között.

Példa: UN 1120 terc-butanol vizes oldatok:

- A tiszta terc-butanol a helyettesítési táblázat szerint az „ecetsav” standardfolyadékhoz van hozzárendelve.
- A terc-butanol vizes oldatai a 2.1.3.3 bekezdés szerint az UN 1120 BUTANOLOK tétel alá sorolhatók, mivel a terc-butanol vizes oldatai az osztály, a csomagolási csoport(ok) és a halmazállapot tekintetében nem különböznek a tiszta anyagra vonatkozó tételektől. Ezen kívül az UN 1120 BUTANOLOK tétel nincs kifejezetten a tiszta anyagra korlátozva, és ezen anyagok vizes oldatai nincsenek sem a 3.2 fejezet „A” táblázatában, sem a helyettesítési táblázatban külön név szerint említve.



- Az UN 1120 BUTANOLOK a normális szállítási körülmények között vízzel nem reagálnak.

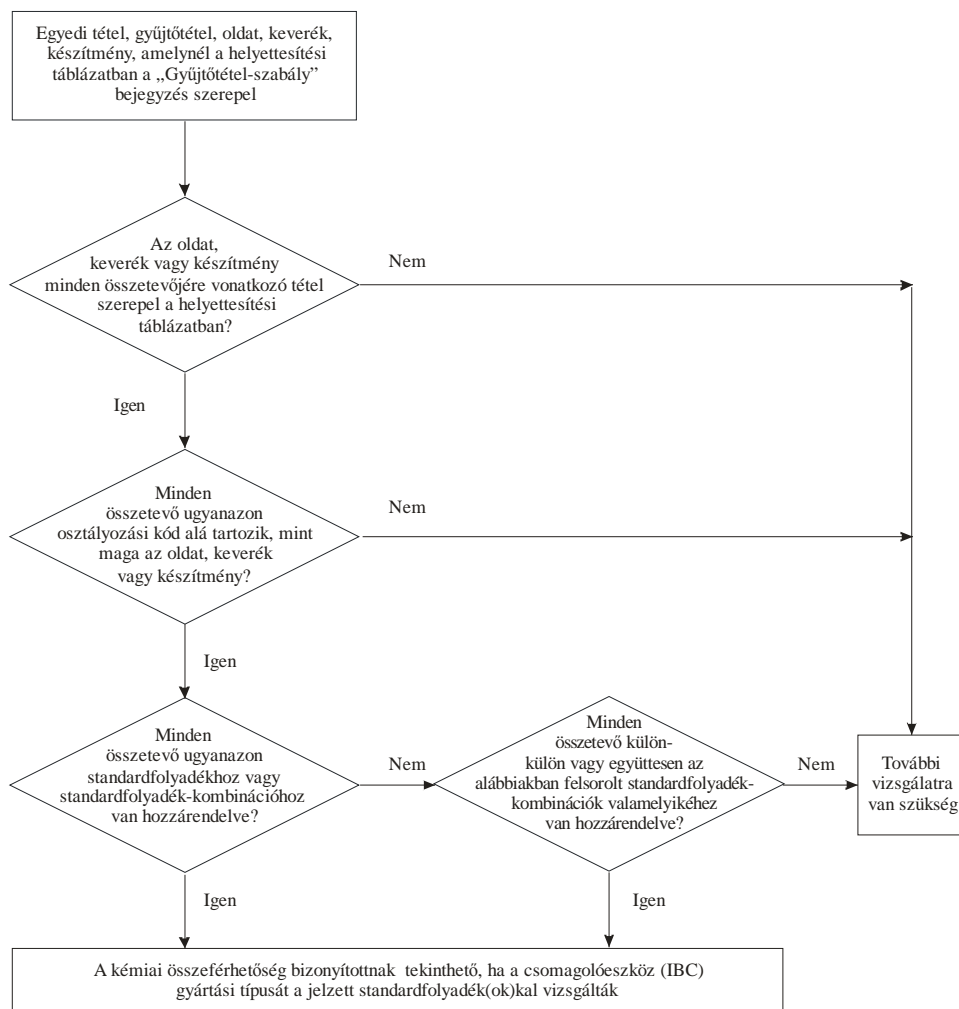
Ezért az UN 1120 terc-butanol vizes oldatok az „ecetsav” standardfolyadékkal helyettesíthetők.

#### 4.1.1.19.5

##### Gyűjtötétel-szabály

Olyan töltőanyagok esetében, amelyeknél az 5 oszlopban „Gyűjtötétel-szabály” bejegyzés szerepel, a hozzárendeléshez a következő lépéseket kell tenni, ill. a következő feltételeket kell teljesíteni (lásd még a 4.1.1.19.2 ábrát):

- a) Végre kell hajtani a 4.1.1.19.3 pont szerinti hozzárendelési eljárást az oldat, keverék vagy készítmény minden összetevőjére, figyelembe véve a 4.1.1.19.2 pont feltételeit. Generikus tételek esetén figyelmen kívül hagyhatók azok az összetevők, amelyekről ismert, hogy nincs károsító hatásuk a nagy sűrűségű polietilénre (pl. az UN 1263 FESTÉK-ben vagy FESTÉK SEGÉDANYAG-ban levő szilárd pigmentek).
- b) Az oldat, keverék vagy készítmény nem helyettesíthető standardfolyadékkal, ha:
  - i) egy vagy több veszélyes összetevő UN száma és csomagolási csoportja nem szerepel a helyettesítési táblázatban; vagy
  - ii) egy vagy több összetevőnél a helyettesítési táblázat 5 oszlopában a „Gyűjtötétel-szabály” bejegyzés található; vagy
  - iii) az anyag egy vagy több veszélyes összetevőjének osztályozási kódja eltér az oldat, keverék vagy készítmény osztályozási kódjától (az UN 2059 GYÚLÉKONY NITROCELLULÓZ OLDAT kivételével).
- c) Ha a helyettesítési táblázatban minden veszélyes összetevő szerepel, és osztályozási kódjuk megegyezik magának az oldatnak, keveréknek, ill. készítménynek az osztályozási kódjával, és minden veszélyes összetevő ugyanazon standardfolyadékhoz vagy standardfolyadék-kombinációhoz van hozzárendelve az 5 oszlopban, akkor az oldat, keverék, ill. készítmény kémiai összeférhetősége bizonyítottnak tekinthető, ha a 4.1.1.19.1 és a 4.1.1.19.2 pont előírásait figyelembe vették.
- d) Ha a helyettesítési táblázatban minden veszélyes összetevő szerepel, és osztályozási kódjuk megegyezik magának az oldatnak, keveréknek, ill. készítménynek az osztályozási kódjával, de az 5 oszlopban eltérő standardfolyadékok találhatók, akkor az oldat, keverék, ill. készítmény kémiai összeférhetősége csak a következő standardfolyadék-kombináció esetén tekinthető bizonyítottnak, ha a 4.1.1.19.1 és a 4.1.1.19.2 pont előírásait figyelembe vették:
  - i) víz/55%-os salétromsav; a C1 osztályozási kód alá tartozó szervesetlen savak kivételével, amelyek a „víz” standardfolyadékkal helyettesíthetők;
  - ii) víz/nedvesítőszer oldat;
  - iii) víz/ecetsav;
  - iv) víz/szénhidrogén-keverék;
  - v) víz/n-butil-acetát – n-butil-acetáttal telített nedvesítőszer oldat.
- e) E szabály értelmében tehát a kémiai összeférhetőség nem tekinthető bizonyítottnak a d) pontban leírtaktól eltérő standardfolyadék-kombinációkra, ill. a b) pontban leírt esetekben. Ilyen esetekben a kémiai összeférhetőséget más módon kell bizonyítani [lásd a 4.1.1.19.3 d) pontot].



Elfogadott standardfolyadék-kombinációk:

- víz/salétromsav (55%), kivéve a C1 osztályozási kód alá tartozó szerves savakat, amelyek a „víz” standardfolyadékhoz vannak hozzárendelve;
- víz/nedvesítőszer oldat;
- víz/ecetsav;
- víz/szénhidrogén-keverék;
- víz/n-butil-acetát – n-butil-acetáttal telített nedvesítőszer oldat.

#### 4.1.1.19.2 ábra: Gyűjtőtétel szabály

1 példa: UN 1940 TIOGLIKOLSAV (50%) és UN 2531 METAKRILSAV, STABILIZÁLT (50%) keveréke; a keverék besorolása: UN 3265 MARÓ, FOLYÉKONY, SAVAS SZERVES ANYAG, M.N.N.

- Mind az összetevők, mind a keverék UN száma szerepel a helyettesítési táblázatban;
- Az összetevők és a keverék osztályozási kódja azonos: C3;
- Az UN 1940 TIOGLIKOLSAV az „ecetsav”, az UN 2531 METAKRILSAV, STABILIZÁLT pedig az „n-butil-acetát / n-butil-acetáttal telített nedvesítőszer oldat” standardfolyadékkal helyettesíthető. A d) pont értelmében ez nem egy elfogadott standardfolyadék-kombináció. A keverék kémiai összeférhetőségét más módon kell bizonyítani.

2 példa: UN 1793 FOSZFORSAV-MONOIZOPROPIL-ÉSZTER (50%) és UN 1803 FOLYÉKONY FENOLSZULFONSAV (50%) keveréke; a keverék besorolása: UN 3265



MARÓ, FOLYÉKONY, SAVAS SZERVES ANYAG, M.N.N.

- Mind az összetevők, mind a keverék UN száma szerepel a helyettesítési táblázatban;
- Az összetevők és a keverék osztályozási kódja azonos: C3;
- Az UN 1793 FOSZFORSÁV-MONOIZOPROPIL-ÉSZTER a „nedvesítőszerszolgát”, az UN 1803 FOLYÉKONY FENOLSZULFONSAV a „víz” standardfolyadékkal helyettesíthető. A d) pont értelmében ez egy elfogadott standardfolyadék-kombináció. Ennek következtében a kémiai összeférhetőség bizonyítottnak tekinthető, ha a csomagolóeszköz gyártási típusát a „nedvesítőszerszolgát” és a „víz” standardfolyadékokra jóváhagyták.

#### 4.1.1.19.6 Helyettesítési táblázat

A következő helyettesítési táblázatban a veszélyes anyagok az UN szám szerinti sorrendben szerepelnek. Minden sorban alapvetően egyetlen egyedi vagy gyűjtőtétel szerepel, amelyhez egy adott UN szám tartozik. Azonban ugyanaz az UN szám több, egymást követő sorban is előfordulhat, ha az adott UN számhoz tartozó anyagok eltérő megnevezéssel (pl. egy anyagcsoport önálló izomerjei), különböző kémiai tulajdonságokkal, különböző fizikai tulajdonságokkal és/vagy különböző szállítási feltételekkel rendelkeznek. Ilyen esetekben az adott csomagolási csoporton belül az egyedi vagy gyűjtőtétel az egymást követő sorok közül az utolsó.

A 4.1.1.19.6 táblázat 1 – 4. oszlopa, a 3.2 fejezet „A” táblázatához hasonló szerkezetet követve, használható az anyag azonosítására e bekezdés céljából. Az utolsó oszlop tartalmazza a standardfolyadék(ka)t, amellyel (amelyekkel) az anyag helyettesíthető.

Magyarázó megjegyzések az egyes oszlopokhoz:

<b>1 oszlop</b>	<b>UN szám</b>
	Itt vannak feltüntetve: <ul style="list-style-type: none"> <li>– az egyedi UN számok, amelyek konkrétan egy-egy veszélyes anyaghoz vannak hozzárendelve, illetve</li> <li>– a gyűjtőtételek UN számai, amelyhez a név szerint nem említett veszélyes anyagokat a 2. rész osztályozási kritériumai (a „döntési fák”) szerint hozzá kell rendelni.</li> </ul>
<b>2a oszlop</b>	<b>Helyes szállítási megnevezés vagy műszaki megnevezés</b>
	Itt van feltüntetve az anyag megnevezése, az egyedi tétel megnevezése, ami különböző izomereket is tartalmazhat, ill. maga a gyűjtőmegnevezés.
	A feltüntetett megnevezés eltérhet a használandó helyes szállítási megnevezéstől.
<b>2b oszlop</b>	<b>Leírás</b>
	Itt van feltüntetve a tételt magyarázó szöveg olyan esetekben, amikor az anyag besorolása, szállítási feltételei és/vagy kémiai összeférhetősége eltérő.
<b>3a oszlop</b>	<b>Osztály</b>
	Itt van feltüntetve az osztály, amelynek fogalmkörébe a veszélyes anyag tartozik. Az osztály számának hozzárendelése a 2. rész eljárásai és

kritériumai szerint történik.

### 3b oszlop

### Osztályozási kód

Itt van feltüntetve a veszélyes anyag osztályozási kódja, aminek hozzárendelése a 2. rész eljárásai és kritériumai szerint történik.

### 4 oszlop

### Csomagolási csoport

Itt van feltüntetve a veszélyes anyaghoz a 2. rész szerinti eljárások és kritériumok alapján hozzárendelt csomagolási csoport száma (I, II vagy III). Bizonyos anyagok nincsenek csomagolási csoporthoz rendelve.

### 5 oszlop

### Standardfolyadék

Itt van feltüntetve vagy egy standardfolyadék, ill. egy standardfolyadék-kombináció, amellyel az anyag helyettesíthető, vagy a gyűjtőtétel-szabályra való hivatkozás, amelyet a 4.1.1.19.5 pont tartalmaz.

#### 4.1.1.19.6 táblázat: Helyettesítési táblázat

UN szám	Helyes szállítási megnevezés vagy műszaki megnevezés 3.1.2	Leírás 3.1.2	Osztály 2.2	Osztályo- zási kód 2.2	Csoma- golási csoport 2.1.1.3	Standardfolyadék
(1)	(2a)	(2b)	(3a)	(3b)	(4)	(5)
1090	Aceton		3	F1	II	Szénhidrogén-keverék <b>Megjegyzés:</b> csak akkor alkalmazható, ha a csomagoló- eszköz a töltőanyagot csak el- fogadható mértékben ereszti át
1093	Akrilnitril, stabilizált		3	FT1	I	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1104	Amil-acetátok	tiszta izomerek és izomerek keveréke	3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1105	Pentanolok	tiszta izomerek és izomerek keveréke	3	F1	II/III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1106	Amil-aminok	tiszta izomerek és izomerek keveréke	3	FC	II/III	Szénhidrogén-keverék és nedvesítőszer oldat
1109	Amil-formiátok	tiszta izomerek és izomerek keveréke	3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1120	Butanolok	tiszta izomerek és izomerek keveréke	3	F1	II/III	Ecetsav
1123	Butil-acetátok	tiszta izomerek és izomerek keveréke	3	F1	II/III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1125	n-Butil-amin		3	FC	II	Szénhidrogén-keverék és nedvesítőszer oldat
1128	n-Butil-formiát		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1129	Butiraldehid		3	F1	II	Szénhidrogén-keverék
1133	Ragasztók	gyúlékony folyadék tartalommal	3	F1	I/II/III	Gyűjtőtétel-szabály
1139	Bevonó oldat	beleértve az ipari vagy más célokra használt felületkezelő vagy bevonóanyagokat, pl.	3	F1	I/II/III	Gyűjtőtétel-szabály

UN szám	Helyes szállítási megnevezés vagy műszaki megnevezés 3.1.2	Leírás 3.1.2	Osztály 2.2	Osztályo- zási kód 2.2	Csoma- golási csoport 2.1.1.3	Standardfolyadék
		alapozó festékeket jármű karosszériához, hordóbélelő anyagokat				
1145	Ciklohexán		3	F1	II	Szénhidrogén-keverék
1146	Ciklopentán		3	F1	II	Szénhidrogén-keverék
1153	Etilénglikol-dietil-éter		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat és szénhidrogén-keverék
1154	Dietil-amin		3	FC	II	Szénhidrogén-keverék és nedvesítőszer oldat
1158	Diizopropil-amin		3	FC	II	Szénhidrogén-keverék és nedvesítőszer oldat
1160	Dimetil-amin vizes oldat		3	FC	II	Szénhidrogén-keverék és nedvesítőszer oldat
1165	Dioxán		3	F1	II	Szénhidrogén-keverék
1169	Folyékony aromás kivonatok		3	F1	I/II/III	Gyűjtötétel-szabály
1170	Etanol vagy Etanol oldat	vizes oldat	3	F1	II/III	Ecetsav
1171	Etilénglikol-monoetil- éter		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat és szénhidrogén-keverék
1172	Etilénglikol-monoetil- éter-acetát		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat és szénhidrogén-keverék
1173	Etil-acetát		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1177	2-Etil-butil-acetát		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1178	2-Etil-butilaldehid		3	F1	II	Szénhidrogén-keverék
1180	Etil-butirát		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1188	Etilénglikol-mono- metil-éter		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat és szénhidrogén-keverék
1189	Etilénglikol-mono- metil-éter-acetát		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat és szénhidrogén-keverék
1190	Etil-formiát		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1191	Oktaldehidek	tiszta izomerek és izomerek keveréke	3	F1	III	Szénhidrogén-keverék
1192	Etil-laktát		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1195	Etil-propionát		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat

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1197	Folyékony ízanyag kivonatok		3	F1	I/II/III	Gyűjtötétel-szabály
1198	Gyúlékony formaldehid oldat	vizes oldat, lobbanáspont 23 °C és 60 °C között	3	FC	III	Ecetsav
1202	Dízelolaj	amely megfelel az EN 590:2004 szabványnak vagy lobbanáspontja legfeljebb 100 °C	3	F1	III	Szénhidrogén-keverék
1202	Gázolaj	lobbanáspont legfeljebb 100 °C	3	F1	III	Szénhidrogén-keverék
1202	Könnyű fűtőolaj	extra könnyű	3	F1	III	Szénhidrogén-keverék
1202	Könnyű fűtőolaj	amely megfelel az EN 590:2004 szabványnak vagy lobbanáspontja legfeljebb 100 °C	3	F1	III	Szénhidrogén-keverék
1203	Motorbenzin vagy Benzin vagy Gazolin		3	F1	II	Szénhidrogén-keverék
1206	Heptánok	tiszta izomerek és izomerek keveréke	3	F1	II	Szénhidrogén-keverék
1207	Hexaldehid	n-hexaldehid	3	F1	III	Szénhidrogén-keverék
1208	Hexánok	tiszta izomerek és izomerek keveréke	3	F1	II	Szénhidrogén-keverék
1210	Nyomdafesték vagy Nyomdafesték segédanyag	gyúlékony, beleértve a festékhígítókat és oldószereket	3	F1	I/II/III	Gyűjtötétel-szabály
1212	Izobutanol		3	F1	III	Ecetsav
1213	Izobutil-acetát		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1214	Izobutil-amin		3	FC	II	Szénhidrogén-keverék és nedvesítőszer oldat
1216	Izooktének	tiszta izomerek és izomerek keveréke	3	F1	II	Szénhidrogén-keverék
1219	Izopropanol		3	F1	II	Ecetsav
1220	Izopropil-acetát		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1221	Izopropil-amin		3	FC	I	Szénhidrogén-keverék és nedvesítőszer oldat
1223	Kerozin		3	F1	III	Szénhidrogén-keverék
1224	3,3-Dimetil-2-butanon		3	F1	II	Szénhidrogén-keverék
1224	Folyékony ketonok, m.n.n.		3	F1	II/III	Gyűjtötétel-szabály
1230	Metanol		3	FT1	II	Ecetsav
1231	Metil-acetát		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1233	Metil-amil-acetát		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1235	Metil-amin vizes oldat		3	FC	II	Szénhidrogén-keverék és nedvesítőszer oldat

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1237	<b>Metil-butirát</b>		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1247	<b>Metil-metakrilát monomer, stabilizált</b>		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1248	<b>Metil-propionát</b>		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1262	<b>Oktánok</b>	tiszta izomerek és izomerek keveréke	3	F1	II	Szénhidrogén-keverék
1263	<b>Festék vagy Festék segédanyag</b>	beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist, ill. beleértve a festékhígítókat és oldószereket	3	F1	I/II/III	Gyűjtötétel-szabály
1265	<b>Pentánok</b>	n-pentán	3	F1	II	Szénhidrogén-keverék
1266	<b>Parfüm készítmények</b>	gyúlékony oldószerekkel	3	F1	I/II/III	Gyűjtötétel-szabály
1268	Kőszénkátrány nafta	gőznyomás 50 °C-on legfeljebb 110 kPa	3	F1	II	Szénhidrogén-keverék
1268	<b>Nyersolaj (petróleum) párlatok, m.n.n. vagy Nyersolaj (petróleum) termékek, m.n.n.</b>		3	F1	I/II/III	Gyűjtötétel-szabály
1274	<b>n-Propanol</b>		3	F1	II/III	Ecetsav
1275	<b>Propionaldehid</b>		3	F1	II	Szénhidrogén-keverék
1276	<b>n-Propil-acetát</b>		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1277	<b>Propil-amin</b>	n-Propil-amin	3	FC	II	Szénhidrogén-keverék és nedvesítőszer oldat
1281	<b>Propil-formiátok</b>	tiszta izomerek és izomerek keveréke	3	F1	II	n-Butil-acetát/ n-butil-acetát- telített nedvesítőszer oldat
1282	<b>Piridin</b>		3	F1	II	Szénhidrogén-keverék
1286	<b>Gyantaolaj</b>		3	F1	I/II/III	Gyűjtötétel-szabály
1287	<b>Gumioldat</b>		3	F1	I/II/III	Gyűjtötétel-szabály
1296	<b>Trietil-amin</b>		3	FC	II	Szénhidrogén-keverék és nedvesítőszer oldat
1297	<b>Trimetil-amin vizes oldat</b>	legfeljebb 50 tömeg% trimetil-amin tartalommal	3	FC	I/II/III	Szénhidrogén-keverék és nedvesítőszer oldat
1301	<b>Vinil-acetát, stabilizált</b>		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1306	<b>Folyékony fakonzerváló anyagok</b>		3	F1	II/III	Gyűjtötétel-szabály
1547	<b>Anilin</b>		6.1	T1	II	Ecetsav
1590	<b>Folyékony diklór- anilinek</b>	tiszta izomerek és izomerek keveréke	6.1	T1	II	Ecetsav
1602	<b>Folyékony, mérgező színezék, m.n.n. vagy Folyékony, mérgező színezék intermedier, m.n.n.</b>		6.1	T1	I/II/III	Gyűjtötétel-szabály

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1604	Etilén-diamin		8	CF1	II	Szénhidrogén-keverék és nedvesítőszer oldat
1715	Ecetsavanhidrid		8	CF1	II	Ecetsav
1717	Acetil-klorid		3	FC	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1718	Foszforsav-monobutil- észter		8	C3	III	Nedvesítőszer oldat
1719	Hidrogén-szulfid	vizes oldat	8	C5	III	Ecetsav
1719	Maró, lúgos folyékony anyag, m.n.n.	szervetlen	8	C5	II/III	Gyűjtötétel-szabály
1730	Folyékony antimon- pentaklorid	vegytisztá	8	C1	II	Víz
1736	Benzoil-klorid		8	C3	II	Szénhidrogén-keverék és nedvesítőszer oldat
1750	Klór-ecetsav oldat	vizes oldat	6.1	TC1	II	Ecetsav
1750	Klór-ecetsav oldat	mono- és diklór-ecet- sav keverékei	6.1	TC1	II	Ecetsav
1752	Klór-acetil-klorid		6.1	TC1	I	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1755	Krómsav oldat	vizes oldat legfeljebb 30% krómsavtarta- lommal	8	C1	II/III	Salétromsav
1760	Ciánamid	vizes oldat legfeljebb 50% ciánamid tartalommal	8	C9	II	Víz
1760	O,O-Dietil-ditiofosz- forsav		8	C9	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1760	O,O-Diizopropil- ditiofoszforsav		8	C9	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1760	O,O-Di-n-propil- ditiofoszforsav		8	C9	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1760	Maró folyadék, m.n.n.	lobbanáspont 60 °C felett	8	C9	I/II/III	Gyűjtötétel-szabály
1761	Etilén-diamin-réz oldat	vizes oldat	8	CT1	II/III	Szénhidrogén-keverék és nedvesítőszer oldat
1764	Diklór-ecetsav		8	C3	II	Ecetsav
1775	Fluoro-bórsav	vizes oldat legfeljebb 50% fluoro-bórsav tartalommal	8	C1	II	Víz
1778	Fluoro-kovasav		8	C1	II	Víz
1779	Hangyasav	85 tömeg%-nál több savtartalommal	8	C3	II	Ecetsav
1783	Hexametilén-diamin oldat	vizes oldat	8	C7	II/III	Szénhidrogén-keverék és nedvesítőszer oldat
1787	Jód-hidrogénsav	vizes oldat	8	C1	II/III	Víz
1788	Bróm-hidrogénsav	vizes oldat	8	C1	II/III	Víz
1789	Klór-hidrogénsav (sósav)	legfeljebb 38%-os vizes oldat	8	C1	II/III	Víz
1790	Fluor-hidrogénsav	legfeljebb 60% hidrogén-fluorid tartalommal	8	CT1	II	Víz megengedett használati idő: legfeljebb 2 év

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1791	<b>Hipoklorit oldat</b>	vizes oldat, a kereskedelemben szokásos nedvesítőszer tartalommal	8	C9	II/III	Salétromsav és nedvesítőszer oldat*
1791	<b>Hipoklorit oldat</b>	vizes oldat	8	C9	II/III	Salétromsav*
* Az UN 1791-hez: A próbát csak szellőző-szerkezettel szabad végrehajtani. Ha a próbánál standardfolyadékként salétromsavat használnak, a szellőző-szerkezetnek és a tömítésnek savállóknak kell lennie. Ha a próbát magával a hipoklorit oldattal hajtják végre, ugyanolyan típusú, hipokloritnak ellenálló, de salétromsavval szemben nem ellenálló szellőző-szerkezetek és tömítések (pl. szilikongumiból készütek) is használhatók.						
1793	<b>Foszforsav-mono- izopropil-észter</b>		8	C3	III	Nedvesítőszer oldat
1802	<b>Perklórsav</b>	vizes oldat legfeljebb 50 tömeg% savtartalommal	8	CO1	II	Víz
1803	<b>Folyékony fenolszulfonsav</b>	izomerek keveréke	8	C3	II	Víz
1805	<b>Foszforsav oldat</b>		8	C1	III	Víz
1814	<b>Kálium-hidroxid oldat (kállilúg)</b>	vizes oldat	8	C5	II/III	Víz
1824	<b>Nátrium-hidroxid oldat (nátronlúg)</b>	vizes oldat	8	C5	II/III	Víz
1830	<b>Kénsav</b>	51%-nál több savtartalommal	8	C1	II	Víz
1832	<b>Kimerült kénsav</b>	vegyileg állandó	8	C1	II	Víz
1833	<b>Kénssav</b>		8	C1	II	Víz
1835	<b>Tetrametil-ammóni- um-hidroxid, oldat</b>	vizes oldat, lobbanáspont 60 °C felett	8	C7	II	Víz
1840	<b>Cink-klorid oldat</b>	vizes oldat	8	C1	III	Víz
1848	<b>Propionsav</b>	legalább 10 tömeg%, de 90 tömeg%-nál kevesebb savtartalommal	8	C3	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1862	<b>Etil-krotonát</b>		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1863	<b>Tüzelőanyag repülőgép turbínamotorhoz</b>		3	F1	I/II/III	Szénhidrogén-keverék
1866	<b>Gyanta oldat</b>	gyúlékony	3	F1	I/II/III	Gyújtótétel-szabály
1902	<b>Foszforsav-diizooktil- észter</b>		8	C3	III	Nedvesítőszer oldat
1906	<b>Hulladék kénsav</b>		8	C1	II	Salétromsav
1908	<b>Klorit oldat</b>	vizes oldat	8	C9	II/III	Ecetsav
1914	<b>Butil-propionátok</b>		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1915	<b>Ciklohexanon</b>		3	F1	III	Szénhidrogén-keverék
1917	<b>Etil-akrilát, stabilizált</b>		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1919	<b>Metil-akrilát, stabilizált</b>		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1920	<b>Nonánok</b>	tiszta izomerek és izomerek keveréke, lobbanáspont 23 °C és 60 °C között	3	F1	III	Szénhidrogén-keverék

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1935	<b>Cianid oldat, m.n.n.</b>	szervetlen	6.1	T4	I/II/III	Víz
1940	<b>Tioglikolsav</b>		8	C3	II	Ecetsav
1986	<b>Gyúlékony, mérgező alkoholok, m.n.n.</b>		3	FT1	I/II/III	Gyűjtötétel-szabály
1987	Ciklohexanol	technikai tisztaságú	3	F1	III	Ecetsav
1987	<b>Alkoholok, m.n.n.</b>		3	F1	II/III	Gyűjtötétel-szabály
1988	<b>Gyúlékony, mérgező aldehidek, m.n.n.</b>		3	FT1	I/II/III	Gyűjtötétel-szabály
1989	<b>Aldehidek, m.n.n.</b>		3	F1	I/II/III	Gyűjtötétel-szabály
1992	2,6-cisz-Dimetil- morfolin		3	FT1	III	Szénhidrogén-keverék
1992	<b>Gyúlékony, mérgező, folyékony anyag, m.n.n.</b>		3	FT1	I/II/III	Gyűjtötétel-szabály
1993	Propionsav- vinilészter		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1993	(1-Metoxi-2-propil)- acetát		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
1993	<b>Gyúlékony folyékony anyag, m.n.n.</b>		3	F1	I/II/III	Gyűjtötétel-szabály
2014	<b>Hidrogén-peroxid vizes oldat</b>	legalább 20%, de legfeljebb 60% hidrogén-peroxid tartalommal, szükség szerint stabilizálva	5.1	OC1	II	Salétromsav
2022	<b>Krezilsav</b>	krezolokat, xilenolokat és metil- fenolokat tartalmazó vizes oldat	6.1	TC1	II	Ecetsav
2030	<b>Hidrazin vizes oldat</b>	legalább 37 tömeg%, de legfeljebb 64 tömeg% hidrazin- tartalommal	8	CT1	II	Víz
2030	Hidrazin-hidrát	vizes oldat 64% hidrazintartalommal	8	CT1	II	Víz
2031	<b>Salétromsav</b>	a vörösen füstölő salétromsav kivételével, legfeljebb 55% salétromsav- tartalommal	8	CO1	II	Salétromsav
2045	<b>Izobutiraldehid (izobutilaldehid)</b>		3	F1	II	Szénhidrogén-keverék
2050	<b>Diizobutilén izomerek keveréke</b>		3	F1	II	Szénhidrogén-keverék
2053	<b>Metil-izobutil-karbinol (metil-amil-alkohol)</b>		3	F1	III	Ecetsav
2054	<b>Morfolin</b>		8	CF1	I	Szénhidrogén-keverék
2057	<b>Tripropilén (propilén- trimer)</b>		3	F1	II/III	Szénhidrogén-keverék
2058	<b>Valeraldehid</b>	tiszta izomerek és izomerek keveréke	3	F1	II	Szénhidrogén-keverék
2059	<b>Gyúlékony nitro- cellulóz oldat</b>		3	D	I/II/III	Gyűjtötétel-szabály Az általános eljárástól eltérően az F1 osztályozási kód alá tartozó oldószerekre is ez a szabály alkalmazható



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2075	Vízmentes klorál, stabilizált		6.1	T1	II	Nedvesítőszer oldat
2076	Folyékony krezolok	tiszta izomerek és izomerek keverék	6.1	TC1	II	Ecetsav
2078	Toluilén-diizocianát	folyékony	6.1	T1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2079	Dietilén-triamin		8	C7	II	Szénhidrogén-keverék
2209	Formaldehid oldat	vizes oldat 37% formaldehid-tarta- lommal, metanol- tartalom: 8-10%	8	C9	III	Ecetsav
2209	Formaldehid oldat	vizes oldat, legalább 25% formaldehid- tartalommal	8	C9	III	Víz
2218	Akrilsav, stabilizált		8	CF1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2227	n-Butil-metakrilát, stabilizált		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2235	Klór-benzil-klorid, folyékony	p-klór-benzil-klorid	6.1	T1	III	Szénhidrogén-keverék
2241	Cikloheptán		3	F1	II	Szénhidrogén-keverék
2242	Cikloheptén		3	F1	II	Szénhidrogén-keverék
2243	Ciklohexil-acetát		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2244	Ciklopentanol		3	F1	III	Ecetsav
2245	Ciklopentén		3	F1	III	Szénhidrogén-keverék
2247	n-Dekán		3	F1	III	Szénhidrogén-keverék
2248	Di-n-butil-amin		8	CF1	II	Szénhidrogén-keverék
2258	1,2-Propilén-diamin		8	CF1	II	Szénhidrogén-keverék és nedvesítőszer oldat
2259	Trietilén-tetramin		8	C7	II	Víz
2260	Tripropil-amin		3	FC	III	Szénhidrogén-keverék és nedvesítőszer oldat
2263	Dimetil-ciklohexánok	tiszta izomerek és izomerek keveréke	3	F1	II	Szénhidrogén-keverék
2264	N,N-Dimetil-ciklohexil- amin		8	CF1	II	Szénhidrogén-keverék és nedvesítőszer oldat
2265	N,N-dimetil-formamid		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2266	Dimetil-N-propil-amin		3	FC	II	Szénhidrogén-keverék és nedvesítőszer oldat
2269	3,3'-Imino-biszpropil- amin		8	C7	III	Szénhidrogén-keverék és nedvesítőszer oldat
2270	Etil-amin vizes oldat	legalább 50 tömeg%, de legfeljebb 70 tömeg% etil-amin tartalommal, lobbanáspont 23 °C alatt, maró vagy gyengén maró	3	FC	II	Szénhidrogén-keverék és nedvesítőszer oldat

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2275	2-Etil-butanol		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2276	2-Etil-hexil-amin		3	FC	III	Szénhidrogén-keverék és nedvesítőszer oldat
2277	Etil-metakrilát, stabilizált		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2278	n-Heptén		3	F1	II	Szénhidrogén-keverék
2282	Hexanolok	tiszta izomerek és izomerek keveréke	3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2283	Izobutil-metakrilát, stabilizált		3	F1	III	n-Butil -acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2286	Pentametil-heptán (izododekán)		3	F1	III	Szénhidrogén-keverék
2287	Izoheptén		3	F1	II	Szénhidrogén-keverék
2288	Izohexén		3	F1	II	Szénhidrogén-keverék
2289	Izoforon-diamin		8	C7	III	Szénhidrogén-keverék és nedvesítőszer oldat
2293	4-Metoxi-4-metil- -2-pentanon		3	F1	III	Szénhidrogén-keverék
2296	Metil-ciklohexán		3	F1	II	Szénhidrogén-keverék
2297	Metil-ciklohexanon	tiszta izomerek és izomerek keveréke	3	F1	III	Szénhidrogén-keverék
2298	Metil-ciklopentán		3	F1	II	Szénhidrogén-keverék
2302	5-Metil-2-hexanon		3	F1	III	Szénhidrogén-keverék
2308	Folyékony nitrozil-kénsav		8	C1	II	Víz
2309	Oktadiének		3	F1	II	Szénhidrogén-keverék
2313	Pikolinok	tiszta izomerek és izomerek keveréke	3	F1	III	Szénhidrogén-keverék
2317	Nátrium-réz(I)-cianid oldat	vizes oldat	6.1	T4	I	Víz
2320	Tetraetilén-pentamin		8	C7	III	Szénhidrogén-keverék és nedvesítőszer oldat
2324	Triizobutilén	C <sub>12</sub> monoolefinek keveréke, lobbanáspont 23 °C és 60 °C között	3	F1	III	Szénhidrogén-keverék
2326	Trimetil-ciklohexil- amin		8	C7	III	Szénhidrogén-keverék és nedvesítőszer oldat
2327	Trimetil-hexametilén- diaminok	tiszta izomerek és izomerek keveréke	8	C7	III	Szénhidrogén-keverék és nedvesítőszer oldat
2330	Undekán		3	F1	III	Szénhidrogén-keverék
2336	Allil-formiát		3	FT1	I	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2348	Butil-akrilátok, stabilizált	tiszta izomerek és izomerek keveréke	3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2357	Ciklohexil-amin	lobbanáspont 23 °C és 60 °C között	8	CF1	II	Szénhidrogén-keverék és nedvesítőszer oldat

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2361	<b>Diizobutil-amin</b>		3	FC	III	Szénhidrogén-keverék és nedvesítőszer oldat
2366	<b>Dietil-karbonát</b>		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2367	<b>alfa-Metil-valeraldehid</b>		3	F1	II	Szénhidrogén-keverék
2370	<b>1-Hexén</b>		3	F1	II	Szénhidrogén-keverék
2372	<b>1,2-Di(dimetil-amino)- etán</b>		3	F1	II	Szénhidrogén-keverék és nedvesítőszer oldat
2379	<b>1,3-Dimetil-butil-amin</b>		3	FC	II	Szénhidrogén-keverék és nedvesítőszer oldat
2383	<b>Dipropil-amin</b>		3	FC	II	Szénhidrogén-keverék és nedvesítőszer oldat
2385	<b>Etil-izobutirát</b>		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2393	<b>Izobutil-formiát</b>		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2394	<b>Izobutil-propionát</b>	lobbanáspont 23 °C és 60 °C között	3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2396	<b>Metakrilaldehid, stabilizált</b>		3	FT1	II	Szénhidrogén-keverék
2400	<b>Metil-izovalerát</b>		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2401	<b>Piperidin</b>		8	CF1	I	Szénhidrogén-keverék és nedvesítőszer oldat
2403	<b>Izopropenil-acetát</b>		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2405	<b>Izopropil-butirát</b>		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2406	<b>Izopropil-izobutirát</b>		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2409	<b>Izopropil-propionát</b>		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2410	<b>1,2,3,6-Tetrahydro- piridin</b>		3	F1	II	Szénhidrogén-keverék
2427	<b>Kálium-klorát vizes oldat</b>		5.1	O1	II/III	Víz
2428	<b>Nátrium-klorát vizes oldat</b>		5.1	O1	II/III	Víz
2429	<b>Kalcium-klorát vizes oldat</b>		5.1	O1	II/III	Víz
2436	<b>Tioecetsav</b>		3	F1	II	Ecetsav
2457	<b>2,3-Dimetil-bután</b>		3	F1	II	Szénhidrogén-keverék
2491	<b>Etanol-amin</b>		8	C7	III	Nedvesítőszer oldat
2491	<b>Etanol-amin oldat</b>	vizes oldat	8	C7	III	Nedvesítőszer oldat
2496	<b>Propionsavanhidrid</b>		8	C3	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2524	<b>Etil-ortoformiát</b>		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat

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2526	<b>Furfuril-amin</b>		3	FC	III	Szénhidrogén-keverék és nedvesítőszer oldat
2527	<b>Izobutil-akrilát, stabilizált</b>		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2528	<b>Izobutil-izobutirát</b>		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2529	<b>Izovajsav</b>		3	FC	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2531	<b>Metakrilsav, stabilizált</b>		8	C3	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2542	<b>Tributil-amin</b>		6.1	T1	II	Szénhidrogén-keverék
2560	<b>2-Metil-2-pentanol</b>		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2564	<b>Triklór-ecetsav oldat</b>	vizes oldat	8	C3	II/III	Ecetsav
2565	<b>Diciklohexil-amin</b>		8	C7	III	Szénhidrogén-keverék és nedvesítőszer oldat
2571	Etil-kénsav		8	C3	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2571	<b>Alkil-kénsavak</b>		8	C3	II	Gyűjtötétel-szabály
2580	<b>Alumínium-bromid oldat</b>	vizes oldat	8	C1	III	Víz
2581	<b>Alumínium-klorid oldat</b>	vizes oldat	8	C1	III	Víz
2582	<b>Vas(III)-klorid oldat</b>	vizes oldat	8	C1	III	Víz
2584	Metánszulfonsav	5%-nál több szabad kénsav-tartalommal	8	C1	II	Víz
2584	<b>Folyékony alkil- szulfonsavak</b>	5%-nál több szabad kénsav-tartalommal	8	C1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2584	Benzolszulfonsav	5%-nál több szabad kénsav-tartalommal	8	C1	II	Víz
2584	Toluolszulfonsavak	5%-nál több szabad kénsav-tartalommal	8	C1	II	Víz
2584	<b>Folyékony aril- szulfonsavak</b>	5%-nál több szabad kénsav-tartalommal	8	C1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2586	Metánszulfonsav	legfeljebb 5% szabad kénsav-tartalommal	8	C3	III	Víz
2586	<b>Folyékony alkil- szulfonsavak</b>	legfeljebb 5% szabad kénsav-tartalommal	8	C3	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2586	Benzolszulfonsav	legfeljebb 5% szabad kénsav-tartalommal	8	C3	III	Víz
2586	Toluolszulfonsavak	legfeljebb 5% szabad kénsav-tartalommal	8	C3	III	Víz
2586	<b>Folyékony aril- szulfonsavak</b>	legfeljebb 5% szabad kénsav-tartalommal	8	C3	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2610	<b>Triallil-amin</b>		3	FC	III	Szénhidrogén-keverék és nedvesítőszer oldat
2614	<b>Metil-allil-alkohol</b>		3	F1	III	Ecetsav
2617	<b>Metil-ciklohexanolok</b>	tiszta izomerek és izomerek keveréke, lobbanáspont 23 °C és 60 °C között	3	F1	III	Ecetsav

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2619	<b>Benzil-dimetil-amin</b>		8	CF1	II	Szénhidrogén-keverék és nedvesítőszer oldat
2620	<b>Amil-butirátok</b>	tiszta izomerek és izomerek keveréke, lobbanáspont 23 °C és 60 °C között	3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2622	<b>Glicidaldehid</b>	lobbanáspont 23 °C alatt	3	FT1	II	Szénhidrogén-keverék
2626	<b>Klórsav vizes oldat</b>	legfeljebb 10% klórsav-tartalommal	5.1	O1	II	Salétromsav
2656	<b>Kinolin</b>	lobbanáspont 60 °C felett	6.1	T1	III	Víz
2672	<b>Ammónia oldat</b>	vizes, relatív sűrűség 15 °C-on 0,880 és 0,957 között, 10%-nál több, de legfeljebb 35% ammóniatartalommal	8	C5	III	Víz
2683	<b>Ammónium-szulfid oldat</b>	vizes oldat, lobbanáspont 23 °C és 60 °C között	8	CFT	II	Ecetsav
2684	<b>3-Dietil-amino-propil- amin</b>		3	FC	III	Szénhidrogén-keverék és nedvesítőszer oldat
2685	<b>N,N-Dietil-etilén- diamin</b>		8	CF1	II	Szénhidrogén-keverék és nedvesítőszer oldat
2693	<b>Biszulfitok, vizes oldat, m.n.n.</b>	szervetlen	8	C1	III	Víz
2707	<b>Dimetil-dioxánok</b>	tiszta izomerek és izomerek keveréke	3	F1	II/III	Szénhidrogén-keverék
2733	<b>Gyúlékony, maró aminok, m.n.n. vagy Gyúlékony, maró poliaminok, m.n.n.</b>		3	FC	I/II/III	Szénhidrogén-keverék és nedvesítőszer oldat
2734	<b>Di-szek-butil-amin</b>		8	CF1	II	Szénhidrogén-keverék
2734	<b>Folyékony, maró, gyúlékony aminok, m.n.n. vagy Folyékony, maró, gyúlékony poliaminok, m.n.n.</b>		8	CF1	I/II	Szénhidrogén-keverék és nedvesítőszer oldat
2735	<b>Folyékony, maró aminok, m.n.n. vagy Folyékony, maró poliaminok, m.n.n.</b>		8	C7	I/II/III	Szénhidrogén-keverék és nedvesítőszer oldat
2739	<b>Vajsavanhidrid</b>		8	C3	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2789	<b>Ecetsav, Jégecet vagy Ecetsav oldat</b>	vizes oldat 80 tömeg%-nál több ecetsav-tartalommal	8	CF1	II	Ecetsav
2790	<b>Ecetsav oldat</b>	10 tömeg%-nál több, de legfeljebb 80 tömeg% ecetsav- tartalommal	8	C3	II/III	Ecetsav

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2796	<b>Kénsav</b>	legfeljebb 51% savtartalommal	8	C1	II	Víz
2797	<b>Lúgos akkumulátor folyadék</b>	kálium-/nátrium- hidroxid vizes oldata	8	C5	II	Víz
2810	2-Klór-6-fluor-benzil- klorid	stabilizált	6.1	T1	III	Szénhidrogén-keverék
2810	2-Fenil-etanol		6.1	T1	III	Ecetsav
2810	Etilénglikol-monohe- xil-éter		6.1	T1	III	Ecetsav
2810	<b>Szerves, mérgező, folyékony anyag, m.n.n.</b>		6.1	T1	I/II/III	Gyűjtötétel-szabály
2815	<b>N-amino-etil-piperazin</b>		8	C7	III	Szénhidrogén-keverék és nedvesítőszer oldat
2818	<b>Ammónium-poliszulfid oldat</b>	vizes oldat	8	CT1	II/III	Ecetsav
2819	<b>Foszforsav-monoamil- észter</b>		8	C3	III	Nedvesítőszer oldat
2820	<b>Vajsav</b>	n-vajsav	8	C3	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2821	<b>Fenol oldat</b>	vizes oldat, mérgező, nemlúgos	6.1	T1	II/III	Ecetsav
2829	<b>Kaprónsav</b>	n-kaprónsav	8	C3	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2837	<b>Biszulfátok vizes oldatai</b>		8	C1	II/III	Víz
2838	<b>Vinil-butirát, stabilizált</b>		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2841	<b>Di-n-amil-amin</b>		3	FT1	III	Szénhidrogén-keverék és nedvesítőszer oldat
2850	<b>Tetrapropilén (propilén-tetramer)</b>	C <sub>12</sub> -monoolefinek keveréke, lobbanáspont 23 °C és 60 °C között	3	F1	III	Szénhidrogén-keverék
2873	<b>Dibutil-amino-etanol</b>	N,N-di-n-butil-amino- etanol	6.1	T1	III	Ecetsav
2874	<b>Furfuril-alkohol</b>		6.1	T1	III	Ecetsav
2920	O,O-Dietil-ditiofosz- forsav	lobbanáspont 23 °C és 60 °C között	8	CF1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2920	O,O-Dimetil-ditio- foszforsav	lobbanáspont 23 °C és 60 °C között	8	CF1	II	Nedvesítőszer oldat
2920	Hidrogén-bromid	33%-os oldat jégecetben	8	CF1	II	Nedvesítőszer oldat
2920	Tetrametil-ammónium- hidroxid	vizes oldat, lobbanáspont 23 °C és 60 °C között	8	CF1	II	Víz
2920	<b>Gyúlékony, maró folyé- kony anyag, m.n.n.</b>		8	CF1	I/II	Gyűjtötétel-szabály
2922	Ammónium-szulfid	vizes oldat, lobbanás- pont 60 °C felett	8	CT1	II	Víz
2922	Krezolok	lúgos, vizes oldat, nátrium- és kálium- krezolát keveréke	8	CT1	II	Ecetsav

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2922	Fenol	lúgos, vizes oldat, nátrium- és kálium- fenolát keveréke	8	CT1	II	Ecetsav
2922	Nátrium-hidrogén- difluorid	vizes oldat	8	CT1	III	Víz
2922	<b>Mérgező, maró folyékony anyag, m.n.n.</b>		8	CT1	I/II/III	Gyűjtötétel-szabály
2924	<b>Maró, gyúlékony folyékony anyag, m.n.n.</b>	gyengén maró	3	FC	I/II/III	Gyűjtötétel-szabály
2927	<b>Maró, szerves, mérgező folyékony anyag, m.n.n.</b>		6.1	TC1	I/II	Gyűjtötétel-szabály
2933	<b>Metil-2-klór-propionát</b>		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2934	<b>Izopropil-2-klór- propionát</b>		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2935	<b>Etil-2-klór-propionát</b>		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2936	<b>Tiolaktonsav</b>		6.1	T1	II	Ecetsav
2941	<b>Fluor-anilinek</b>	tiszta izomerek és izomerek keveréke	6.1	T1	III	Ecetsav
2943	<b>Tetrahidro-furfuril- amin</b>		3	F1	III	Szénhidrogén-keverék
2945	<b>N-metil-butil-amin</b>		3	FC	II	Szénhidrogén-keverék és nedvesítőszer oldat
2946	<b>2-Amino-5-dietil- amino-pentán</b>		6.1	T1	III	Szénhidrogén-keverék és nedvesítőszer oldat
2947	<b>Izopropil-klór-acetát</b>		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
2984	<b>Hidrogén-peroxid vizes oldat</b>	legalább 8%, de 20%- nál kevesebb hidrogén-peroxid tartalommal, szükség szerint stabilizálva	5.1	O1	III	Salétromsav
3056	<b>n-Heptaldehid</b>		3	F1	III	Szénhidrogén-keverék
3065	<b>Alkoholos italok</b>	24 tf. %-nál több alkoholtartalommal	3	F1	II/III	Ecetsav
3066	<b>Festék vagy Festék segédanyag</b>	beleértve a festéket, lakkot, zománcot, sellakot, kencét, polírozót, folyékony töltőanyagot és folyékony lakkbázist, ill. beleértve a festékhígítókat és oldószereket	8	C9	II/III	Gyűjtötétel-szabály
3079	<b>Metakrilnitril, stabilizált</b>		3	FT1	I	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
3082	<b>C<sub>6</sub> – C<sub>17</sub> alkohol (szekunder) poli(3-6)- etoxilát</b>		9	M6	III	n-Butil-acetát/ n-butil-a cetáttal telített nedvesítőszer oldat és szénhidrogén-keverék

UN szám	Helyes szállítási megnevezés vagy műszaki megnevezés 3.1.2	Leírás 3.1.2	Osztály 2.2	Osztályo- zási kód 2.2	Csoma- golási csoport 2.1.1.3	Standardfolyadék
3082	C <sub>12</sub> – C <sub>15</sub> alkohol poli(1-3)-etoxilát		9	M6	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat és szénhidrogén-keverék
3082	C <sub>13</sub> – C <sub>15</sub> alkohol poli(1-6)-etoxilát		9	M6	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat és szénhidrogén-keverék
3082	JP-5 repülőgép turbina tüzelőanyag	lobbanáspont 60 °C felett	9	M6	III	Szénhidrogén-keverék
3082	JP-7 repülőgép turbina tüzelőanyag	lobbanáspont 60 °C felett	9	M6	III	Szénhidrogén-keverék
3082	Kőszénkátrány	lobbanáspont 60 °C felett	9	M6	III	Szénhidrogén-keverék
3082	Kőszénkátrány nafta	lobbanáspont 60 °C felett	9	M6	III	Szénhidrogén-keverék
3082	Kőszénkátrányból nyert kreozot	lobbanáspont 60 °C felett	9	M6	III	Szénhidrogén-keverék
3082	Fakátrányból nyert kreozot	lobbanáspont 60 °C felett	9	M6	III	Szénhidrogén-keverék
3082	Krezil-difenil-foszfát		9	M6	III	Nedvesítőszer oldat
3082	Decil-akrilát		9	M6	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat és szénhidrogén-keverék
3082	Diizobutil-ftalát		9	M6	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat és szénhidrogén-keverék
3082	Di-n-butil-ftalát		9	M6	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat és szénhidrogén-keverék
3082	<b>Szénhidrogének</b>	flyékony, lobbanáspont 60 °C felett, környezetre veszélyes	9	M6	III	Gyűjtötétel-szabály
3082	Izodecil-difenil-foszfát		9	M6	III	Nedvesítőszer oldat
3082	Metil-naftalinok	izomerek keveréke, flyékony	9	M6	III	Szénhidrogén-keverék
3082	Triaril-foszfátok	m.n.n.	9	M6	III	Nedvesítőszer oldat
3082	Trikrezil-foszfát	legfeljebb 3% orto- izomerrel	9	M6	III	Nedvesítőszer oldat
3082	Trixilenil-foszfát		9	M6	III	Nedvesítőszer oldat
3082	Cink-alkil-ditiofoszfát	C <sub>3</sub> – C <sub>14</sub>	9	M6	III	Nedvesítőszer oldat
3082	Cink-aril-ditiofoszfát	C <sub>7</sub> – C <sub>16</sub>	9	M6	III	Nedvesítőszer oldat
3082	<b>Környezetre veszélyes flyékony anyag, m.n.n.</b>		9	M6	III	Gyűjtötétel-szabály
3099	<b>Flyékony, mérgező, gyűjtő hatású anyag, m.n.n.</b>		5.1	OT1	I/II/III	Gyűjtötétel-szabály



UN szám	Helyes szállítási megnevezés vagy műszaki megnevezés 3.1.2	Leírás 3.1.2	Osztály 2.2	Osztályo- zási kód 2.2	Csoma- golási csoport 2.1.1.3	Standardfolyadék
3101 3103 3105 3107 3109 3111 3113 3115 3117 3119	<b>B, C, D, E vagy F típusú, folyékony szerves peroxid vagy B, C, D, E vagy F típusú, folyékony szerves peroxid hőmérséklet- szabályozással</b>		5.2	P1		n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat és szénhidrogén-keverék és salétromsav**
<p>**Az UN 3101, 3103, 3105, 3107, 3109, 3111, 3113, 3115, 3117, 3119 (kivéve a terc-butil hidroperoxidot 40 %-nál több peroxidtartalommal és a peroxi-ecetsavakat) tételekhez: Minden szerves peroxid technikailag tiszta formában és olyan oldószerben oldva, amelyre összeférhetősége vonatkozásában ezen felsorolásban „szénhidrogén-keverék” standardfolyadék van feltüntetve. A szellőző-szerkezeteknek és a tömítéseknek a szerves peroxiddal való összeférhetőségét – a gyártási típus-vizsgálattól függetlenül – salétromsavval végrehajtott laboratóriumi vizsgálattal is lehet igazolni.</p> <p>Az UN 3111, 3113, 3115, 3117 és 3119 szerves peroxid a vasúti fuvarozásból ki van zárva.</p>						
3145	Butil-fenolok	folyékony, m.n.n.	8	C3	I/II/III	Ecetsav
3145	<b>Folyékony alkil- fenolok, m.n.n.</b>	a C <sub>2</sub> – C <sub>12</sub> homológokat beleértve	8	C3	I/II/III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
3149	<b>Hidrogén-peroxid és peroxi-ecetsav keverék, stabilizált</b>	UN 2790 ecetsav-, UN 2796 kénsav- és/vagy UN 1805 foszforsav-, víz- és legfeljebb 5% peroxi-ecetsav tartalommal	5.1	OC1	II	Nedvesítőszer oldat és salétromsav
3210	<b>Szervetlen klorátok vizes oldata, m.n.n.</b>		5.1	O1	II/III	Víz
3211	<b>Szervetlen perklorátok vizes oldata, m.n.n.</b>		5.1	O1	II/III	Víz
3213	<b>Szervetlen bromátok vizes oldata, m.n.n.</b>		5.1	O1	II/III	Víz
3214	<b>Szervetlen perman- ganátok vizes oldata, m.n.n.</b>		5.1	O1	II	Víz
3216	<b>Szervetlen perszulfátok vizes oldata, m.n.n.</b>		5.1	O1	III	Nedvesítőszer oldat
3218	<b>Szervetlen nitrátok vizes oldata, m.n.n.</b>		5.1	O1	II/III	Víz
3219	<b>Szervetlen nitritek vizes oldata, m.n.n.</b>		5.1	O1	II/III	Víz
3264	Réz(I)-klorid	vizes oldat, gyengén maró	8	C1	III	Víz
3264	Hidroxilamin-szulfát	25%-os vizes oldat	8	C1	III	Víz
3264	Foszforsav	vizes oldat	8	C1	III	Víz
3264	<b>Maró, folyékony, savas szervetlen anyag, m.n.n.</b>	lobbanáspont 60 °C felett	8	C1	I/II/III	Gyűjtötétel-szabály; nem alkalmazható az UN 1830, 1832, 1906 és 2308 anyagait tartalmazó keverékekre
3265	Metoxi-ecetsav		8	C3	I	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
3265	Allil-szukcinsavanhidrid		8	C3	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
3265	Ditioglikolsav		8	C3	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
3265	Butil-foszfát	monobutil- és dibutil- foszfát keveréke	8	C3	III	Nedvesítőszer oldat

UN szám	Helyes szállítási megnevezés vagy műszaki megnevezés 3.1.2	Leírás 3.1.2	Osztály 2.2	Osztályo- zási kód 2.2	Csoma- golási csoport 2.1.1.3	Standardfolyadék
3265	Kaprilsav		8	C3	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
3265	Izovaleriánsav		8	C3	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
3265	Pelargonsav		8	C3	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
3265	Piroszólósav		8	C3	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
3265	Valeriánsav		8	C3	III	Ecetsav
3265	<b>Maró, folyékony, savas szerves anyag, m.n.n.</b>	lobbanáspont 60 °C felett	8	C3	I/II/III	Gyűjtötétel-szabály
3266	Nátrium-hidroszulfid	vizes oldat	8	C5	II	Ecetsav
3266	Nátrium-szulfid	vizes oldat, gyengén maró	8	C5	III	Ecetsav
3266	<b>Maró, folyékony, lúgos szervetlen anyag, m.n.n.</b>	lobbanáspont 60 °C felett	8	C5	I/II/III	Gyűjtötétel-szabály
3267	2,2'-(Butil-imino)- -bisz-etanol		8	C7	II	Szénhidrogén-keverék és nedvesítőszer oldat
3267	<b>Maró, folyékony, lúgos szerves anyag, m.n.n.</b>	lobbanáspont 60 °C felett	8	C7	I/II/III	Gyűjtötétel-szabály
3271	Etilénglikol-monobutil- éter	lobbanáspont 60 °C	3	F1	III	Ecetsav
3271	<b>Éterek, m.n.n.</b>		3	F1	II/III	Gyűjtötétel-szabály
3272	Akrilsav terc-butil észter		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
3272	Izobutil-propionát	lobbanáspont 23 °C alatt	3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
3272	Metil-valerát		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
3272	Trimetil-orto-formiát		3	F1	II	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
3272	Etil-valerát		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
3272	Izobutil-izovalerát		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
3272	n-Amil-propionát		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
3272	n-Butil-butirát		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
3272	Metil-laktát		3	F1	III	n-Butil-acetát/ n-butil-acetáttal telített nedvesítőszer oldat
3272	<b>Észterek, m.n.n.</b>		3	F1	II/III	Gyűjtötétel-szabály
3287	Nátrium-nitrit	40%-os vizes oldat	6.1	T4	III	Víz
3287	<b>Szervetlen, mérgező folyékony anyag, m.n.n.</b>		6.1	T4	I/II/III	Gyűjtötétel-szabály
3291	<b>Nem specifikált kórházi hulladék, m.n.n.</b>	folyékony	6.2	I3	II	Víz
3293	<b>Hidrazin vizes oldat</b>	legfeljebb 37 tömeg% hidrazintartalommal	6.1	T4	III	Víz

UN szám	Helyes szállítási megnevezés vagy műszaki megnevezés 3.1.2	Leírás 3.1.2	Osztály 2.2	Osztályo- zási kód 2.2	Csoma- golási csoport 2.1.1.3	Standardfolyadék
3295	Heptének	m.n.n.	3	F1	II	Szénhidrogén-keverék
3295	Nonánok	lobbanáspont 23 °C alatt	3	F1	II	Szénhidrogén-keverék
3295	Dekánok	m.n.n.	3	F1	III	Szénhidrogén-keverék
3295	1,2,3-Trimetil-benzol		3	F1	III	Szénhidrogén-keverék
3295	<b>Folyékony szénhidrogének, m.n.n.</b>		3	F1	I/II/III	Gyűjtötétel-szabály
3405	<b>Bárium-klorát oldat</b>	vizes oldat	5.1	OT1	II/III	Víz
3406	<b>Bárium-perklorát oldat</b>	vizes oldat	5.1	OT1	II/III	Víz
3408	<b>Ólom-perklorát oldat</b>	vizes oldat	5.1	OT1	II/III	Víz
3413	<b>Kálium-cianid oldat</b>	vizes oldat	6.1	T4	I/II/III	Víz
3414	<b>Nátrium-cianid oldat</b>	vizes oldat	6.1	T4	I/II/III	Víz
3415	<b>Nátrium-fluorid oldat</b>	vizes oldat	6.1	T4	III	Víz
3422	<b>Kálium-fluorid oldat</b>	vizes oldat	6.1	T4	III	Víz

#### 4.1.2 Kiegészítő általános előírások az IBC-k használatára

**4.1.2.1** Amennyiben az IBC-t 60 °C vagy alacsonyabb (zárttéri) lobbanáspontú folyékony anyagok vagy porrobbanásra hajlamos porok szállítására használják, intézkedéseket kell hozni, hogy a töltés és ürítés során a veszélyes elektrosztatikus feltöltődést elkerüljék.

**4.1.2.2** Minden fém, merev falú műanyag és összetett IBC-t a 6.5.4.4, ill. a 6.5.4.5 bekezdés szerint vizsgálatnak kell alávetni:

- üzembehelyezés előtt;
- az üzembehelyezést követően legfeljebb két és fél, ill. öt éves időközönként;
- javítás és átalakítás után, mielőtt szállításhoz újból felhasználnák.

Az IBC-k az utolsó időszakos vizsgálat, ill. felülvizsgálat érvényességének letelte után nem tölthetők meg és nem adhatók át szállításra. Az utolsó időszakos vizsgálat vagy felülvizsgálat érvényességének letelte előtt megtöltött IBC az utolsó időszakos vizsgálat vagy felülvizsgálat érvényességének letelte után legfeljebb három hónapig szállítható. Ezen kívül az IBC az utolsó időszakos vizsgálat vagy felülvizsgálat érvényességének letelte után is szállítható:

- a) kiürítés után, de tisztítás előtt az újratöltés előtt szükséges vizsgálat vagy felülvizsgálat elvégzésének céljából; és
- b) a veszélyes anyag ártalmatlanításra (megfelelő elhelyezésére) vagy visszaforgatásra történő visszaszállítása céljából az időszakos vizsgálat vagy felülvizsgálat érvényességének lejártá után legfeljebb hat hónapig, hacsak az illetékes hatóság másként nem rendelkezik.

**Megjegyzés:** A fuvarokmányba teendő bejegyzésre lásd az 5.4.1.1.11 pontot.

**4.1.2.3** A 31HZ2 típusú IBC-eket legalább a külső burkolat ürtartalmának 80%-ig kell megtölteni.

**4.1.2.4** Ha egy fém, merev falú műanyag, hajlékony falú, ill. összetett IBC rendszeres karbantartását nem az IBC tulajdonosa végzi, akinek bejegyzési állama és neve, ill. engedélyezett jele az IBC-n tartósan fel van tüntetve, akkor az IBC-n a gyártó által felvitt UN típusjelölés

közelében tartósan fel kell tüntetni a következőket:

- a) annak az államnak a jelét, ahol a rendszeres karbantartást végzik; és
- b) a rendszeres karbantartást végző nevét, ill. engedélyezett jelét.

#### **4.1.3 A csomagolási utasításokra vonatkozó általános előírások**

**4.1.3.1** Az 1 – 9 osztály veszélyes áruira vonatkozó csomagolási utasításokat a 4.1.4 szakasz tartalmazza. A csomagolási utasítások a csomagolóeszközök fajtája szerint három bekezdésre vannak felosztva:

- a 4.1.4.1 bekezdés a csomagolóeszközökre vonatkozik (az IBC-k és a nagycsomagolások kivételével): ezek az utasítások „P” betűvel kezdődő kóddal vannak ellátva, a csak RID és ADR szerinti csomagolóeszközökre vonatkozó utasítások kódja „R” betűvel kezdődik;
- a 4.1.4.2 bekezdés az IBC-kre vonatkozik: ezek az utasítások „IBC” betűvel kezdődő kóddal vannak ellátva;
- a 4.1.4.3 bekezdés a nagycsomagolásokra vonatkozik: ezek az utasítások „LP” betűvel kezdődő kóddal vannak ellátva.

A csomagolási utasítások általában azt is megadják, hogy a 4.1.1, 4.1.2 vagy 4.1.3 szakasz általános előírásait be kell tartani, ill. előírhatják, hogy a 4.1.5, 4.1.6, 4.1.7, 4.1.8 vagy 4.1.9 szakasz különleges előírásait is teljesíteni kell. A csomagolási utasításokban egyes anyagokra és tárgyakra különleges csomagolási előírások is szerepelhetnek, ezeket szintén számokból és betűkből álló kódok jelölik a következők szerint:

- „PP” az IBC-k és a nagycsomagolások kivételével minden más csomagoló-eszközre, vagy
- „RR” a csak a RID és az ADR szerinti szállításnál érvényes különleges előírásokra;
- „B” az IBC-kre, vagy
- „BB” a csak a RID és az ADR szerinti szállításnál érvényes különleges előírásokra;
- „L” a nagycsomagolásokra.

Ellenkező előírás hiányában minden csomagolóeszköznek meg kell felelnie a 6. rész vonatkozó előírásainak. A csomagolási utasítások általában nem nyújtanak információt az összeférhetőségről, így a felhasználó nem választhatja meg a csomagolóeszközt anélkül, hogy ellenőrizné a (csomagolandó) anyag összeférhetőségét a kiválasztott csomagolóanyaggal (pl. a legtöbb fluoridhoz az üvegtartályok nem megfelelőek). Ahol a csomagolási utasítás szerint üvegtartály megengedett, ott porcelán és kőagyag csomagolóeszközök ugyancsak használhatók.

**4.1.3.2** Az egyes anyagokra és tárgyakra alkalmazandó csomagolási utasítás(oka)t a 3.2 fejezet „A” táblázatának 8 oszlopa tartalmazza. A meghatározott anyagokra vagy tárgyakra vonatkozó különleges csomagolási előírásokat és az egybecsomagolási előírásokat (lásd a 4.1.10 szakaszt) a 9a és 9b oszlop tartalmazza.

**4.1.3.3** A csomagolási utasítások tartalmazzák a használható önálló és kombinált csomagolóeszközöket. A kombinált csomagolásra megadják a használható külső csomagolóeszközt, belső csomagolóeszközt, és ahol szükséges, a belső és a külső csomagolóeszközben megengedett legnagyobb mennyiséget. A legnagyobb nettó tömeg és legnagyobb ürtartalom meghatározását lásd az 1.2.1 szakaszban.

**4.1.3.4**

Amennyiben a szállított anyag a szállítás alatt hajlamos folyékonnyá válni, a következő csomagolóeszközök nem használhatók:

A csomagolóeszközök közül:

Hordók:	1D és 1G
Ládák:	4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H1 és 4H2
Zsákok:	5L1, 5L2, 5L3, 5H1, 5H2, 5H3, 5H4, 5M1 és 5M2
Összetett csomagolóeszközök:	6HC, 6HD2, 6HG1, 6HG2, 6HD1, 6PC, 6PD1, 6PD2, 6PG1, 6PG2 és 6PH1

A nagycsomagolások közül:

Hajlékony falú műanyag:	51H (külső csomagolóeszköz)
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Az IBC-k közül:

Az I csomagolási csoport anyagaihoz: egyik IBC típus sem

A II és a III csomagolási csoport anyagaihoz:

Fa:	11C, 11D és 11F
Papírlemez:	11G
Hajlékony falú:	13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 és 13M2
Összetett:	11HZ2 és 21HZ2.

Ezen bekezdés tekintetében a 45 °C vagy annál alacsonyabb olvadáspontú anyagokat és keverékeket kell olyan szilárd anyagoknak tekinteni, amelyek a szállítás alatt hajlamosak folyékonnyá válni.

**4.1.3.5**

Ha ebben a fejezetben a csomagolási utasítások megengedik egy adott kódjelű (pl. 4G; 1A2) csomagolóeszköz használatát, akkor az azonos kódjelű és a 6. rész előírásai szerint „V”, „U” vagy „W” betűvel jelölt (pl. 4GV, 4GU vagy 4GW; 1A2V, 1A2U vagy 1A2W) csomagolóeszközök is használhatók, ugyanazokkal a feltételekkel és korlátozásokkal, amelyeket a csomagolási utasítás az adott kódjelű csomagolóeszközhöz előír. Például a 4GV kódjelű kombinált csomagolás minden esetben használható, amikor 4G kódjelű van megengedve, feltéve, hogy betartják a vonatkozó csomagolási utasítás előírásait a belső csomagolóeszközhöz és a mennyiség korlátozására.

**4.1.3.6**

***Folyékony és szilárd anyagok szállítására szolgáló nyomástartó tartályok***

**4.1.3.6.1**

Hacsak a RID-ben másként nincs előírva, minden folyékony és szilárd anyag szállítására használhatók azok a nyomástartó tartályok, amelyek

- a) megfelelnek 6.2 fejezet vonatkozó követelményeinek; ill.
- b) a tervezésre, szerkezetre, gyártásra, vizsgálatra vonatkozóan a gyártás országában alkalmazott nemzeti vagy nemzetközi szabványoknak megfelelnek, feltéve, hogy a 4.1.3.6 bekezdés előírásait is betartják, valamint a fémből készült palackok, nagypalackok, gázhordók és palackkötegek kialakítása olyan, hogy a repesztő- és a próbanyomás hányadosa legalább
  - i) 1,50 az újratölthető nyomástartó tartályoknál, ill.
  - ii) 2,00 a nem újratölthető nyomástartó tartályoknál,

kivéve a robbanóanyagokat, a termikusan nem állandó anyagokat, a szerves peroxidokat, az

önreaktív anyagokat, az olyan anyagokat, amelyeknél kémiai reakció révén jelentős nyomás alakulhat ki és a radioaktív anyagokat (hacsak a 4.1.9 szakasz nem engedélyezi).

Ez a pont nem vonatkozik a 4.1.4.1 bekezdés P200 csomagolási utasításának 3. táblázatában említett anyagokra.

**4.1.3.6.2** Minden nyomástartó tartály gyártási típust a gyártási ország illetékes hatóságának jóvá kell hagynia vagy a 6.2 fejezet szerint kell jóváhagyni.

**4.1.3.6.3** Hacsak másként nincs előírva, csak olyan nyomástartó tartály használható, amelynek próbanyomása legalább 0,6 MPa.

**4.1.3.6.4** Hacsak másként nincs előírva, a nyomástartó tartályt vészlefüvő szerkezettel lehet ellátni, amely úgy van méretezve, hogy túltöltés vagy tűz esetén megakadályozza a tartály szétrobbanását.

A nyomástartó tartály szelepeit úgy kell tervezni és gyártani, hogy eredendően képesek legyenek a sérülések elviselésére anélkül, hogy a tartalom kiszabadulna, vagy a 4.1.6.8 bekezdés a) – e) pontjaiban felsorolt módszerek valamelyikének alkalmazásával védeni kell az olyan sérülésekkel szemben, amelyek a nyomástartó tartály tartalmának véletlen kiszabadulásához vezetnének.

**4.1.3.6.5** A nyomástartó tartályt 50 °C-on legfeljebb ürtartalmának 95%-áig szabad megtölteni. Elegendő folyadékmentes szabad teret kell hagyni ahhoz, hogy 55 °C hőmérsékleten a folyadék ne töltse ki teljesen a nyomástartó tartályt.

**4.1.3.6.6** Hacsak másként nincs előírva, a nyomástartó tartályt 5 évenként időszakos vizsgálatnak kell alávetni. Az időszakos vizsgálatnak a következőkből kell állnia: külső vizsgálatból, belső vizsgálatból vagy az illetékes hatóság által jóváhagyott más módszerrel végzett vizsgálatból, nyomáspróbából vagy az illetékes hatóság által engedélyezett azonos hatékonyságú, roncsolásmentes vizsgálatból, beleértve a tartozékok vizsgálatát is (pl. a szelepek, vészlefüvő szerkezetek, ill. olvadó betétek tömörségének vizsgálatát). A nyomástartó tartály az időszakos vizsgálat esedékessége után még szállítható, azonban megtölteni már nem szabad. A nyomástartó tartály javítását a 4.1.6.11 bekezdés követelményei szerint kell végezni.

**4.1.3.6.7** A csomagolónak (töltőnek) töltés előtt meg kell vizsgálnia a nyomástartó tartályt, meg kell győződnie arról, hogy a nyomástartó tartály a szállítandó anyagra engedélyezve van és a RID előírásait betartották. A zárószelepet töltés után le kell zárni, és a szállítás alatt zárva kell maradnia. A feladónak ellenőriznie kell a zárószerkezetek és a szerelvények tömítettségét.

**4.1.3.6.8** Újratölthető nyomástartó tartályt csak ugyanolyan anyaggal szabad megtölteni, mint ami előzőleg volt benne, kivéve, ha a töltet megváltoztatásához szükséges műveleteket végrehajtották.

**4.1.3.6.9** A 6.2 fejezet előírásainak megfelelő nyomástartó tartályok kivételével a 4.1.3.6 bekezdés szerinti, folyékony és szilárd anyagok szállítására szolgáló nyomástartó tartályokat a gyártási ország illetékes hatóságának előírásai szerint kell jelöléssel ellátni.

**4.1.3.7** A vonatkozó csomagolási utasításban kifejezetten nem engedélyezett csomagolóeszköz vagy IBC csak akkor használható valamely anyag vagy tárgy szállítására, ha a COTIF Tagállamok az 1.5.1 szakasz szerinti ideiglenes eltérésben erről kifejezetten megállapodtak.

**4.1.3.8** *Nem az 1 osztályba tartozó csomagolatlan tárgyak*

**4.1.3.8.1** Ha egy nagyméretű, robusztus tárgy nem csomagolható a 6.1 vagy a 6.6 fejezet csomagolási előírásainak megfelelően és üres, tisztítatlan állapotban, csomagolás nélkül kell szállítani,

akkor az ilyen szállítást a származási ország<sup>2)</sup> illetékes hatósága engedélyezheti. Az engedélyezéshez az illetékes hatóságnak a következőket kell figyelembe vennie:

- a) a nagyméretű, robusztus tárgynak elég erősnek kell lenni ahhoz, hogy ellenálljon azoknak az igénybevételeknek, ütődéseknek, amelyeknek rendes körülmények között a szállítás során, a szállítóeszközök közötti átrakás, a szállítóeszközből a raktárba való berakodás során ki van téve, illetve amelyek akkor léphetnek fel, amikor további kézi vagy gépi árukezelés céljából a rakodólapról eltávolítják;
- b) minden zárószervezetnek és nyílásnak zárva kell lennie, hogy ne következhesen be a tartalom szabadba jutása, ami normális szállítási körülmények között különösen a rezgésekből, illetve a hőmérséklet, a páratartalom vagy a nyomás változásából adódhat (pl. a tengerszint feletti magasság változásának eredményeként). Veszélyes anyagnak nem szabad a nagyméretű, robusztus tárgy külsejére tapadnia;
- c) a nagyméretű, robusztus tárgyak veszélyes áruval közvetlenül érintkező
  - i) részeit a veszélyes áru nem támadhatja meg, sem lényegesen nem gyengítheti, és
  - ii) ezek a részek nem okozhatnak veszélyes hatást, pl. reakció katalizálását vagy a veszélyes áruval való reakciót;
- d) a folyadékot tartalmazó, nagyméretű, robusztus tárgyakat úgy kell berakni és rögzíteni, hogy a szállítás alatt sem a tartalom kiszabadulása, sem a tárgyak maradandó alakváltozása ne következhesen be;
- e) a nagyméretű, robusztus tárgyakat úgy kell rögzíteni a rekeszben, keretben, egyéb kezelőeszközben vagy magában a szállítóeszközben vagy konténerben, hogy normális szállítási feltételek esetén ne lazulhassanak ki.

**4.1.3.8.2** Az illetékes hatóság által a 4.1.3.8.1 pont szerint engedélyezett, csomagolás nélküli tárgyak az 5. rész feladási eljárásainak hatálya alá tartoznak. Ezenkívül az ilyen tárgyak feladójának gondoskodnia kell arról, hogy az engedély a fuvarokmányhoz legyen csatolva.

**Megjegyzés:** A nagyméretű, robusztus tárgyak közé tartoznak pl. a hajlékony falú tüzelőanyagtartályok, a katonai berendezések, a gépek és készülékek, amelyek a 3.4.6 szakasz szerinti korlátozott mennyiségnél nagyobb mennyiségű veszélyes árut tartalmaznak.

#### **4.1.4 A csomagolási utasítások felsorolása**

**Megjegyzés:** Bár a következő csomagolási utasítások számozási rendszere megegyezik az IMDG Kódex és az ENSZ Minta Szabályzat által használt rendszerrel, a felhasználóknak tekintettel kell lenniük arra, hogy bizonyos részletek a RID esetében eltérőek lehetnek.

##### **4.1.4.1 A csomagolóeszközök (kivéve az IBC-ket és a nagycsomagolásokat) használatára vonatkozó csomagolási utasítások**

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2) Ha a származási ország nem valamely COTIF Tagállam, akkor a jóváhagyást a küldeményrel érintett első COTIF Tagállam illetékes hatóságának kell elismernie.



<b>P001 CSOMAGOLÁSI UTASÍTÁS (folyékony anyagokhoz) P001</b> A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják.				
<b>Kombinált csomagolás:</b>		<b>Legnagyobb úrtartalom/nettó tömeg (lásd 4.1.3.3)</b>		
<b>Belső csomagolóeszközök</b>	<b>Külső csomagolóeszközök</b>	<b>I csomagolási csoport</b>	<b>II csomagolási csoport</b>	<b>III csomagolási csoport</b>
Üveg 10 l Műanyag 30 l Fém 40 l	<b>Hordók</b> acél (1A2) 250 kg alumínium (1B2) 250 kg fém (acélt és alumíniumot kivéve) (1N2) 250 kg műanyag (1H2) 250 kg rétegelt falemez (1D) 150 kg papírlemez (1G) 75 kg <b>Ládák</b> acél (4A) 250 kg alumínium (4B) 250 kg fa (4C1, 4C2) 150 kg rétegelt falemez (4D) 150 kg farostlemez (4F) 75 kg papírlemez (4G) 75 kg habosított műanyag (4H1) 60 kg tömör műanyag (4H2) 150 kg <b>Kannák</b> acél (3A2) 120 kg alumínium (3B2) 120 kg műanyag (3H2) 120 kg			
<b>Önálló csomagolóeszközök:</b>				
<b>Hordók</b>				
acél, nem levehető tetővel (1A1)		250 l	450 l	450 l
acél, levehető tetővel (1A2)		250 l <sup>a)</sup>	450 l	450 l
alumínium, nem levehető tetővel (1B1)		250 l	450 l	450 l
alumínium, levehető tetővel (1B2)		250 l <sup>a)</sup>	450 l	450 l
fém (acélt és alumíniumot kivéve), nem levehető tetővel (1N1)		250 l	450 l	450 l
fém (acélt és alumíniumot kivéve), levehető tetővel (1N2)		250 l <sup>a)</sup>	450 l	450 l
műanyag, nem levehető tetővel (1H1)		250 l	450 l	450 l
műanyag, levehető tetővel (1H2)		250 l <sup>a)</sup>	450 l	450 l
<b>Kannák</b>				
acél, nem levehető tetővel (3A1)		60 l	60 l	60 l
acél, levehető tetővel (3A2)		60 l <sup>a)</sup>	60 l	60 l
alumínium, nem levehető tetővel (3B1)		60 l	60 l	60 l
alumínium, levehető tetővel (3B2)		60 l <sup>a)</sup>	60 l	60 l
műanyag, nem levehető tetővel (3H1)		60 l	60 l	60 l
műanyag, levehető tetővel (3H2)		60 l <sup>a)</sup>	60 l	60 l

a) Csak 2680 mm<sup>2</sup>/s-nál nagyobb viszkozitású anyagokhoz használhatók.



<b>P001 (folyt.)</b>	<b>CSOMAGOLÁSI UTASÍTÁS (folyékony anyagokhoz)</b>			<b>P001 (folyt.)</b>
<b>Önálló csomagolóeszközök (folyt.)</b>	<b>Legnagyobb ürtartalom/nettó tömeg (lásd 4.1.3.3)</b>			
<b>Összetett csomagolóeszközök:</b>	<b>I csomagolási csoport</b>	<b>II csomagolási csoport</b>	<b>III csomagolási csoport</b>	
műanyag tartály külső acél- vagy alumíniumhordóval (6HA1, 6HB1)	250 l	250 l	250 l	
műanyag tartály külső papírlemez, műanyag vagy rétegelt falemez hordóval (6HG1, 6HH1, 6HD1)	120 l	250 l	250 l	
műanyag tartály külső acél- vagy alumíniumládával vagy -rekesszel; vagy műanyag tartály külső fa, rétegelt falemez, papírlemez vagy tömör műanyag ládával (6HA2, 6HB2, 6HC, 6HD2, 6HG2 vagy 6HH2)	60 l	60 l	60 l	
üvegtartály külső acél, alumínium, rétegelt falemez, papírlemez, habosított műanyag vagy tömör műanyag hordóval (6PA1, 6PB1, 6PG1, 6PD1, 6PH1 vagy 6PH2) vagy külső acél- vagy alumíniumládával vagy -rekesszel; vagy külső fa vagy papírlemez-ládával vagy külső vesszők-osárral (6PA2, 6PB2, 6PC, 6PG2 vagy 6PD2)	60 l	60 l	60 l	
<b>Nyomástartó tartályok</b> , feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják.				
<b>Kiegészítő követelmény:</b> A 3 osztály III csomagolási csoportjának azon anyagai esetében, amelyek kis mennyiségben szén-dioxidot vagy nitrogént bocsátanak ki, a csomagolóeszközöket szellőző-szerkezettel kell ellátni.				
<b>Különleges csomagolási előírások:</b>				
<b>PP1</b> Az UN 1133, 1210, 1263 és 1866 tétel anyagai, valamint az UN 3082 alá sorolt ragasztó, nyomdafesték, nyomdafesték segédanyag, festék, festék segédanyag és gyanta oldat esetén, a II és III csomagolási csoport anyagaihoz csomagolóeszközöknként legfeljebb 5 l mennyiségig a fém vagy műanyag csomagolóeszközöket nem kell a 6.1 fejezet szerinti igénybevételi próbáknak alávetni, ha azokat:				
a) rakodólapon, rakodólap-ládában vagy egységrakomány-képző eszközben szállítják, azaz az egyedi csomagolóeszközök pántszalaggal, zsugor- vagy nyújtható fóliával vagy más alkalmas módon a rakodólapon vannak rögzítve; vagy				
b) legfeljebb 40 kg nettó tömegű kombinált csomagolás belső csomagolásaként szállítják.				
<b>PP2</b> Az UN 3065 anyagaihoz olyan, legfeljebb 250 l ürtartalmú fahordók is használhatók, amelyek nem felelnek meg a 6.1 fejezet előírásainak.				
<b>PP4</b> Az UN 1774 anyagaihoz használt csomagolóeszközöknek ki kell elégíteniük a II csomagolási csoport igénybevételi szintjét.				
<b>PP5</b> Az UN 1204 anyagaihoz a csomagolóeszközöket úgy kell kialakítani, hogy a megnövekedett belső nyomás következtében ne következhesen be robbanás. Palackok, nagypalackok és gázhordók ezekhez az anyagokhoz nem használhatók.				
<b>PP6</b> (törölve)				
<b>PP10</b> Az UN 1791, II csomagolási csoport anyagaihoz szellőző-szerkezettel ellátott csomagoló-eszközöket kell használni.				
<b>PP31</b> Az UN 1131 anyag csomagolóeszközeit légmentesen zárni kell.				
<b>PP33</b> Az UN 1308 anyagaihoz csak az I vagy a II csomagolási csoportnak megfelelő, legfeljebb 75 kg bruttó tömegű kombinált csomagolások használhatók.				
<b>PP81</b> A 60%-nál több, de legfeljebb 85% hidrogén-fluoridot tartalmazó UN 1790 fluor-hidrogénsav oldat és az 55%-nál több tiszta savat tartalmazó UN 2031 salétromsav oldat szállítására önálló csomagolóeszközként használt műanyag hordók és kannák megengedett használati időtartama a gyártásuk időpontjától számított 2 év.				
<b>Csak a RID és az ADR szerinti szállításhoz érvényes különleges csomagolási előírás:</b>				
<b>RR2</b> Az UN 1261 anyagaihoz levehető tetejű csomagolóeszközök nem használhatók.				

P002		CSOMAGOLÁSI UTASÍTÁS (szilárd anyagokhoz)			P002
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják.					
Kombinált csomagolás:		Legnagyobb nettó tömeg (lásd 4.1.3.3)			
Belső csomagolóeszközök	Külső csomagolóeszközök	I csomagolási csoport	II csomagolási csoport	III csomagolási csoport	
Üveg 10 kg	<b>Hordók</b>				
Műanyag <sup>a)</sup> 50 kg	acél (1A2)	400 kg	400 kg	400 kg	
Fém 50 kg	alumínium (1B2)	400 kg	400 kg	400 kg	
Papír <sup>a, b, c)</sup> 50 kg	fém (acélt és alumí- niumot kivéve) (1N2)	400 kg	400 kg	400 kg	
Papírlemez <sup>a, b, c)</sup> 50 kg	műanyag (1H2)	400 kg	400 kg	400 kg	
<i>a) Ezeknek a belső csomagolóeszközöknek portömörnek kell lenniük.</i>	rétegelt falemez (1D)	400 kg	400 kg	400 kg	
	papírlemez (1G)	400 kg	400 kg	400 kg	
	<b>Ládák</b>				
<i>b) Ezek a belső csomagolóeszközök nem használhatók, ha a szállított anyag a szállítás alatt folyékonnyá válhat (lásd a 4.1.3.4 bekezdést).</i>	acél (4A)	400 kg	400 kg	400 kg	
	alumínium (4B)	400 kg	400 kg	400 kg	
	fa (4C1)	250 kg	400 kg	400 kg	
	fa, portömör falakkal (4C2)	250 kg	400 kg	400 kg	
	rétegelt falemez (4D)	250 kg	400 kg	400 kg	
	farostlemez (4F)	125 kg	400 kg	400 kg	
	papírlemez (4G)	125 kg	400 kg	400 kg	
<i>c) Ezek a belső csomagolóeszközök nem használhatók az I csomagolási csoport anyagaihoz</i>	habosított műanyag (4H1)	60 kg	60 kg	60 kg	
	tömör műanyag (4H2)	250 kg	400 kg	400 kg	
	<b>Kannák</b>				
	acél (3A2)	120 kg	120 kg	120 kg	
	alumínium (3B2)	120 kg	120 kg	120 kg	
	műanyag (3H2)	120 kg	120 kg	120 kg	
<b>Önálló csomagolóeszközök:</b>					
<b>Hordók</b>					
acél (1A1 vagy 1A2 <sup>d)</sup> )		400 kg	400 kg	400 kg	
alumínium (1B1 vagy 1B2 <sup>d)</sup> )		400 kg	400 kg	400 kg	
fém (acélt és alumíniumot kivéve) (1N1 vagy 1N2 <sup>d)</sup> )		400 kg	400 kg	400 kg	
műanyag (1H1 vagy 1H2 <sup>d)</sup> )		400 kg	400 kg	400 kg	
papírlemez (1G <sup>e)</sup> )		400 kg	400 kg	400 kg	
rétegelt falemez (1D <sup>e)</sup> )		400 kg	400 kg	400 kg	
<b>Kannák</b>					
acél (3A1 vagy 3A2 <sup>d)</sup> )		120 kg	120 kg	120 kg	
alumínium (3B1 vagy 3B2 <sup>d)</sup> )		120 kg	120 kg	120 kg	
műanyag (3H1 vagy 3H2 <sup>d)</sup> )		120 kg	120 kg	120 kg	

- d) Ezek a csomagolóeszközök nem használhatók az I csomagolási csoport azon anyagaihoz, amelyek a szállítás alatt folyékonnyá válhatnak (lásd a 4.1.3.4 bekezdést).
- e) Ezek a csomagolóeszközök nem használhatók, ha a szállított anyagok a szállítás alatt folyékonnyá válhatnak (lásd a 4.1.3.4 bekezdést).

P002 (folyt.)	CSOMAGOLÁSI UTASÍTÁS (szilárd anyagokhoz)			P002 (folyt.)
Önálló csomagolóeszközök: (folyt.)	Legnagyobb nettó tömeg (lásd 4.1.3.3)			
	I csomagolási csoport	II csomagolási csoport	III csomagolási csoport	
<b>Ládák</b> acélláda (4A <sup>e)</sup> ) alumíniumláda (4B <sup>e)</sup> ) közönséges faláda (4C1 <sup>e)</sup> ) rétegelt falemez láda (4D <sup>e)</sup> ) farostlemezláda (4F <sup>e)</sup> ) portömör faláda (4C2 <sup>e)</sup> ) papírlémez láda (4G <sup>e)</sup> ) tömör műanyag láda (4H2 <sup>e)</sup> )	Nem használható Nem használható Nem használható Nem használható Nem használható Nem használható Nem használható Nem használható	400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg	400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg	
<b>Zsákok</b> zsákok (5H3, 5H4, 5L3, 5M2) <sup>e)</sup>	Nem használható	50 kg	50 kg	
<b>Összetett csomagolóeszközök</b>				
műanyag tartály külső acél-, alumínium-, rétegelt falemez, papírlémez vagy műanyag hordóval (6HA1, 6HB1, 6HG1 <sup>e)</sup> , 6HD1 <sup>e)</sup> , vagy 6HH1)	400 kg	400 kg	400 kg	
műanyag tartály külső acél- vagy alumíniumládával vagy -rekesszel, vagy külső faládával, rétegelt falemez ládával, papírlémez ládával vagy tömör műanyag ládával (6HA2, 6HB2, 6HC, 6HD2 <sup>e)</sup> , 6HG2 <sup>e)</sup> vagy 6HH2)	75 kg	75 kg	75 kg	
üvegtartály külső acél-, alumínium-, rétegelt falemez vagy papírlémez hordóval (6PA1, 6PB1, 6PD1 <sup>e)</sup> vagy 6PG1 <sup>e)</sup> ) vagy külső acél- vagy alumíniumládával vagy -rekesszel, vagy külső fa- vagy papírlémez ládával vagy külső vesszőkosárral (6PA2, 6PB2, 6PC, 6PG2 <sup>e)</sup> vagy 6PD2 <sup>e)</sup> ) vagy külső tömör műanyag vagy habosított műanyag csomagolóeszközzel (6PH2 vagy 6PH1 <sup>e)</sup> )	75 kg	75 kg	75 kg	
<i>e) Ezek a csomagolóeszközök nem használhatók, ha a szállított anyagok a szállítás alatt folyékonyá válhatnak (lásd a 4.1.3.4 bekezdést).</i>				
<b>Nyomástartó tartályok</b> , feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják.				
<b>Különleges csomagolási előírások:</b> <b>PP6</b> (törölve) <b>PP7</b> Az UN 2000 alá tartozó celluloid lapokat teljes rakományként, fedett kocsiban vagy zárt konténerben csomagolás nélkül is lehet szállítani rakodólappal rakva, műanyag fóliával burkolva és megfelelő módon, pl. acél pántszalaggal rögzítve. Egy rakodólap nem lehet 1000 kg-nál nagyobb tömegű. <b>PP8</b> Az UN 2002 anyagaihoz a csomagolóeszközöket úgy kell kialakítani, hogy a megnövekedett belső nyomás következtében ne következhesen be robbanás. Palackok, nagypalackok és gázhordók ezekhez az anyagokhoz nem használhatók.				

P002 (folyt.)	CSOMAGOLÁSI UTASÍTÁS (szilárd anyagokhoz)	P002 (folyt.)
<b>Különleges csomagolási előírások (folyt.):</b>		
<b>PP9</b>	Az UN 3175, 3243 és 3244 anyagaihoz a csomagolóeszköznek olyan gyártási típusnak kell megfelelnie, amely sikeresen kiállta a tömörségi próbát a II csomagolási csoport igénybevételi szintjén. Az UN 3175 esetén nincs szükség a tömörségi próbára, ha a folyadék a zárt zsákokban levő szilárd anyagban teljesen abszorbeálva van.	
<b>PP11</b>	Az UN 1309, III csomagolási csoport és UN 1362 anyagaihoz 5H1, 5L1 és 5M1 jelű zsákok használhatók, ha műanyag zsákokba vannak helyezve és rakodólapon zsugor- vagy nyújtható fóliával vannak burkolva.	
<b>PP12</b>	Az UN 1361, 2213 és 3077 anyagaihoz 5H1, 5L1 és 5M1 jelű zsákok is használhatók, ha a szállítás fedett kocsiban vagy zárt konténerben történik.	
<b>PP13</b>	Az UN 2870 alá sorolt tárgyakhoz csak az I csomagolási csoport igénybevételi szintjét kielégítő kombinált csomagolások használhatók.	
<b>PP14</b>	Az UN 2211, 2698 és 3314 anyagaihoz használt csomagolóeszközöket nem kell alávetni a 6.1 fejezet igénybevételi próbáinak.	
<b>PP15</b>	Az UN 1324 és 2623 anyagaihoz használt csomagolóeszközöknek ki kell elégíteniük a III csomagolási csoport igénybevételi szintjét.	
<b>PP20</b>	Az UN 2217 anyagaihoz bármilyen portömör és tépésálló anyagú tartály is használható.	
<b>PP30</b>	Az UN 2471 anyagaihoz papír vagy papírlemez belső csomagolóeszközök nem használhatók.	
<b>PP34</b>	Az UN 2969 anyagaihoz (egész ricinusmag esetén) 5H1, 5L1 vagy 5M1 jelű zsákok is használhatók.	
<b>PP37</b>	Az UN 2590 és 2212 anyagaihoz 5M1 jelű zsákok is használhatók. Minden zsákot fedett kocsiban vagy zárt konténerben kell szállítani, vagy zárt, merevfalú egyesítőcsomagolásba kell helyezni.	
<b>PP38</b>	Az UN 1309, II csomagolási csoport anyagaihoz zsákok csak fedett kocsiban vagy zárt konténerben való szállításnál használhatók.	
<b>PP84</b>	Az UN 1057 tárgyaihoz a II csomagolási csoport igénybevételi szintjét kielégítő, merev külső csomagolóeszközöket kell használni. A csomagolóeszközöket úgy kell tervezni, gyártani és használni, hogy ne következessen be elmozdulás, az eszközök nem szándékos begyűjtása vagy gyúlékony gáz, ill. folyadék kibocsátása.	
<i><b>Megjegyzés:</b> Az elkülönítve összegyűjtött hulladék öngyújtókra lásd a 3.3 fejezet 654 különleges előírását.</i>		
<b>Csak a RID és az ADR szerinti szállításnál érvényes különleges csomagolási előírás:</b>		
<b>RR5</b>	Az UN 1057 tárgyait tartalmazó küldeménydaraboknak a PP84 különleges csomagolási előírástól eltérően csak a 4.1.1.1, a 4.1.1.2 és a 4.1.1.5 – 4.1.1.7 bekezdés általános előírásainak kell megfelelniük, ha bruttó tömegük legfeljebb 10 kg.	
<i><b>Megjegyzés:</b> Az elkülönítve összegyűjtött hulladék öngyújtókra lásd a 3.3 fejezet 654 különleges előírását.</i>		

P003	CSOMAGOLÁSI UTASÍTÁS	P003
	<p>A veszélyes árut alkalmas külső csomagolóeszközbe kell helyezni. A csomagolóeszköznek meg kell felelnie a 4.1.1.1, a 4.1.1.2, a 4.1.1.4, a 4.1.1.8 bekezdés és a 4.1.3 szakasz előírásainak és úgy kell tervezni, hogy kielégítsék a 6.1.4 szakasz gyártásra vonatkozó követelményeit. A befogadóképességnek és a tervezett felhasználásnak megfelelő kialakítású és megfelelő szilárdságú, alkalmas anyagból készített külső csomagolóeszközt kell használni. Ha ezt a csomagolási utasítást tárgyak szállításánál vagy kombinált csomagolások belső csomagolásainál alkalmazzák, a csomagolóeszközt úgy kell tervezni és gyártani, hogy normális szállítási feltételek között a tárgyak nem szándékos működésbe lépését megakadályozza.</p>	
	<p><b>Különleges csomagolási előírások:</b></p>	
PP16	<p>Az UN 2800-hoz: a telepeket védeni kell a csomagoláson belüli rövidzárlattal szemben és erős külső csomagolásokba kell biztonságosan csomagolni.</p> <p><b>Megjegyzés: 1.</b> A kifolyásmentes, nedves akkumulátortelepeket, amelyek mechanikai vagy elektromos készülékek beépített alkatrészei és azok működéséhez szükségesek, a készülék akkumulátortartójában szilárdan kell rögzíteni, és oly módon kell védeni, hogy sérülés és rövidzárlat ne következhesen be.</p> <p>2. A használt telepekre (UN 2800) lásd a P801a utasítást.</p>	
PP17	<p>Az UN 1950 és az UN 2037 tételeknél egy küldeménydarab nettó tömege papírlemez csomagolóeszköz esetén legfeljebb 55 kg, egyéb csomagolóeszköz esetén legfeljebb 125 kg lehet.</p>	
PP19	<p>Az UN 1364 és 1365 anyagai bálákban is szállíthatók.</p>	
PP20	<p>Az UN 1363, 1386, 1408 és 2793 anyagaihoz bármilyen portömör és tépésálló anyagból gyártott tartály is használható.</p>	
PP32	<p>Az UN 2857 és 3358 tárgyai csomagolatlanul, rekeszekben vagy megfelelő egyesítőcsomagolásban is szállíthatók.</p>	
PP87	<p>A 327 különleges előírás szerint szállított, UN 1950 hulladék aeroszol csomagolások esetén a csomagolóeszközt a szállítás alatt esetleg szabaddá váló folyadék visszatartására alkalmas eszközzel (pl. nedvszívó anyaggal) kell ellátni. A csomagolóeszközt megfelelően szellőztetni kell, hogy nyomásnövekedés vagy gyúlékony légkör ne alakulhasson ki.</p>	
PP88	<p>(törölve)</p>	
	<p><b>Csak a RID és az ADR szerinti szállításnál érvényes különleges csomagolási előírás:</b></p>	
RR6	<p>Az UN 1950 és az UN 2037 tételek teljes rakományként való szállítása esetén a fémből készült tárgyakat a következőképpen is lehet csomagolni:</p> <p>a tárgyakat alátétre helyezve, alkalmas műanyag fóliával burkolva – amely a megfelelő helyzetben rögzíti – egységekké kell összefogni. Ezeket az egységeket rakodólapon egymásra kell helyezni, és megfelelően rögzíteni kell.</p>	

P004	CSOMAGOLÁSI UTASÍTÁS	P004
	<p>Ezt a csomagolási utasítást az UN 3473, 3476, 3477, 3478 és 3479 tételre kell alkalmazni.</p>	
	<p>A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1.1, a 4.1.1.2, a 4.1.1.3, a 4.1.1.6 bekezdés és a 4.1.3 szakasz általános előírásait betartják:</p>	
1)	<p>Üzemanyagcella kazettákra: a II csomagolási csoport igénybevételi szintjének megfelelő csomagolóeszközök; és</p>	
2)	<p>Készülékben lévő vagy készülékkel egybecsomagolt üzemanyagcella kazettákra: erős, külső csomagolóeszközök. Az üzemanyagcella kazettát tartalmazó, nagyméretű, robusztus készülékek (lásd a 4.1.3.8 bekezdést) csomagolás nélkül is szállíthatók. Ha az üzemanyagcella kazettát a készülékkel egybecsomagolják, akkor a kazettát vagy belső csomagolásba kell tenni, vagy a külső csomagolásba olyan párnázóanyag vagy osztóbetétek közé helyezni, amely(ek) megvédi(k) a kazettát a sérüléstől, amit a tartalom elmozdulása vagy a külső csomagolásban való elhelyezkedése okozhat. A készülékben lévő üzemanyagcella kazettákat rövidzárlattal ellen védeni kell, és az egész rendszert védeni kell, nehogy véletlenszerűen működésbe lépjen.</p>	

P010		CSOMAGOLÁSI UTASÍTÁS	P010
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják.			
Kombinált csomagolások:			Legnagyobb nettó tömeg
Belső csomagolóeszközök	Külső csomagolóeszközök		
Üveg 1 l	<b>Hordók</b>		
Acél 40 l	acélhordók (1A2)		400 kg
	műanyag hordók (1H2)		400 kg
	rétegelt falemez hordók (1D)		400 kg
	papírlemez hordók (1G)		400 kg
	<b>Ládák</b>		
	acélládák (4A)		400 kg
	faládák (4C1, 4C2)		400 kg
	rétegelt falemez ládák (4D)		400 kg
	farostlemez ládák (4F)		400 kg
	papírlemez ládák (4G)		400 kg
	habosított műanyag ládák (4H1)		60 kg
	tömör műanyag ládák (4H2)		400 kg
<b>Önálló csomagolóeszközök:</b>		<b>Legnagyobb úrtartalom</b> <b>(lásd a 4.1.3.3 bekezdést)</b>	
<b>Hordók</b>			
acél, nem levehető tetővel (1A1)			450 l
<b>Kannák</b>			
acél, nem levehető tetővel (3A1)			60 l
<b>Összetett csomagolóeszközök</b>			
műanyagtartály külső acélhordóval (6HA1)			250 l

P099	CSOMAGOLÁSI UTASÍTÁS	P099
Csak az illetékes hatóság által, ezen árukhoz jóváhagyott csomagolóeszközök használhatók. Az illetékes hatóság jóváhagyásának másolatát a küldeményhez mellékelni kell, vagy a fuvarokmányban utalni kell arra, hogy a csomagolóeszközt az illetékes hatóság jóváhagyta.		

P101	CSOMAGOLÁSI UTASÍTÁS	P101
Csak a származási ország illetékes hatósága által engedélyezett csomagolóeszközök használhatók. Ha a származási ország nem valamely COTIF Tagállam, akkor a csomagolóeszközt a küldemény által érintett első COTIF Tagállam illetékes hatóságának jóvá kell hagynia.		
<i>Megjegyzés: A fuvarokmányba teendő bejegyzésre lásd az 5.4.1.2.1 e) pontot.</i>		

<div>P111</div> <div>CSOMAGOLÁSI UTASÍTÁS</div> <div>P111</div>		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.		
Belső csomagolóeszközök és kialakítások	Köztes csomagolóeszközök és kialakítások	Külső csomagolóeszközök és kialakítások
<b>Zsákok</b> vízálló papírból műanyagból gumibevonatú textilszövetből  <b>Burkolatok</b> műanyagból gumibevonatú textilszövetből	Nem szükséges	<b>Ládák</b> acélládák (4A) alumíniumládák (4B) közönséges faládák (4C1) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F) papírlemez ládák (4G) habosított műanyag ládák (4H1) tömör műanyag ládák (4H2) <b>Hordók</b> acélhordók levehető tetővel (1A2) alumíniumhordók levehető tetővel (1B2) rétegelt falemez hordók (1D) papírlemez hordók (1G) műanyag hordók levehető tetővel (1H2)
<b>Különleges csomagolási előírás:</b> <b>PP43</b> Az UN 0159 esetében nem szükséges belső csomagolás, ha külső csomagolásként fémhordót (1A2 vagy 1B2) vagy műanyag hordót (1H2) használnak.		



<b>P112a</b> <b>CSOMAGOLÁSI UTASÍTÁS</b> <b>P112a</b> <b>(az 1.1D osztályozási kód szilárd, nedvesített anyagaihoz)</b>		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.		
Belső csomagolóeszközök és kialakítások	Köztes csomagolóeszközök és kialakítások	Külső csomagolóeszközök és kialakítások
<b>Zsákok</b> többrétegű, vízálló papírból műanyagból textilszövetből gumibevonatú textilszövetből műanyagszövetből  <b>Tartályok</b> fémből műanyagból	<b>Zsákok</b> műanyagból műanyag bevonatú vagy bélésű textilszövetből  <b>Tartályok</b> fémből műanyagból	<b>Ládák</b> acélládák (4A) alumíniumládák (4B) közönséges faládák (4C1) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F) papírlemez ládák (4G) habosított műanyag ládák (4H1) tömör műanyag ládák (4H2) <b>Hordók</b> acélhordók levehető tetővel (1A2) alumíniumhordók levehető tetővel (1B2) rétegelt falemez hordók (1D) papírlemez hordók (1G) műanyag hordók levehető tetővel (1H2)
<b>Kiegészítő követelmény:</b> Nem szükséges köztes csomagolás, ha külső csomagolásként folyadéktömör, levehető tetejű hordót használnak.		
<b>Különleges csomagolási előírások:</b> <b>PP26</b> Az UN 0004, 0076, 0078, 0154, 0219 és 0394-hez használt csomagolóeszközök nem tartalmazhatnak ólmot. <b>PP45</b> Az UN 0072-höz és az UN 0226-hoz nem szükséges köztes csomagolás.		



P112b		CSOMAGOLÁSI UTASÍTÁS		P112b	
(az 1.1D osztályozási kód szilárd, száraz, nem porszerű anyagaihoz)					
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.					
Belső csomagolóeszközök és kialakítások		Köztes csomagolóeszközök és kialakítások		Külső csomagolóeszközök és kialakítások	
Zsákok nátronpapírból többretegű, vízálló papírból műanyagból textilszövetből gumibevonatú textilszövetből műanyagszövetből		Zsákok (csak az UN 0150-hez) műanyagból műanyag bevonatú vagy bélésű textilszövetből		Zsákok portömör műanyagszövet zsákok (5H2) vízálló műanyagszövet zsákok (5H3) műanyagfólia zsákok (5H4) portömör textilzsákok (5L2) vízálló textilzsákok (5L3) többretegű vízálló papírzsákok (5M2) <b>Ládák</b> acélládák (4A) alumíniumládák (4B) közönséges faládák (4C1) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F) papírlemez ládák (4G) habosított műanyag ládák (4H1) tömör műanyag ládák (4H2) <b>Hordók</b> acélhordók levehető tetővel (1A2) alumíniumhordók levehető tetővel (1B2) rétegelt falemez hordók (1D) papírlemez hordók (1G) műanyag hordók levehető tetővel (1H2)	
Különleges csomagolási előírások:					
PP26		Az UN 0004, 0076, 0078, 0154, 0216, 0219, 0386-hoz használt csomagolóeszközök nem tartalmazhatnak ólmot.			
PP46		Az UN 0209 esetében portömör zsák (5H2) csak a pelyhesített vagy szemcsézett, száraz TNT-hez és legfeljebb 30 kg nettó tömegig ajánlott.			
PP47		Az UN 0222 anyagaihoz nem szükséges belső csomagolás, ha a külső csomagolás zsák.			

P112c	CSOMAGOLÁSI UTASÍTÁS			P112c
(az 1.1D osztályozási kód szilárd, száraz, porszerű anyagaihoz)				
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.				
Belső csomagolóeszközök és kialakítások		Köztes csomagolóeszközök és kialakítások	Külső csomagolóeszközök és kialakítások	
<b>Zsákok</b> többrétegű vízálló papírból műanyagból műanyagszövetből  <b>Tartályok</b> papírlamezből fémből műanyagból fából		<b>Zsákok</b> többrétegű, vízálló papírból, béléssel műanyagból  <b>Tartályok</b> fémből műanyagból	<b>Ládák</b> acélládák (4A) közönséges faládák (4C1) alumíniumládák (4B) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F) papírlemez ládák (4G) tömör műanyag ládák (4H2) <b>Hordók</b> acélhordók levehető tetővel (1A2) alumíniumhordók levehető tetővel (1B2) rétegelt falemez hordók (1D) papírlamez hordók (1G) műanyag hordók levehető tetővel (1H2)	
<b>Kiegészítő követelmények:</b> <b>1.</b> Nem szükségesek belső csomagolások, ha külső csomagolásként hordót használnak. <b>2.</b> A csomagolóeszköznek portömörnek kell lennie.				
<b>Különleges csomagolási előírások:</b>				
<b>PP26</b> Az UN 0004, 0076, 0078, 0154, 0216, 0219, 0386-hez használt csomagolóeszközök nem tartalmazhatnak ólmot.				
<b>PP46</b> Az UN 0209 esetében portömör zsák (5H2) csak a pelyhesített vagy szemcsézett, száraz TNT-hez és legfeljebb 30 kg nettó tömegig ajánlott.				
<b>PP48</b> Az UN 0504 anyagaihoz fém csomagolóeszközök nem használhatók.				

P113	CSOMAGOLÁSI UTASÍTÁS	P113
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.		
Belső csomagolóeszközök és kialakítások	Köztes csomagolóeszközök és kialakítások	Külső csomagolóeszközök és kialakítások
<b>Zsákok</b> papírból műanyagból gumibevonatú textilszövetből  <b>Tartályok</b> papírlémezről fémből műanyagból fából	Nem szükséges	<b>Ládák</b> acélládák (4A) alumíniumládák (4B) közönséges faládák (4C1) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F) papírlémez ládák (4G) tömör műanyag ládák (4H2)  <b>Hordók</b> acélhordók levehető tetővel (1A2) alumíniumhordók levehető tetővel (1B2) rétegelt falemez hordók (1D) papírlémez hordók (1G) műanyag hordók levehető tetővel (1H2)
<b>Kiegészítő követelmény:</b> A csomagolóeszköznek portömörnek kell lennie.		
<b>Különleges csomagolási előírások:</b> <b>PP49</b> Az UN 0094 és 0305 esetében egy belső csomagolásba legfeljebb 50 g anyag csomagolható. <b>PP50</b> Az UN 0027 esetében belső csomagolások nem szükségesek, ha külső csomagolásként hordót használnak. <b>PP51</b> Az UN 0028-hoz belső csomagolásként nátronpapír vagy viaszolt papír burkolatok is használhatók.		

P114a		CSOMAGOLÁSI UTASÍTÁS		P114a	
(nedvesített szilárd anyagokhoz)					
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.					
Belső csomagolóeszközök és kialakítások		Köztes csomagolóeszközök és kialakítások		Külső csomagolóeszközök és kialakítások	
<b>Zsákok</b> műanyagból textilszövetből műanyagszövetből		<b>Zsákok</b> műanyagból műanyag bevonatú vagy bélésű textilszövetből		<b>Ládák</b> acélládák (4A) közönséges faládák (4C1) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F) papírlemez ládák (4G) tömör műanyag ládák (4H2)	
<b>Tartályok</b> fémről műanyagból		<b>Tartályok</b> fémről műanyagból		<b>Hordók</b> acélhordók levehető tetővel (1A2) alumíniumhordók levehető tetővel (1B2) rétegelt falemez hordók (1D) papírlemez hordók (1G) műanyag hordók levehető tetővel (1H2)	
<b>Kiegészítő követelmény:</b> Nem szükséges köztes csomagolás, ha külső csomagolásként folyadéktömör, levehető tetejű hordót használnak.					
<b>Különleges csomagolási előírások:</b>					
<b>PP26</b>		Az UN 0077, 0132, 0234, 0235 és 0236-hoz használt csomagolóeszközök nem tartalmazhatnak ólmot.			
<b>PP43</b>		Az UN 0342 esetében nem szükséges belső csomagolás, ha külső csomagolásként fémhordót (1A2 vagy 1B2) vagy műanyag hordót (1H2) használnak.			

P114b		CSOMAGOLÁSI UTASÍTÁS		P114b	
(száraz szilárd anyagokhoz)					
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.					
Belső csomagolóeszközök és kialakítások		Köztes csomagolóeszközök és kialakítások		Külső csomagolóeszközök és kialakítások	
<b>Zsákok</b> nátronpapírból műanyagból portömör textilszövetből portömör műanyagszövetből  <b>Tartályok</b> papírlemezről fémből papírból műanyagból portömör műanyagszövetből		Nem szükséges		<b>Ládák</b> közönséges faládák (4C1) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F)/ papírlemez ládák (4G) <b>Hordók</b> acélhordók levehető tetővel (1A2) alumíniumhordók levehető tetővel (1B2) rétegelt falemez hordók (1D) papírlemez hordók (1G) műanyag hordók levehető tetővel (1H2)	
<b>Különleges csomagolási előírások:</b>					
<b>PP26</b>		Az UN 0077, 0132, 0234, 0235 és 0236-hoz használt csomagolóeszközök nem tartalmazhatnak ólmot.			
<b>PP48</b>		Az UN 0508 anyaghoz fém csomagolóeszköz nem használható			
<b>PP50</b>		Az UN 0160, UN 0161 és UN 0508 anyagaihoz nem szükségesek belső csomagolóeszközök, ha külső csomagolásként hordókat használnak			
<b>PP52</b>		Ha az UN 0160 és UN 0161 anyagaihoz külső csomagolásként fémhordót (1A2 vagy 1B2) használnak, a fém csomagolóeszközöket úgy kell kialakítani, hogy a belső nyomás belső vagy külső okokból történő növekedése ne okozzon robbanásveszélyt.			

P115	CSOMAGOLÁSI UTASÍTÁS	P115
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.		
Belső csomagolóeszközök és kialakítások	Köztes csomagolóeszközök és kialakítások	Külső csomagolóeszközök és kialakítások
<b>Tartályok</b> műanyagból	<b>Zsákok</b> műanyagból fém tartályokban  <b>Hordók</b> fémből	<b>Ládák</b> közönséges faládák (4C1) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F) <b>Hordók</b> acélhordók levehető tetővel (1A2) alumíniumhordók levehető tetővel (1B2) rétegelt falemez hordók (1D) papírlemez hordók (1G) műanyag hordók levehető tetővel (1H2)
<b>Különleges csomagolási előírások:</b> <b>PP45</b> Az UN 0144-hez nem szükséges köztes csomagolás. <b>PP53</b> Ha az UN 0075, 0143, 0495 és 0497 anyagaihoz külső csomagolásként ládákat használnak, akkor a belső csomagolásokat kúpos, csavarmenetes kupakkal kell zární és térfogatuk egyenként nem haladhatja meg az 5 litert. A belső csomagolásokat körül kell venni nem éghető, abszorbeáló párnázóanyaggal. Az abszorbeáló párnázóanyag mennyiségének elegendőnek kell lennie a folyadéktartalmak felszívásához. A fémtartályokat párnázattal kell egymástól elválasztani. Ha a külső csomagolás láda, a hajtóanyag nettó mennyisége egy küldeménydarabban legfeljebb 30 kg lehet. <b>PP54</b> Ha az UN 0075, 0143, 0495 és 0497 anyagaihoz külső csomagolásként hordókat használnak és a köztes csomagolás hordó, ezt olyan mennyiségű nem éghető párnázóanyaggal kell körülvenni, ami elegendő a folyadéktartalmak abszorbeálásához. A belső és a köztes csomagolóeszközök helyett fémhordóban levő műanyag tartályból álló összetett csomagolóeszköz is használható. A hajtóanyag nettó mennyisége egy küldeménydarabban nem haladhatja meg a 120 litert. <b>PP55</b> Az UN 0144 anyagaihoz abszorbeáló párnázóanyagot kell behelyezni. <b>PP56</b> Az UN 0144 anyagaihoz belső csomagolásként fém tartályok is használhatók. <b>PP57</b> Az UN 0075, 0143, 0495 és 0497 anyagaihoz köztes csomagolásként zsákot kell használni ha külső csomagolásként ládákat használnak. <b>PP58</b> Az UN 0075, 0143, 0495 és 0497 anyagaihoz köztes csomagolásként hordót kell használni, ha külső csomagolásként hordókat használnak. <b>PP59</b> Az UN 0144 anyagaihoz külső csomagolásként papírlemez ládák (4G) is használhatók. <b>PP60</b> Az UN 0144 anyagaihoz levehető tetejű alumíniumhordók (1B2) nem használhatók.		

P116	CSOMAGOLÁSI UTASÍTÁS	P116
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.		
Belső csomagolóeszközök és kialakítások	Köztes csomagolóeszközök és kialakítások	Külső csomagolóeszközök és kialakítások
<p><b>Zsákok</b> víz- és olajálló papírból műanyagból portömör műanyagszövetből műanyag bevonatú vagy bélésű textilszövetből</p> <p><b>Tartályok</b> vízálló papírlemezről fémből műanyagból fából portömör kivitelben</p> <p><b>Burkolatok</b> vízálló papírból viaszolt papírból műanyagból</p>	Nem szükséges	<p><b>Zsákok</b> műanyagszövet zsákok (5H1) többretegű vízálló papírszákok (5M2) műanyagfólia zsákok (5H4) portömör textilszákok (5L2) vízálló textilszákok (5L3)</p> <p><b>Ládák</b> acélládák (4A) alumíniumládák (4B) közönséges faládák (4C1) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F) papírlemez ládák (4G) tömör műanyag ládák (4H2)</p> <p><b>Hordók</b> acélhordók levehető tetővel (1A2) alumíniumhordók levehető tetővel (1B2) rétegelt falemez hordók (1D) papírlemez hordók (1G) műanyag hordók levehető tetővel (1H2)</p> <p><b>Kannák</b> acélkannák levehető tetővel (3A2) műanyag kannák levehető tetővel (3H2)</p>
<p><b>Különleges csomagolási előírások:</b></p> <p><b>PP61</b> Az UN 0082, 0241, 0331 és 0332 anyagaihoz nem szükségesek belső csomagolóeszközök, ha folyadéktömör, levehető tetejű hordókat használnak külső csomagolásként.</p> <p><b>PP62</b> Az UN 0082, 0241, 0331 és 0332 anyagaihoz belső csomagolóeszközök nem szükségesek, ha a robbanóanyagot folyadékot át nem eresztő anyag tartalmazza.</p> <p><b>PP63</b> Az UN 0081 anyagaihoz nem szükségesek belső csomagolóeszközök, ha az merev falú műanyag csomagolóeszközben van, ami a salétromsav-észterekkel szemben áthatolhatatlan.</p> <p><b>PP64</b> Az UN 0331 anyagaihoz belső csomagolóeszközök nem szükségesek, ha külső csomagolásként zsákok (5H2), (5H3) vagy (5H4) használatosak.</p> <p><b>PP65</b> Az UN 0082, 0241, 0331 és 0332 anyagaihoz külső csomagolásként zsákok (5H2 és 5H3) is használhatók.</p> <p><b>PP66</b> Az UN 0081 anyagaihoz külső csomagolásként zsákok nem használhatók.</p>		

P130		CSOMAGOLÁSI UTASÍTÁS		P130	
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.					
Belső csomagolóeszközök és kialakítások		Köztes csomagolóeszközök és kialakítások		Külső csomagolóeszközök és kialakítások	
Nem szükséges		Nem szükséges		<b>Ládák</b> acélládák (4A) alumíniumládák (4B) közönséges faládák (4C1) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F) papírlemez ládák (4G) habosított műanyag ládák (4H1) tömör műanyag ládák (4H2) <b>Hordók</b> acélhordók levehető tetővel (1A2) alumíniumhordók levehető tetővel (1B2) rétegelt falemez hordók (1D) papírlemez hordók (1G) műanyag hordók levehető tetővel (1H2)	
<b>Különleges csomagolási előírások:</b>					
<b>PP67</b> A következőket kell alkalmazni az UN 0006, 0009, 0010, 0015, 0016, 0018, 0019, 0034, 0035, 0038, 0039, 0048, 0056, 0137, 0138, 0168, 0169, 0171, 0181, 0182, 0183, 0186, 0221, 0243, 0244, 0245, 0246, 0254, 0280, 0281, 0286, 0287, 0297, 0299, 0300, 0301, 0303, 0321, 0328, 0329, 0344, 0345, 0346, 0347, 0362, 0363, 0370, 0412, 0424, 0425, 0434, 0435, 0436, 0437, 0438, 0451, 0488 és 0502 tárgyaihoz: A rendszerint katonai célú, nagyméretű, robusztus robbanótárgyak gyújtószerkezeteik nélkül vagy gyújtószerkezettel, de legalább két hatékony védőszerkezettel csomagolatlanul szállíthatók. Ha az ilyen tárgyak hajtótöltetet tartalmaznak vagy önhajtók, akkor gyújtórendszereiket védeni kell a normális szállítási feltételek melletti működésbe lépéssel szemben. Ha a csomagolatlan tárgy a 4. vizsgálati sorozatban negatív eredményt ad, ez jelzi, hogy az csomagolás nélküli szállításra figyelembe vehető. Az ilyen csomagolatlan tárgyak csúszótálpakra erősíthetők vagy keretekbe vagy más alkalmas anyagmozgató eszközbe helyezhetők.					



P131	CSOMAGOLÁSI UTASÍTÁS	P131
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.		
Belső csomagolóeszközök és kialakítások	Köztes csomagolóeszközök és kialakítások	Külső csomagolóeszközök és kialakítások
<b>Zsákok</b> papírból műanyagból  <b>Tartályok</b> papírlemezről fémből műanyagból fából  <b>Orsók</b>	Nem szükséges	<b>Ládák</b> acélládák (4A) alumíniumládák (4B) közönséges faládák (4C1) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F) papírlemez ládák (4G) <b>Hordók</b> acélhordók levehető tetővel (1A2) alumíniumhordók levehető tetővel (1B2) rétegelt falemez hordók (1D) papírlemez hordók (1G) műanyag hordók levehető tetővel (1H2)
<b>Különleges csomagolási előírás:</b> <b>PP68</b> Az UN 0029, 0267 és 0455 esetében belső csomagolásként zsákok és orsók nem használhatók.		

P132a	CSOMAGOLÁSI UTASÍTÁS	P132a
(zárt fém, műanyag vagy papírlemez házból álló tárgyakhoz, amelyek detonáló robbanóanyagot tartalmaznak vagy műanyag kötésű detonáló robbanóanyagokból készült tárgyakhoz)		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.		
Belső csomagolóeszközök és kialakítások	Köztes csomagolóeszközök és kialakítások	Külső csomagolóeszközök és kialakítások
Nem szükséges	Nem szükséges	<b>Ládák</b> acélládák (4A) alumíniumládák (4B) közönséges faládák (4C1) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F) papírlemez ládák (4G) tömör műanyag ládák (4H2)

<b>P132b</b> <b>CSOMAGOLÁSI UTASÍTÁS</b> <b>P132b</b>		
<b>(zárt ház nélküli tárgyakhoz)</b>		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.		
Belső csomagolóeszközök és kialakítások	Köztes csomagolóeszközök és kialakítások	Külső csomagolóeszközök és kialakítások
<b>Tartályok</b> papírlamezből fémből műanyagból  <b>Burkolatok</b> papírból műanyagból	Nem szükséges	<b>Ládák</b> acélládák (4A) alumíniumládák (4B) közönséges faládák (4C1) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F) papírlamez ládák (4G) tömör műanyag ládák (4H2)

<b>P133</b> <b>CSOMAGOLÁSI UTASÍTÁS</b> <b>P133</b>		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.		
Belső csomagolóeszközök és kialakítások	Köztes csomagolóeszközök és kialakítások	Külső csomagolóeszközök és kialakítások
<b>Tartályok</b> papírlamezből fémből műanyagból fából <b>Tálcák megosztó válaszfalakkal</b> papírlamezből műanyagból fából	<b>Tartályok</b> papírlamezből fémből műanyagból fából	<b>Ládák</b> acélládák (4A) alumíniumládák (4B) közönséges faládák (4C1) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F) papírlamez ládák (4G) tömör műanyag ládák (4H2)
<b>Kiegészítő követelmény:</b> Tartályok köztes csomagolásként csak akkor szükségesek, ha a belső csomagolóeszközök tálcák.		
<b>Különleges csomagolási előírás:</b> <b>PP69</b> Az UN 0043, 0212, 0225, 0268 és 0306-hoz belső csomagolóeszközként tálcák nem használhatók.		

P134	CSOMAGOLÁSI UTASÍTÁS	P134
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.		
Belső csomagolóeszközök és kialakítások	Köztes csomagolóeszközök és kialakítások	Külső csomagolóeszközök és kialakítások
<p><b>Zsákok</b> vízálló</p> <p><b>Tartályok</b> papírlamezből fémből műanyagból fából</p> <p><b>Burkolatok</b> hullámpapírlamezből</p> <p><b>Hüvelyek</b> papírlamezből</p>	Nem szükséges	<p><b>Ládák</b> acélládák (4A) alumíniumládák (4B) közönséges faládák (4C1) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F) papírlamez ládák (4G) habosított műanyag ládák (4H1) tömör műanyag ládák (4H2)</p> <p><b>Hordók</b> acélhordók levehető tetővel (1A2) alumíniumhordók levehető tetővel (1B2) rétegelt falemez hordók (1D) papírlamez hordók (1G) műanyag hordók levehető tetővel (1H2)</p>

P135	CSOMAGOLÁSI UTASÍTÁS	P135
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.		
Belső csomagolóeszközök és kialakítások	Köztes csomagolóeszközök és kialakítások	Külső csomagolóeszközök és kialakítások
<b>Zsákok</b> papírból műanyagból  <b>Tartályok</b> papírlémezről fémből műanyagból fából  <b>Burkolatok</b> papírból műanyagból	Nem szükséges	<b>Ládák</b> acélládák (4A) alumíniumládák (4B) közönséges faládák (4C1) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F) papírlémez ládák (4G) habosított műanyag ládák (4H1) tömör műanyag ládák (4H2)  <b>Hordók</b> acélhordók levehető tetővel (1A2) alumíniumhordók levehető tetővel (1B2) rétegelt falemez hordók (1D) papírlémez hordók (1G) műanyag hordók levehető tetővel (1H2)

P136	CSOMAGOLÁSI UTASÍTÁS	P136
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.		
Belső csomagolóeszközök és kialakítások	Köztes csomagolóeszközök és kialakítások	Külső csomagolóeszközök és kialakítások
<b>Zsákok</b> műanyagból textilszövetből  <b>Ládák</b> papírlémezről műanyagból fából  <b>Megosztó válaszfalak a külső csomagolásban</b>	Nem szükséges	<b>Ládák</b> acélládák (4A) alumíniumládák (4B) közönséges faládák (4C1) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F) papírlémez ládák (4G) tömör műanyag ládák (4H2)  <b>Hordók</b> acélhordók levehető tetővel (1A2) alumíniumhordók levehető tetővel (1B2) rétegelt falemez hordók (1D) papírlémez hordók (1G) műanyag hordók levehető tetővel (1H2)

P137 CSOMAGOLÁSI UTASÍTÁS P137		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.		
Belső csomagolóeszközök és kialakítások	Köztes csomagolóeszközök és kialakítások	Külső csomagolóeszközök és kialakítások
<b>Zsákok</b> műanyagból  <b>Ládák</b> papírlemezről  <b>Hüvelyek</b> papírlemezről fémről műanyagból  <b>Megosztó válaszfalak a külső csomagolásban</b>	Nem szükséges	<b>Ládák</b> acélládák (4A) alumíniumládák (4B) közönséges faládák (4C1) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F) papírlemez ládák (4G) <b>Hordók</b> acélhordók levehető tetővel (1A2) alumíniumhordók levehető tetővel (1B2) rétegelt falemez hordók (1D) papírlemez hordók (1G) műanyag hordók levehető tetővel (1H2)
<b>Különleges csomagolási előírás:</b> <b>PP70</b> Ha az UN 0059, 0439, 0440 és 0441 formázott tölteteket egyenként csomagolják, a kúpos üregnek lefelé kell néznie és a küldeménydarabot el kell látni a „FÖLFELÉ” jelöléssel. Ha a formázott tölteteket páronként csomagolják, a kúpos üregeknek befelé kell nézniük, hogy véletlen beindulás esetén a jet-hatás minimális legyen.		

P138 CSOMAGOLÁSI UTASÍTÁS P138		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.		
Belső csomagolóeszközök és kialakítások	Köztes csomagolóeszközök és kialakítások	Külső csomagolóeszközök és kialakítások
<b>Zsákok</b> műanyagból	Nem szükséges	<b>Ládák</b> acélládák (4A) alumíniumládák (4B) közönséges faládák (4C1) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F) papírlemez ládák (4G) tömör műanyag ládák (4H2) <b>Hordók</b> acélhordók levehető tetővel (1A2) alumíniumhordók levehető tetővel (1B2) rétegelt falemez hordók (1D) papírlemez hordók (1G) műanyag hordók levehető tetővel (1H2)
<b>Kiegészítő követelmény:</b> Ha a tárgyak végei zártak, belső csomagolóeszközök nem szükségesek.		

P139		CSOMAGOLÁSI UTASÍTÁS		P139	
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.					
Belső csomagolóeszközök és kialakítások		Köztes csomagolóeszközök és kialakítások		Külső csomagolóeszközök és kialakítások	
Zsákok műanyagból		Nem szükséges		Ládák acélládák (4A) alumíniumládák (4B) közönséges faládák (4C1) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F) papírlemez ládák (4G) tömör műanyag ládák (4H2)	
Tartályok papírlemezből fémből műanyagból fából				Hordók acélhordók levehető tetővel (1A2) alumíniumhordók levehető tetővel (1B2) rétegelt falemez hordók (1D) papírlemez hordók (1G) műanyag hordók levehető tetővel (1H2)	
Orsók					
Burkolatok papírból műanyagból					
Különleges csomagolási előírások:					
PP71 Az UN 0065, 0102, 0104, 0289 és 0290 estében a robbanózsínórok végeit le kell zárni, pl. szorosan záró dugóval, úgy, hogy a robbanóanyag ne szabadulhasson ki. A hajlékony robbanózsínórok végeit szorosan le kell kötni.					
PP72 Az UN 0065 és 0289 esetében nem szükségesek belső csomagolóeszközök, ha azok tekercselve vannak.					

P140 CSOMAGOLÁSI UTASÍTÁS P140		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.		
Belső csomagolóeszközök és kialakítások	Köztes csomagolóeszközök és kialakítások	Külső csomagolóeszközök és kialakítások
<b>Zsákok</b> műanyagból  <b>Orsók</b>  <b>Burkolatok</b> nátronpapírból műanyagból	Nem szükséges	<b>Ládák</b> acélládák (4A) alumíniumládák (4B) közönséges faládák (4C1) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F) papírlémez ládák (4G) tömör műanyag ládák (4H2) <b>Hordók</b> acélhordók levehető tetővel (1A2) alumíniumhordók levehető tetővel (1B2) rétegelt falemez hordók (1D) papírlémez hordók (1G) műanyag hordók levehető tetővel (1H2)
<b>Különleges csomagolási előírások:</b> <b>PP73</b> Az UN 0105 esetében nem szükségesek belső csomagolóeszközök, ha a tárgyak végei zártak. <b>PP74</b> Az UN 0101 esetében a csomagolóeszköznek portömörnek kell lennie, kivéve, ha a gyújtó papírhüvellyel van burkolva és a hüvely mindkét vége el van látva levehető sapkával. <b>PP75</b> Az UN 0101 tárgyaihoz acél vagy alumínium ládák és hordók nem használhatók.		

P141 CSOMAGOLÁSI UTASÍTÁS P141		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.		
Belső csomagolóeszközök és kialakítások	Köztes csomagolóeszközök és kialakítások	Külső csomagolóeszközök és kialakítások
<b>Tartályok</b> papírlémezből fémből műanyagból fából  <b>Tálcák megosztó válaszfalakkal</b> műanyagból fából  <b>Megosztó válaszfalak a külső csomagolásban</b>	Nem szükséges	<b>Ládák</b> acélládák (4A) alumíniumládák (4B) közönséges faládák (4C1) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F)  papírlémez ládák (4G) tömör műanyag ládák (4H2) <b>Hordók</b> acélhordók levehető tetővel (1A2) alumíniumhordók levehető tetővel (1B2) rétegelt falemez hordók (1D) papírlémez hordók (1G) műanyag hordók levehető tetővel (1H2)

P142 CSOMAGOLÁSI UTASÍTÁS P142		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.		
Belső csomagolóeszközök és kialakítások	Köztes csomagolóeszközök és kialakítások	Külső csomagolóeszközök és kialakítások
<b>Zsákok</b> papírból műanyagból  <b>Tartályok</b> papírlamezből fémből műanyagból fából  <b>Burkolatok</b> papírból  <b>Tálcák megosztó válaszfalakkal</b> műanyagból	Nem szükséges	<b>Ládák</b> acélládák (4A) alumíniumládák (4B) közönséges faládák (4C1) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F) papírlamez ládák (4G) tömör műanyag ládák (4H2)  <b>Hordók</b> acélhordók levehető tetővel (1A2) alumíniumhordók levehető tetővel (1B2) rétegelt falemez hordók (1D) papírlamez hordók (1G) műanyag hordók levehető tetővel (1H2)

P143 CSOMAGOLÁSI UTASÍTÁS P143		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.		
Belső csomagolóeszközök és kialakítások	Köztes csomagolóeszközök és kialakítások	Külső csomagolóeszközök és kialakítások
<b>Zsákok</b> nátronpapírból műanyagból textilszövetből gumibevonatú textilszövetből  <b>Tartályok</b> papírlamezből fémből műanyagból  <b>Tálcák megosztó válaszfalakkal</b> műanyagból fából	Nem szükséges	<b>Ládák</b> acélládák (4A) alumíniumládák (4B) közönséges faládák (4C1) portömör faládák (4C2) rétegelt falemez ládák (4D) farostlemez ládák (4F) papírlamez ládák (4G) tömör műanyag ládák (4H2)  <b>Hordók</b> acélhordók levehető tetővel (1A2) alumíniumhordók levehető tetővel (1B2) rétegelt falemez hordók (1D) papírlamez hordók (1G) műanyag hordók levehető tetővel (1H2)
<b>Kiegészítő követelmény:</b> A fenti belső és külső csomagolóeszközök helyett összetett csomagolóeszköz (6HH2) (műanyag tartály külső tömör műanyag ládával) is használható.		
<b>Különleges csomagolási előírás:</b> <b>PP76</b> Ha az UN 0271, 0272, 0415 vagy 0491-hez fém csomagolóeszközöket használnak, a fém csomagolóeszközöket úgy kell kialakítani, hogy a belső nyomás belső vagy külső okokból történő növekedése ne okozzon robbanásveszélyt.		



P144		CSOMAGOLÁSI UTASÍTÁS		P144	
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.					
Belső csomagolóeszközök és kialakítások		Köztes csomagolóeszközök és kialakítások		Külső csomagolóeszközök és kialakítások	
Tartályok papírlémezből fémből műanyagból		Nem szükséges		Ládák acélládák (4A) alumíniumládák (4B) közönséges faládák (4C1) fémbéléssel rétegelt falemez ládák (4D) fémbéléssel farostlemez ládák (4F) fémbéléssel habosított műanyag ládák (4H1) tömör műanyag ládák (4H2)	
Megosztó válaszfalak a külső csomagolásban				Hordók acélhordók levehető tetővel (1A2) alumíniumhordók levehető tetővel (1B2) műanyag hordók levehető tetővel (1H2)	
Különleges csomagolási előírás:					
PP77 Az UN 0248 és 0249-hez használt csomagolásokat védeni kell a víz behatolásával szemben. Ha a vízzel aktiválható szerkezeteket csomagolatlanul szállítják, azokat legalább két, független védőszerkezettel kell ellátni, ami megakadályozza a víz behatolását.					

P200	CSOMAGOLÁSI UTASÍTÁS	P200
<b>A csomagolóeszköz típusa</b> Palack, nagypalack, gázhordó és palackköteg. Palackok, nagypalackok, gázhordók és palackkötegek használhatók, feltéve, hogy a 4.1.6 szakasz különleges csomagolási előírásait és a következő 1) – 11) bekezdés előírásait betartják.		
<b>Általános előírások</b> 1) A tartályokat úgy kell lezárni és tömíteni, hogy megakadályozzák a gáz kiszabadulását. 2) A táblázatok szerint 200 ml/m <sup>3</sup> (ppm) vagy annál kisebb LC <sub>50</sub> értékkel rendelkező mérgező anyagokat tartalmazó nyomástartó tartályokon nem lehet semmiféle nyomáscsökkentő szerkezet. Az UN 1013 szén-dioxid és az UN 1070 dinitrogén-oxid szállítására használt UN nyomástartó tartályokat nyomáscsökkentő szerkezettel kell ellátni. 3) A következő három táblázat a sűrített gázokra (1 táblázat), a cseppfolyósított és oldott gázokra (2 táblázat) és a nem a 2 osztályba tartozó anyagokra (3 táblázat) vonatkozik. A táblázatokban a következők szerepelnek: a) az anyag UN száma, megnevezése és leírása, valamint osztályozási kódja; b) mérgező anyagok esetén az LC <sub>50</sub> érték; c) az anyaghoz használható nyomástartó tartály típusa, amit „X” betű jelöl; d) a nyomástartó tartályok időszakos vizsgálatának legnagyobb időköze; <i><b>Megjegyzés:</b> A kompozit anyagok felhasználásával készült nyomástartó tartályokra az időszakos vizsgálat gyakoriságát a tartályt jóváhagyó illetékes hatóságnak kell meghatároznia.</i> e) a nyomástartó tartályok legkisebb próbanyomása; f) sűrített gázok tartályainál a legnagyobb üzemi nyomás vagy cseppfolyósított, ill. oldott gázok tartályainál a legnagyobb töltési fok(ok); g) az egyes anyagokra vonatkozó különleges csomagolási előírások.		
<b>Próbanyomás, töltési fok és töltési előírások</b> 4) Az előírt legkisebb próbanyomás 1 MPa (10 bar); 5) A nyomástartó tartályokat semmilyen esetben sem szabad a következő követelmények által meghatározott határoknál nagyobb mértékben megtölteni: a) Sűrített gázok esetén az üzemi nyomás nem lehet nagyobb, mint a nyomástartó tartály próbanyomásának kétharmada. Az üzemi nyomás felső határára az „o” különleges csomagolási előírás további korlátozást tartalmaz. A belső nyomás 65 °C-on semmilyen esetben sem haladhatja meg a próbanyomást. b) Nagy nyomáson cseppfolyósított gázok esetén a töltési foknak akkorának kell lennie, hogy az állandósult nyomás 65 °C-on ne haladja meg a nyomástartó tartály próbanyomását. A táblázatban megadottól eltérő próbanyomás és töltési fok is alkalmazható, kivéve ott, ahol az „o” különleges csomagolási előírás szerepel, akkor ha i) az „r” különleges csomagolási előírás teljesül, ha az elő van írva; vagy ii) minden más esetben az előző követelmény teljesül. Azoknál a nagy nyomáson cseppfolyósított gázoknál és gázkeverékeknél, amelyekre vonatkozóan nem áll rendelkezésre adat, a legnagyobb töltési fokot (TF) a következő képlettel kell meghatározni: $TF = 8,5 \cdot 10^{-4} \cdot d_g \cdot P_e$ ahol $TF$ = a megengedett legnagyobb töltési fok $d_g$ = a gáz sűrűsége (15 °C-on és 1 bar nyomáson) (kg/m <sup>3</sup> -ben) $P_e$ = a legkisebb próbanyomás (bar-ban). Ha a gáz sűrűsége nem ismert, a töltési fokot a következő képlettel kell meghatározni: $TF = \frac{P_e \cdot MM \cdot 10^{-3}}{R \cdot 338}$ ahol $TF$ = megengedett legnagyobb töltési fok $P_e$ = a legkisebb próbanyomás (bar-ban) $MM$ = a gáz molekulatömege (g/mol-ban) $R$ = 8,31451 · 10 <sup>2</sup> bar · l · mol <sup>-1</sup> · K <sup>-1</sup> (gázállandó). Gázkeverékeknél az egyes alkotórészek térfogat arányának figyelembevételével kapott átlagos molekulatömeget kell alkalmazni.		

P200 (folyt.)	CSOMAGOLÁSI UTASÍTÁS	P200 (folyt.)
c)	<p>Kis nyomáson cseppfolyósított gázoknál a töltési fok (az ürtartalom-literenkénti legnagyobb töltőtömeg) a folyadékfázis 50 °C-on fennálló sűrűségének 0,95-szorosa, ezenkívül a folyadékfázis 60 °C alatt nem töltheti ki teljesen a tartályt. A próbanyomásnak legalább akkorának kell lennie, mint a folyékony anyag 65 °C-on fennálló gőznyomása (abszolút nyomás) mínusz 100 kPa (1 bar).</p> <p>Azoknál a kis nyomáson cseppfolyósított gázoknál és gázkeverékeknél, amelyekre vonatkozóan nem áll rendelkezésre adat, a legnagyobb töltési fokot a következő képlettel kell meghatározni:</p> $TF = (0,0032 \cdot BP - 0,24) \cdot d_l$ <p>ahol</p> <p><math>TF</math> = a megengedett legnagyobb töltési fok</p> <p><math>BP</math> = a forráspont (Kelvin fokban)</p> <p><math>d_l</math> = a folyékony anyag sűrűsége a forrásponton (kg/l-ben).</p>	
d)	Az UN 1001 oldott acetilénre és az UN 3374 oldószermentes acetilénre lásd a 10) bekezdésben a „p” különleges csomagolási előírást.	
6)	Eltérő próbanyomás és töltési fok is alkalmazható, amennyiben az előző 4) és 5) bekezdésben leírt általános követelményeket kielégítik.	
7)	<p>A nyomástartó tartályok töltése csak különleges felszereltségű helyeken, szakképzett személyzettel és megfelelő eljárással végezhető.</p> <p>Az eljárásnak ki kell terjednie annak ellenőrzésére, hogy</p> <ul style="list-style-type: none"> <li>– a tartály és szerelvényei megfelelnek a vonatkozó szabályzatoknak;</li> <li>– a szállítandó termékkel összeférhetőek;</li> <li>– nincs biztonságot befolyásoló sérülésük;</li> <li>– a töltési fokot, ill. a töltési nyomást betartották;</li> <li>– a feliratok és a jelölések szabályszerűek.</li> </ul>	
<b>Időszakos vizsgálat</b>		
8)	Az újratölthető, nyomástartó tartályokat a 6.2.1.6, ill. a 6.2.3.5 bekezdés előírásai szerint kell időszakos vizsgálatnak alávetni.	
9)	<p>Ha valamely anyagra a következő táblázatokban nincs különleges előírás feltüntetve, az időszakos vizsgálatot a következők szerint kell végrehajtani:</p> <ul style="list-style-type: none"> <li>a) az 1T, 1TF, 1TO, 1TC, 1TFC, 1TOC, 2T, 2TO, 2TF, 2TC, 2TFC, 2TOC, 4A, 4F és 4TC osztályozási kód alá tartozó gázok szállítására szolgáló nyomástartó tartályok esetében 5 évenként;</li> <li>b) a többi osztály anyagainak szállítására szolgáló nyomástartó tartályok esetében 5 évenként;</li> <li>c) az 1A, 1O, 1F, 2A, 2O és 2F osztályozási kód alá tartozó gázok szállítására szolgáló nyomástartó tartályok esetében 10 évenként.</li> </ul> <p>E bekezdéstől eltérően a kompozit anyagok felhasználásával készült, nyomástartó tartályok (nyomástartó kompozit tartályok) időszakos vizsgálatát azon COTIF Tagállam illetékes hatósága által meghatározott időszakonként kell elvégezni, amely a szerkezetre és a gyártásra vonatkozó műszaki szabályzatot jóváhagyta.</p>	
<b>Különleges csomagolási előírások</b>		
10)	<p>A „különleges csomagolási előírások” oszlop jelmagyarázata</p> <p>Az <i>anyagok összeférhetősége</i> (gázokra lásd az ISO 11114-1:1997 és az ISO 11114-2:2000 szabványt)</p> <ul style="list-style-type: none"> <li>a: Alumíniumötvözetből készült tartály nem használható.</li> <li>b: Rézből készült szelepek nem használhatók.</li> <li>c: A tartalommal érintkezésbe kerülő fémrészek legfeljebb 65% rezet tartalmazhatnak.</li> <li>d: Acélból készült, nyomástartó tartályokhoz csak a hidrogén hatására bekövetkező ridegedésnek ellenálló minőségű acélok használhatók.</li> </ul> <p>A 200 ml/m<sup>3</sup>-nél (ppm-nél) kisebb LC<sub>50</sub> értékű anyagokra vonatkozó követelmények</p> <ul style="list-style-type: none"> <li>k: A szelepníflásokat gázzáró dugóval vagy sapkával kell ellátni, ami olyan anyagból készült, amit a nyomástartó tartály tartalma nem támad meg.</li> </ul> <p>Egy palackkötegen belül minden palackot saját zárószeleppel kell ellátni, amelyet a szállítás</p>	

P200 (folyt.)	CSOMAGOLÁSI UTASÍTÁS	P200 (folyt.)
	<p>alatt zárva kell tartani. Töltés után a gyújtócsövet légteleníteni kell, át kell öblíteni és le kell zárni.</p> <p>Az UN 1045 sűrített fluort tartalmazó palackkötegek palackjainál nem szükséges minden palackot leválasztó szeleppel ellátni, ehelyett elegendő a legfeljebb 150 l összes víztérfogatú palack-csoportokra leválasztó szelepet tenni.</p> <p>A palackoknál, ill. a palackkötegek egyes palackjainál a próbanyomásnak legalább 200 bar-nak kell lennie, és a legkisebb falvastagság alumínium ötvözet esetén 3,5 mm, acél esetén 2 mm lehet. Azok az egyedi palackok, amelyek nem felelnek meg ezeknek a követelményeknek, csak olyan merev, külső csomagolóeszközben szállíthatók, amely az I csomagolási csoport követelményeit kielégíti és kellően megvédi a palackot és szerelvényeit.</p> <p>A gázhordók legkisebb falvastagságát az illetékes hatóságnak kell meghatározni.</p> <p>A nyomástartó tartályon nem lehet nyomáscsökkentő szerkezet.</p> <p>A palackoknak, ill. a palackkötegek egyes palackjainak a víztérfogata legfeljebb 85 liter lehet.</p> <p>A szelepeknek kúpos menetes csatlakozással közvetlenül a nyomástartó tartályhoz kell csatlakozniuk és képesnek kell lenniük a nyomástartó tartály próbanyomásának elviselésére.</p> <p>A szelepeknek vagy nem perforált membránnal kialakított, tömítés nélküli típusúnak kell lenniük vagy olyanak, ami megakadályozza a tömítésen keresztüli vagy a tömítés melletti szivárgást.</p> <p>Kapszulákban történő szállítás nem engedélyezett.</p> <p>Töltés után minden nyomástartó tartály tömörségét ellenőrizni kell.</p>	
	<p><i>Egyes gázokra vonatkozó előírások</i></p>	
	<p>l: Az UN 1040 etilén-oxid légmentesen zárt üveg vagy fém belső csomagolásokban is szállítható, amelyek párnázóanyag között, az I csomagolási csoportnak megfelelő papírlemez, fa- vagy fémládában vannak. A megengedett legnagyobb mennyiség üveg belső csomagolás esetén 30 g, fém belső csomagolás esetén 200 g. Töltés után minden belső csomagolás tömörségét forróvízes fürdőbe mártva olyan hőmérsékleten és időtartamig kell vizsgálni, ami elegendő ahhoz, hogy a belső nyomás elérje az etilénoxid 55 °C-on fennálló gőznyomását. Egy külső csomagolásban a legnagyobb nettó tömeg legfeljebb 2,5 kg lehet.</p> <p>m: A nyomástartó tartályokat úgy kell megtölteni, hogy az üzemi nyomás ne haladja meg az 5 bar-t.</p> <p>n: A palackok, ill a palackköteg egyes palackjai legfeljebb 5 kg gázt tartalmazhatnak. Ha az UN 1045 sűrített fluort tartalmazó palackköteg a „k” különleges csomagolási előírás szerint palack-csoportokra van osztva, egy csoport legfeljebb 5 kg gázt tartalmazhat.</p> <p>o: Az üzemi nyomás, ill. a töltési fok semmi esetre sem haladhatja meg a táblázatban feltüntetett értéket.</p> <p>p: UN 1001 oldott acetilén és az UN 3374 oldószermentes acetilén esetén a palackokat homogén, monolit, porózus anyaggal kell kitölteni; az üzemi nyomás és az acetilén mennyisége nem haladhatja meg a jóváhagyásban meghatározott vagy az ISO 3807-1:2000, ill. az ISO 3807-2:2000 szabványban szereplő értéket.</p> <p>UN 1001 oldott acetilén esetén a palacknak a jóváhagyásban meghatározott mennyiségű acetont vagy más alkalmas oldószert kell tartalmaznia (lásd az ISO 3807-1:2000, ill. az ISO 3807-2:2000 szabványt); a nyomáscsökkentő szerkezettel ellátott és az összekapcsolt palackokat függőleges helyzetben kell szállítani.</p> <p>Alternatívaként az UN 1001 oldott acetilénhez használt olyan palack, amely nem UN nyomástartó tartály, nem monolit, porózus anyaggal is megtölthető; az üzemi nyomás, az acetilén és az oldószer mennyisége nem haladhatja meg az engedélyben előírt értéket. A palack időszakos vizsgálatának időköze legfeljebb öt év lehet.</p> <p>Az 52 bar próbanyomást csak az ISO 3807-2:2000 szabványnak megfelelő palackokra kell alkalmazni.</p> <p>q: A piroforos gázokhoz és az 1%-nál több piroforos alkotórészt tartalmazó, gyúlékony gázkeverékekhez használt nyomástartó tartályokat gázzáró dugóval vagy sapkával kell ellátni, ami olyan anyagból készült, amit a nyomástartó tartály tartalma nem támad meg. Ha a nyomástartó tartályok palackköteget képeznek, minden egyes tartályt saját szeleppel kell ellátni,</p>	

P200 (folyt.)	CSOMAGOLÁSI UTASÍTÁS	P200 (folyt.)
r:	amit a szállítás alatt zárva kell tartani, és a gyűjtőcső vezeték kimenő szelepeit gázzáró dugóval vagy sapkával kell ellátni. Kapszulákban történő szállítás nem engedélyezett.	
ra:	A gáz töltési fokát úgy kell korlátozni, hogy a nyomás a gáz teljes elbomlása esetén sem lehet nagyobb, mint a nyomástartó tartály próbanyomásának kétharmada.	
s:	Kapszulákban szállítható a következő feltételek mellett:	
	a) a gáz mennyisége nem haladhatja meg a 150 g-ot kapszulánként;	
	b) a kapszulának mentesnek kell lenniük az olyan hibáktól, amelyek ellenállóképességüket csökkenthetnék;	
	c) a zárás tömörségét kiegészítő szerkezettel (kupakkal, sapkával, lehegesztéssel, lekötéssel stb.) kell biztosítani, ami alkalmas a zárórendszer szállítás alatti tömítetlenné válásának megakadályozására;	
	d) a kapszulákat kielégítő szilárdságú külső csomagolásba kell helyezni. Egy küldeménydarab tömege nem lehet 75 kg-nál nagyobb.	
	Az alumíniumötvözet nyomástartó tartályokat:	
	– csak réz vagy rozsdamentes acél szelepekkel szabad ellátni; és	
	– a szénhidrogén szennyeződéstől meg kell tisztítani és nem lehetnek olajjal szennyezettek.	
	Az UN nyomástartó tartályokat az ISO 11621:1997 szerint kell kitisztítani.	
ta:	(fenntartva)	
	<i>Időszakos vizsgálat</i>	
u:	Az alumíniumötvözet nyomástartó tartályoknál az időszakos vizsgálatok időköze 10 évre növelhető. Ez az eltérés az UN nyomástartó tartályokra csak akkor alkalmazható, ha az ötvözetet, amelyből a nyomástartó tartály készült, alávetették az ISO 7866:1999 szabvány szerinti feszültségkorróziós vizsgálatnak.	
v:	Az időszakos vizsgálatok időköze acélpalackok esetén 15 évre növelhető:	
	a) azon ország(ok) illetékes hatóságának (hatóságainak) egyetértésével, amely(ek)ben az időszakos vizsgálatokat végzik és a szállítás történik, és	
	b) az illetékes hatóság által elismert műszaki szabályzat vagy szabvány, vagy az EN 1440:1996 „Szállítható, újratölthető hegesztett acélpalackok cseppfolyósított szénhidrogéngázhoz (LPG-hez). Időszakos újraminősítő vizsgálatok” szabvány előírásainak megfelelően.	
	<i>Az m.n.n. tételekre és a keverékekre vonatkozó követelmények</i>	
z:	A nyomástartó tartály és szerelvényei anyagának a tartalommal összeférhetőnek kell lennie és nem képezhet azzal ártalmas vagy veszélyes vegyületeket.	
	A próbanyomást és a töltési fokot az 5) bekezdés vonatkozó követelményei szerint kell kiszámítani.	
	A 200 ml/m <sup>3</sup> vagy annál kisebb LC <sub>50</sub> értékkel bíró mérgező gázokra és gázkeverékekre a „k” különleges előírás követelményeit kell betartani, az ilyen gázok szállítása nagypalackban, gázhordóban, ill. MEG-konténerben nem engedélyezett, kivéve az UN 1975 nirogén-monoxid és dinitrogén-tetroxid keverékét, amely gázhordóban szállítható.	
	A piroforos gázokhoz vagy 1%-nál több piroforos vegyületet tartalmazó gyúlékony gázkeverékekhez használt nyomástartó tartályoknak a „q” különleges csomagolási előírás követelményeinek kell megfelelniük.	
	Meg kell tenni a szükséges intézkedéseket a szállítás alatt a veszélyes reakciók (pl. polimerizáció, bomlás) elkerülésére. Szükség esetén stabilizátorokat vagy inhibitorokat kell a gázhoz adni.	
	Az UN 1911 diboránt tartalmazó keverékeket olyan nyomásig kell betölteni, hogy ha a diborán teljes bomlása bekövetkezik, a nyomás ne múlja felül a nyomástartó tartály próbanyomásának kétharmadát.	
	Az UN 2192 germánt tartalmazó keverékek (kivéve a legfeljebb 35% germántartalmú, hidrogént vagy nitrogént tartalmazó keverékeket, valamint a legfeljebb 28% germántartalmú, héliumot vagy argont tartalmazó keverékeket) csak addig szabad tölteni, hogy a nyomás a germán teljes elbomlása esetén se legyen nagyobb, mint a nyomástartó tartály próbanyomásának kétharmada.	

P200 (folyt.)	CSOMAGOLÁSI UTASÍTÁS		P200 (folyt.)
A nem a 2 osztályba tartozó anyagokra vonatkozó követelmények			
ab:	A nyomástartó tartályoknak a következő feltételeket kell kielégíteniük:		
	i) a nyomáspróba alkalmával a nyomástartó tartály belsejét és a szerelvényeket is meg kell vizsgálni;		
	ii) a tartály korrózióállóságát két évente alkalmas (pl. ultrahangos) készülékkel meg kell vizsgálni és ellenőrizni kell a szerelvények állapotát;		
	iii) a falvastagság nem lehet 3 mm-nél kisebb.		
ac:	A vizsgálatokat az illetékes hatóság által elismert szakértő felügyelete mellett kell végezni.		
ad:	A nyomástartó tartályoknak a következő feltételeket kell kielégíteniük:		
	i) a nyomástartó tartályokat legalább 2,1 MPa (21 bar) (túlnyomás) tervezési nyomásra kell méretezni;		
	ii) az újratölthető tartályokon feltüntetendő jelölésen kívül a nyomástartó tartályokon jól látható és tartós módon fel kell tüntetni a következőket:		
	– az anyag UN számát és helyes szállítási megnevezését a 3.1.2 szakasz szerint;		
	– a töltet engedélyezett legnagyobb tömegét és a tartály téra tömegét, beleértve a töltés alatt rajta levő szerelvényeket, vagy a bruttó tömeget.		
11) Ezen csomagolási utasítás követelményei a következő szabványok értelemszerű alkalmazása esetén teljesítettnek tekinthetők:			
Követelmények	Hivatkozás	A dokumentum címe	
7)	EN 1919:2000	Szállítható gázpalackok. Gázpalackok cseppfolyósított gázokhoz (acetilén és cseppfolyósított szénhidrogéngáz kivételével). Ellenőrzés töltéskor.	
7)	EN 1920:2000	Szállítható gázpalackok. Gázpalackok sűrített gázokhoz (acetilén kivételével). Ellenőrzés töltéskor.	
7)	EN 12754:2001	Szállítható gázpalackok. Gázpalackok oldott acetilénhez. Ellenőrzés töltéskor.	
7)	EN 13365:2002 + A1:2005	Szállítható gázpalackok. Palackkötegek sűrített és cseppfolyósított gázokhoz (acetilén kivételével). Ellenőrzés töltéskor.	
7)	EN 1439:2008 (3.5 és G melléklet kivételével)	LPG-berendezések és -tartozékok. Ellenőrzési eljárás LPG palackok töltése előtt, közben és után.	
7)	EN 14794:2005	LPG-berendezések és -tartozékok. Szállítható, újratölthető, alumíniumpalackok cseppfolyósított szénhidrogéngázhoz (LPG-hez). Ellenőrzési eljárás töltés előtt, közben és után.	
10) p	EN1801:1998	Szállítható gázpalackok. Egyedi acetilénpalackok töltési feltételei (beleértve az engedélyezett porózus anyagok felsorolását).	
10) p	EN 12755:2000	Szállítható gázpalackok. Acetilénpalack-kötegek töltési feltételei.	

P200 (folyt.)		CSOMAGOLÁSI UTASÍTÁS									P200 (folyt.)	
1. táblázat: SŰRÍTETT GÁZOK												
UN szám	Megnevezés és leírás	Osztályozási kód	$LC_{50}$ , ml/m <sup>3</sup>	Palack	Nagypalack	Gázhordó	Palackköteg	Vizsgálati időköz, év <sup>a)</sup>	Próbanyomás, bar <sup>b)</sup>	Legnagyobb üzemi nyomás, bar <sup>b)</sup>	Különleges csomagolási előírás	
1002	LEVEGŐ, SŰRÍTETT	1A		X	X	X	X	10				
1006	ARGON, SŰRÍTETT	1A		X	X	X	X	10				
1016	SZÉN-MONOXID, SŰRÍTETT	1TF	3760	X	X	X	X	5			u	
1023	VÁROSI GÁZ, SŰRÍTETT	1TF		X	X	X	X	5				
1045	FLUOR, SŰRÍTETT	1TOC	185	X			X	5	200	30	a, k, n, o	
1046	HÉLIUM, SŰRÍTETT	1A		X	X	X	X	10				
1049	HIDROGÉN, SŰRÍTETT	1F		X	X	X	X	10			d	
1056	KRIPTON, SŰRÍTETT	1A		X	X	X	X	10				
1065	NEON, SŰRÍTETT	1A		X	X	X	X	10				
1066	NITROGÉN, SŰRÍTETT	1A		X	X	X	X	10				
1071	KRAKKGÁZ, SŰRÍTETT	1TF		X	X	X	X	5				
1072	OXIGÉN, SŰRÍTETT	1O		X	X	X	X	10			s	
1612	HEXAETIL-TETRAFOSZFÁT ÉS SŰRÍTETT GÁZ KEVERÉK	1T		X	X	X	X	5			z	
1660	NITROGÉN-MONOXID, SŰRÍTETT	1TOC	115	X			X	5	225	33	k, o	
1953	SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚLÉKONY, M.N.N.	1TF	≤ 5000	X	X	X	X	5			z	
1954	SŰRÍTETT GÁZ, GYÚLÉKONY, M.N.N.	1F		X	X	X	X	10			z	
1955	SŰRÍTETT GÁZ, MÉRGEZŐ, M.N.N.	1T	≤ 5000	X	X	X	X	5			z	
1956	SŰRÍTETT GÁZ, M.N.N.	1A		X	X	X	X	10			z	
1957	DEUTÉRIUM, SŰRÍTETT	1F		X	X	X	X	10			d	
1964	SZÉNHIDROGÉN-GÁZ KEVERÉK, SŰRÍTETT, M.N.N.	1F		X	X	X	X	10			z	
1971	METÁN, SŰRÍTETT vagy FÖLDGÁZ, SŰRÍTETT, magas metántartalommal	1F		X	X	X	X	10				
2034	HIDROGÉN ÉS METÁN KEVERÉKE, SŰRÍTETT	1F		X	X	X	X	10			d	



P200 (folyt.)		CSOMAGOLÁSI UTASÍTÁS									P200 (folyt.)	
1. táblázat: SŰRÍTETT GÁZOK (folyt.)												
UN szám	Megnevezés és leírás	Osztályozási kód	$LC_{50}$ , ml/m <sup>3</sup>	Palack	Nagypalack	Gázhordó	Palackköteg	Vizsgálati időköz, év <sup>a)</sup>	Próbanyomás, bar <sup>b)</sup>	Legnagyobb üzemi nyomás, bar <sup>b)</sup>	Különleges csomagolási előírás	
2190	OXIGÉN-DIFLUORID, SŰRÍTETT	1TOC	2,6	X			X	5	200	30	a, k, n, o	
3156	SŰRÍTETT GÁZ, GYÚJTÓ HATÁSÚ, M.N.N.	1O		X	X	X	X	10			z	
3303	SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, M.N.N.	1TO	≤ 5000	X	X	X	X	5			z	
3304	SŰRÍTETT GÁZ, MÉRGEZŐ, MARÓ, M.N.N.	1TC	≤ 5000	X	X	X	X	5			z	
3305	SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚLÉKONY, MARÓ, M.N.N.	1TFC	≤ 5000	X	X	X	X	5			z	
3306	SŰRÍTETT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, MARÓ, M.N.N.	1TOC	≤ 5000	X	X	X	X	5			z	

a) Nem érvényes a kompozit tartályokra.

b) Ha a rovatban nincs bejegyzés, az üzemi nyomás nem haladhatja meg a próbanyomás kétharmadát.

2. táblázat: CSEPPFOLYÓSÍTOTT GÁZOK ÉS OLDOTT GÁZOK											
UN szám	Megnevezés és leírás	Osztályozási kód	$LC_{50}$ , ml/m <sup>3</sup>	Palack	Nagypalack	Gázhordó	Palackköteg	Vizsgálati időköze, év <sup>a)</sup>	Próbanyomás, bar	Töltési fok	Különleges csomagolási előírás
1001	ACETILÉN, OLDOTT	4F		X			X	10	60		c, p
1005	AMMÓNIA, VÍZMENTES	2TC	4000	X	X	X	X	5	29	0,54	b, ra
1008	BÓR-TRIFLUORID	2TC	387	X	X	X	X	5	225 300	0,715 0,86	
1009	BRÓM-TRIFLUOR-METÁN (R 13B1 HŰTŐGÁZ)	2A		X	X	X	X	10	42 120 250	1,13 1,44 1,60	ra ra ra
1010	BUTADIÉNEK, STABILIZÁLT (1,2-butadién) vagy	2F		X	X	X	X	10	10	0,59	ra
1010	BUTADIÉNEK, STABILIZÁLT (1,3-butadién) vagy	2F		X	X	X	X	10	10	0,55	ra



P200 (folyt.)		CSOMAGOLÁSI UTASÍTÁS									P200 (folyt.)
2. táblázat: CSEPPFOLYÓSÍTOTT GÁZOK ÉS OLDOTT GÁZOK (folyt.)											
UN szám	Megnevezés és leírás	Osztályozási kód	$LC_{50}$ , ml/m <sup>3</sup>	Palack	Nagypalack	Gázhordó	Palackköteg	Vizsgálat időköze, év <sup>a)</sup>	Próbanyomás, bar	Töltési fok	Különleges csomagolási előírás
1010 (folyt.)	BUTADIÉNEK ÉS SZÉNHYDROGÉN KEVERÉKE, STABILIZÁLT	2F		X	X	X	X	10	10	0,50	ra, v, z
1011	BUTÁN	2F		X	X	X	X	10	10	0,52	ra, v
1012	BUTÉN KEVERÉK vagy	2F		X	X	X	X	10	10	0,50	ra, z
1012	1-BUTÉN vagy	2F		X	X	X	X	10	10	0,53	
1012	cisz-2-BUTÉN vagy	2F		X	X	X	X	10	10	0,55	
1012	transz-2-BUTÉN	2F		X	X	X	X	10	10	0,54	
1013	SZÉN-DIOXID	2A		X	X	X	X	10	190 250	0,68 0,76	ra ra
1017	KLÓR	2TOC	293	X	X	X	X	5	22	1,25	a, ra
1018	KLÓR-DIFLUOR-METÁN (R 22 HŰTŐGÁZ)	2A		X	X	X	X	10	27	1,03	ra
1020	KLÓR-PENTAFLUOR-ETÁN (R 115 HŰTŐGÁZ)	2A		X	X	X	X	10	25	1,05	ra
1021	1-KLÓR-1,2,2,2-TETRA-FLUOR-ETÁN (R 124 HŰTŐGÁZ)	2A		X	X	X	X	10	11	1,20	ra
1022	KLÓR-TRIFLUOR-METÁN (R 13 HŰTŐGÁZ)	2A		X	X	X	X	10	100 120 190 250	0,83 0,90 1,04 1,11	ra ra ra ra
1026	DICIÁN	2TF	350	X	X	X	X	5	100	0,70	ra, u
1027	CIKLOPROPÁN	2F		X	X	X	X	10	18	0,55	ra
1028	DIKLÓR-DIFLUOR-METÁN (R 12 HŰTŐGÁZ)	2A		X	X	X	X	10	16	1,15	ra
1029	DIKLÓR-FLUOR-METÁN (R 21 HŰTŐGÁZ)	2A		X	X	X	X	10	10	1,23	ra
1030	1,1-DIFLUOR-ETÁN (R 152a HŰTŐGÁZ)	2F		X	X	X	X	10	16	0,79	ra
1032	DIMETIL-AMIN, VÍZMENTES	2F		X	X	X	X	10	10	0,59	b, ra
1033	DIMETIL-ÉTER	2F		X	X	X	X	10	18	0,58	ra
1035	ETÁN	2F		X	X	X	X	10	95 120 300	0,25 0,30 0,40	ra ra ra
1036	ETIL-AMIN	2F		X	X	X	X	10	10	0,61	b, ra
1037	ETIL-KLORID	2F		X	X	X	X	10	10	0,80	a, ra
1039	ETIL-METIL-ÉTER	2F		X	X	X	X	10	10	0,64	ra

P200 (folyt.)		CSOMAGOLÁSI UTASÍTÁS									P200 (folyt.)	
2. táblázat: CSEPPFOLYÓSÍTOTT GÁZOK ÉS OLDOTT GÁZOK (folyt.)												
UN szám	Megnevezés és leírás	Osztályozási kód	$LC_{50}$ , ml/m <sup>3</sup>	Palack	Nagypalack	Gázhordó	Palackköteg	Vizsgálat időköze, év <sup>a)</sup>	Próbanyomás, bar	Töltési fok	Különleges csomagolási előírás	
1040	ETILÉN-OXID vagy ETILÉN-OXID NITROGÉNNEL 50 °C-on legfeljebb 1 MPa (10 bar) össznyomásig	2TF	2900	X	X	X	X	5	15	0,78	1, ra	
1041	ETILÉN-OXID ÉS SZÉN-DIOXID KEVERÉK 9%-nál több, de legfeljebb 87% etilén-oxid tartalommal	2F		X	X	X	X	10	190 250	0,60 0,75	ra ra	
1043	AMMÓNIA MŰTRÁGYA OLDAT szabad ammónia-tartalommal	A fuvarozásból ki van zárva										
1048	HIDROGÉN-BROMID, VÍZMENTES	2TC	2860	X	X	X	X	5	60	1,51	a, d, ra	
1050	HIDROGÉN-KLORID, VÍZMENTES	2TC	2810	X	X	X	X	5	100 120 150 200	0,30 0,56 0,67 0,74	a, d, ra a, d, ra a, d, ra a, d, ra	
1053	HIDROGÉN-SZULFID	2TF	712	X	X	X	X	5	48	0,67	d, ra, u	
1055	IZOBUTÉN	2F		X	X	X	X	10	10	0,52	ra	
1058	CSEPPFOLYÓSÍTOTT GÁZ, nem gyúlékony, nitrogén, szén-dioxid vagy levegő alatt	2A		X	X	X	X	10	Próbanyomás = az üzemi nyomás 1,5-szerese		ra	
1060	METIL-ACETILÉN ÉS PROPADIÉN KEVERÉK, -STABILIZÁLT	2F		X	X	X	X	10			c, ra, z	
	Propadién 1%...4% metil-acetilénnel			X	X	X	X	10	22	0,52	c, ra	
	P1 keverék			X	X	X	X	10	30	0,49	c, ra	
	P2 keverék			X	X	X	X	10	24	0,47	c, ra	
1061	METIL-AMIN, VÍZMENTES	2F		X	X	X	X	10	13	0,58	b, ra	
1062	METIL-BROMID METIL-BROMID legfeljebb 2% klórpikrin tartalommal	2T	850	X	X	X	X	5	10	1,51	a	
1063	METIL-KLORID (R 40 HŰTŐGÁZ)	2F		X	X	X	X	10	17	0,81	a, ra	
1064	METIL-MERKAPTÁN	2TF	1350	X	X	X	X	5	10	0,78	d, ra, u	
1067	DINITROGÉN-TETROXID (NITROGÉN-DIOXID)	2TOC	115	X		X	X	5	10	1,30	k	
1069	NITROZIL-KLORID	2TC	35	X			X	5	13	1,10	k, ra	

<div style="display: flex; justify-content: space-between;"> <span><b>P200</b> (folyt.)</span> <span><b>CSOMAGOLÁSI UTASÍTÁS</b></span> <span><b>P200</b> (folyt.)</span> </div>											
<b>2. táblázat: CSEPPFOLYÓSÍTOTT GÁZOK ÉS OLDOTT GÁZOK (folyt.)</b>											
UN szám	Megnevezés és leírás	Osztályozási kód	$LC_{50}$ , ml/m <sup>3</sup>	Palack	Nagypalack	Gázhordó	Palackköteg	Vizsgálat időköze, év <sup>a)</sup>	Próbanyomás, bar	Töltési fok	Különlleges csomagolási előírás
1070	DINITROGÉN-OXID (kéjgáz)	2O		X	X	X	X	10	180 225 250	0,68 0,74 0,75	
1075	PETRÓLEUMGÁZ, CSEPPFOLYÓSÍTOTT	2F		X	X	X	X	10			v, z
1076	FOSZGÉN	2T	5	X		X	X	5	20	1,23	k, ra
1077	PROPILÉN	2F		X	X	X	X	10	27	0,43	ra
1078	HŰTŐGÁZ, M.N.N., mint	2A		X	X	X	X	10			ra, z
	F1 keverék			X	X	X	X	10	12	1,23	
	F2 keverék			X	X	X	X	10	18	1,15	
	F3 keverék			X	X	X	X	10	29	1,03	
				X	X	X	X	10	29	1,03	
1079	KÉN-DIOXID	2TC	2520	X	X	X	X	5	12	1,23	ra
1080	KÉN-HEXAFLUORID	2A		X	X	X	X	10	70 140 160	1,06 1,34 1,38	ra ra ra
1081	TETRAFLUOR-ETILÉN, - STABILIZÁLT	2F		X	X	X	X	10	200		m, o, ra
1082	TRIFLUOR-KLÓR-ETILÉN, STABILIZÁLT	2TF	2000	X	X	X	X	5	19	1,13	ra, u
1083	TRIMETIL-AMIN, - VÍZMENTES	2F		X	X	X	X	10	10	0,56	b, ra
1085	VINIL-BROMID, STABILIZÁLT	2F		X	X	X	X	10	10	1,37	a, ra
1086	VINIL-KLORID, STABILIZÁLT	2F		X	X	X	X	10	12	0,81	a, ra
1087	VINIL-METIL-ÉTER, STABILIZÁLT	2F		X	X	X	X	10	10	0,67	ra
1581	KLÓRPIKRIN ÉS METIL- BROMID KEVERÉK	2T	850	X	X	X	X	5	10	1,51	a
1582	KLÓRPIKRIN ÉS METIL- KLORID KEVERÉK	2T	d)	X	X	X	X	5	17	0,81	a
1589	KLÓR-CIÁN, STABILIZÁLT	2TC	80	X			X	5	20	1,03	k
1741	BÓR-TRIKLORID	2TC	2541	X	X	X	X	5	10	1,19	ra
1749	KLÓR-TRIFLUORID	2TOC	299	X	X	X	X	5	30	1,40	a
1858	HEXAFLUOR-PROPILÉN (R 1216 HŰTŐGÁZ)	2A		X	X	X	X	10	22	1,11	ra
1859	SZILÍCIUM-TETRAFLUORID	2TC	450	X	X	X	X	5	200 300	0,74 1,10	
1860	VINIL-FLUORID, STABILIZÁLT	2F		X	X	X	X	10	250	0,64	a, ra
1911	DIBORÁN	2TF	80	X			X	5	250	0,07	d, k, o

P200 (folyt.)		CSOMAGOLÁSI UTASÍTÁS								P200 (folyt.)	
2. táblázat: CSEPPFOLYÓSÍTOTT GÁZOK ÉS OLDOTT GÁZOK (folyt.)											
UN szám	Megnevezés és leírás	Osztályozási kód	$LC_{50}$ , ml/m <sup>3</sup>	Palack	Nagypalack	Gázhordó	Palackköteg	Vizsgálat időköze, év <sup>a)</sup>	Próbanyomás, bar	Töltési fok	Különleges csomagolási előírás
1912	METIL-KLORID ÉS DIKLÓR-METÁN KEVERÉK	2F		X	X	X	X	10	17	0,81	a, ra
1952	ETILÉN-OXID ÉS SZÉN-DIOXID KEVERÉKE legfeljebb 9% etilén-oxid tartalommal	2A		X	X	X	X	10	190 250	0,66 0,75	ra ra
1958	1,2-DIKLÓR-1,1,2,2-TETRA-FLUOR-ETÁN (R 114 HŰTŐGÁZ)	2A		X	X	X	X	10	10	1,30	ra
1959	1,1-DIFLUOR-ETILÉN (R 1132a HŰTŐGÁZ)	2F		X	X	X	X	10	250	0,77	ra
1962	ETILÉN	2F		X	X	X	X	10	225 300	0,34 0,38	
1965	SZÉNHYDROGÉN-GÁZ KEVERÉK, CSEPPFOLYÓSÍTOTT, M.N.N.	2F		X	X	X	X	10		b)	ra, v, z
	A keverék						10	10	0,50		
	A01 keverék						10	15	0,49		
	A02 keverék						10	15	0,48		
	A0 keverék						10	15	0,47		
	A1 keverék						10	20	0,46		
	B1 keverék						10	25	0,45		
	B2 keverék						10	25	0,44		
	B keverék						10	25	0,43		
C keverék						10	30	0,42			
1967	ROVARIRTÓ GÁZ, MÉRGEZŐ, M.N.N.	2T		X	X	X	X	5			z
1968	ROVARIRTÓ GÁZ, M.N.N.	2A		X	X	X	X	10			ra, z
1969	IZOBUTÁN	2F		X	X	X	X	10	10	0,49	ra, v
1973	KLÓR-DIFLUOR-METÁN ÉS KLÓR-PENTAFLUOR-ETÁN KEVERÉK állandó forrásponttal, kb. 49% klór-difluor-metán tartalommal (R 502 HŰTŐGÁZ)	2A		X	X	X	X	10	31	1,01	ra
1974	BRÓM-KLÓR-DIFLUOR-METÁN (R 12B1 HŰTŐGÁZ)	2A		X	X	X	X	10	10	1,61	ra

P200 (folyt.)		CSOMAGOLÁSI UTASÍTÁS								P200 (folyt.)	
2. táblázat: CSEPPFOLYÓSÍTOTT GÁZOK ÉS OLDOTT GÁZOK (folyt.)											
UN szám	Megnevezés és leírás	Osztályozási kód	$LC_{50}$ , ml/m <sup>3</sup>	Palack	Nagypalack	Gázhordó	Palackköteg	Vizsgálat időköze, év <sup>a)</sup>	Próbanyomás, bar	Töltési fok	Különleges csomagolási előírás
1975	NITROGÉN-MONOXID ÉS DINITROGÉN-TETROXID KEVERÉKE (NITROGÉN-MONOXID ÉS NITROGÉN-DIOXID KEVERÉKE)	2TOC	115	X		X	X	5			k, z
1976	OKTAFLUOR-CIKLOBUTÁN (RC 318 HŰTŐGÁZ)	2A		X	X	X	X	10	11	1,32	ra
1978	PROPÁN	2F		X	X	X	X	10	23	0,43	ra, v
1982	TETRAFLUOR-METÁN (R 14 HŰTŐGÁZ)	2A		X	X	X	X	10	200 300	0,71 0,90	
1983	1-KLÓR-2,2,2-TRIFLUOR-ETÁN (R 133a HŰTŐGÁZ)	2A		X	X	X	X	10	10	1,18	ra
1984	TRIFLUOR-METÁN (R 23 HŰTŐGÁZ)	2A		X	X	X	X	10	190 250	0,88 0,96	ra ra
2035	1,1,1-TRIFLUOR-ETÁN (R 143a HŰTŐGÁZ)	2F		X	X	X	X	10	35	0,73	ra
2036	XENON	2A		X	X	X	X	10	130	1,28	
2044	2,2-DIMETIL-PROPÁN	2F		X	X	X	X	10	10	0,53	ra
2073	AMMÓNIA OLDAT, vizes, relatív sűrűség 15 °C-on kisebb, mint 0,880,	4A									
	35%-nál több, de legfeljebb 40% ammóniatartalommal			X	X	X	X	5	10	0,80	b
	40%-nál több, de legfeljebb 50% ammóniatartalommal			X	X	X	X	5	12	0,77	b
2188	ARZIN	2TF	20	X			X	5	42	1,10	d, k
2189	DIKLÓR-SZILÁN	2TFC	314	X	X	X	X	5	10 200	0,90 1,08	
2191	SZULFURIL-FLUORID	2T	3020	X	X	X	X	5	50	1,10	u
2192	GERMÁN <sup>c)</sup>	2TF	620	X	X	X	X	5	250	0,064	d, q, r, ra
2193	HEXAFLUOR-ETÁN (R 116 HŰTŐGÁZ)	2A		X	X	X	X	10	200	1,13	
2194	SZELÉN-HEXAFLUORID	2TC	50	X			X	5	36	1,46	k, ra
2195	TELLUR-HEXAFLUORID	2TC	25	X			X	5	20	1,00	k, ra
2196	VOLFRAM-HEXAFLUORID	2TC	160	X			X	5	10	3,08	a, k, ra
2197	HIDROGÉN-JODID, VÍZMENTES	2TC	2860	X	X	X	X	5	23	2,25	a, d, ra
2198	FOSZFOR-PENTAFLUORID	2TC	190	X			X	5	200 300	0,90 1,25	k k

P200 (folyt.)		CSOMAGOLÁSI UTASÍTÁS									P200 (folyt.)	
2. táblázat: CSEPPFOLYÓSÍTOTT GÁZOK ÉS OLDOTT GÁZOK (folyt.)												
UN szám	Megnevezés és leírás	Oszályozási kód	$LC_{50}$ , ml/m <sup>3</sup>	Palack	Nagypalack	Gázhordó	Palackköteg	Vizsgálat időköze, év <sup>a)</sup>	Próbanyomás, bar	Töltési fok	Különleges csomagolási előírás	
2199	FOSZFIN <sup>c)</sup>	2TF	20	X			X	5	225	0,30	d, k, q, ra	
									250	0,45	d, k, q, ra	
2200	PROPADIÉN, STABILIZÁLT	2F		X	X	X	X	10	22	0,50	ra	
2202	HIDROGÉN-SZELENID, VÍZMENTES	2TF	2	X			X	5	31	1,60	k	
2203	SZILÍCIUM-HIDROGÉN (SZILÁN) <sup>c)</sup>	2F		X	X	X	X	10	225	0,32	q	
									250	0,36	q	
2204	KARBONIL-SZULFID	2TF	1700	X	X	X	X	5	30	0,87	ra, u	
2417	KARBONIL-FLUORID	2TC	360	X	X	X	X	5	200	0,47		
									300	0,70		
2418	KÉN-TETRAFLUORID	2TC	40	X			X	5	30	0,91	k, ra	
2419	BRÓM-TRIFLUOR-ETILÉN	2F		X	X	X	X	10	10	1,19	ra	
2420	HEXAFLUOR-ACETON	2TC	470	X	X	X	X	5	22	1,08	ra	
2421	NITROGÉN-TRIOXID	2TOC	A fuvarozásból ki van zárva									
2422	OKTAFLUOR-2-BUTÉN (R 1318 HŰTŐGÁZ)	2A		X	X	X	X	10	12	1,34	ra	
2424	OKTAFLUOR-PROPÁN (R 218 HŰTŐGÁZ)	2A		X	X	X	X	10	25	1,04	ra	
2451	NITROGÉN-TRIFLUORID	2O		X	X	X	X	10	200	0,50		
2452	ETIL-ACETILÉN, STABILIZÁLT	2F		X	X	X	X	10	10	0,57	c, ra	
2453	ETIL-FLUORID (R 161 HŰTŐGÁZ)	2F		X	X	X	X	10	30	0,57	ra	
2454	METIL-FLUORID (R 41 HŰTŐGÁZ)	2F		X	X	X	X	10	300	0,63	ra	
2455	METIL-NITRIT	2A	A fuvarozásból ki van zárva									
2517	1-KLÓR-1,1-DIFLUOR-ETÁN (R 142b HŰTŐGÁZ)	2F		X	X	X	X	10	10	0,99	ra	
2534	METIL-KLÓR-SZILÁN	2TFC	600	X	X	X	X	5			ra, z	
2548	KLÓR-PENTAFLUORID	2TOC	122	X			X	5	13	1,49	a, k	
2599	KLÓR-TRIFLUOR-METÁN ÉS TRIFLUOR-METÁN AZEOTRÓP KEVERÉK kb. 60% klór-trifluor-metán tartalommal (R 503 HŰTŐGÁZ)	2A		X	X	X	X	10	31	0,12	ra	
									42	0,17	ra	
									100	0,64	ra	
2601	CIKLOBUTÁN	2F		X	X	X	X	10	10	0,63	ra	
2602	DIKLÓR-DIFLUOR-METÁN ÉS 1,1-DIFLUOR-ETÁN AZEOTROP KEVERÉK kb.	2A		X	X	X	X	10	22	1,01	ra	

P200 (folyt.)		CSOMAGOLÁSI UTASÍTÁS									P200 (folyt.)	
2. táblázat: CSEPPFOLYÓSÍTOTT GÁZOK ÉS OLDOTT GÁZOK (folyt.)												
UN szám	Megnevezés és leírás	Osztályozási kód	$LC_{50}$ , ml/m <sup>3</sup>	Palack	Nagypalack	Gázhordó	Palackköteg	Vizsgálat időköze, év <sup>a)</sup>	Próbanyomás, bar	Töltési fok	Különleges csomagolási előírás	
	74% diklór-difluor-metán tartalommal (R 500 HŰTŐGÁZ)											
2676	SZTIBIN	2TF	20	X			X	5	200	0,49	k, r, ra	
2901	BRÓM-KLORID	2TOC	290	X	X	X	X	5	10	1,50	a	
3057	TRIFLUOR-ACETIL-KLORID	2TC	10	X		X	X	5	17	1,17	k, ra	
3070	ETILÉN-OXID ÉS DIKLÓR-DIFLUOR-METÁN KEVERÉK legfeljebb 12,5% etilén-oxiddal	2A		X	X	X	X	10	18	1,09	ra	
3083	PERKLORIL-FLUORID	2TO	770	X	X	X	X	5	33	1,21	u	
3153	PERFLUOR-(METIL-VINIL-ÉTER)	2F		X	X	X	X	10	20	0,75	ra	
3154	PERFLUOR-(ETIL-VINIL-ÉTER)	2F		X	X	X	X	10	10	0,98	ra	
3157	CSEPPFOLYÓSÍTOTT GÁZ, GYÚJTÓ HATÁSÚ, M.N.N.	2O		X	X	X	X	10			z	
3159	1,1,1,2-TETRAFLUOR-ETÁN (R 134a HŰTŐGÁZ)	2A		X	X	X	X	10	18	1,05	ra	
3160	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚLÉKONY, M.N.N.	2TF	≤ 5000	X	X	X	X	5			ra, z	
3161	CSEPPFOLYÓSÍTOTT GÁZ, GYÚLÉKONY, M.N.N.	2F		X	X	X	X	10			ra, z	
3162	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, M.N.N.	2T	≤ 5000	X	X	X	X	5			z	
3163	CSEPPFOLYÓSÍTOTT GÁZ, M.N.N.	2A		X	X	X	X	10			ra, z	
3220	PENTAFLUOR-ETÁN (R 125 HŰTŐGÁZ)	2A		X	X	X	X	10	49 35	0,95 0,87	ra ra	
3252	DIFLUOR-METÁN (R32 HŰTŐGÁZ)	2F		X	X	X	X	10	48	0,78	ra	
3296	HEPTAFLUOR-PROPÁN (R 227 HŰTŐGÁZ)	2A		X	X	X	X	10	13	1,21	ra	
3297	ETILÉN-OXID ÉS KLÓR-TETRAFLUOR-ETÁN KEVERÉK legfeljebb 8,8% etilén-oxid tartalommal	2A		X	X	X	X	10	10	1,16	ra	
3298	ETILÉN-OXID ÉS PENTAFLUOR-ETÁN KEVERÉK legfeljebb 7,9% etilén-oxid tartalommal	2A		X	X	X	X	10	26	1,02	ra	

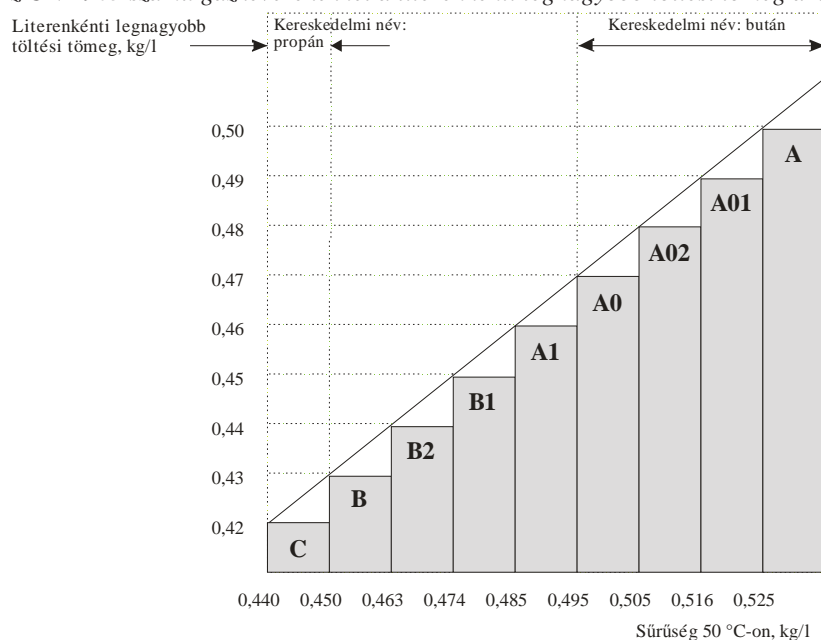
P200 (folyt.)		CSOMAGOLÁSI UTASÍTÁS								P200 (folyt.)	
2. táblázat: CSEPPFOLYÓSÍTOTT GÁZOK ÉS OLDOTT GÁZOK (folyt.)											
UN szám	Megnevezés és leírás	Osztályozási kód	$LC_{50}$ , ml/m <sup>3</sup>	Palack	Nagypalack	Gázhordó	Palackköteg	Vizsgálat időköze, év <sup>a)</sup>	Próbanyomás, bar	Töltési fok	Különleges csomagolási előírás
3299	ETILÉN-OXID ÉS TETRAFLUOR-ETÁN KEVERÉK legfeljebb 5,6% etilén-oxid tartalommal	2A		X	X	X	X	10	17	1,03	ra
3300	ETILÉN-OXID ÉS SZÉN-DIOXID KEVERÉK 87%-nál nagyobb etilén-oxid tartalommal	2TF	> 2900	X	X	X	X	5	28	0,73	ra
3307	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, M.N.N.	2TO	≤ 5000	X	X	X	X	5			z
3308	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, MARÓ, M.N.N.	2TC	≤ 5000	X	X	X	X	5			ra, z
3309	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚLÉKONY, MARÓ, M.N.N	2TFC	≤ 5000	X	X	X	X	5			ra, z
3310	CSEPPFOLYÓSÍTOTT GÁZ, MÉRGEZŐ, GYÚJTÓ HATÁSÚ, MARÓ, M.N.N.	2TOC	≤ 5000	X	X	X	X	5			z
3318	AMMÓNIA OLDAT, vizes, relatív sűrűség 15 °C-on kisebb, mint 0,880, 50%-nál több ammóniatartalommal	4TC		X	X	X	X	5			b
3337	R 404A HŰTŐGÁZ (pentafluor-etán, 1,1,1-trifluor- etán és 1,1,1,2-tetrafluor-etán zeotrop keveréke kb. 44% pentafluor-etán és 52% 1,1,1-trifluor-etán tartalommal)	2A		X	X	X	X	10	36	0,82	ra
3338	R 407A HŰTŐGÁZ (difluor-metán, pentafluor-etán és 1,1,1,2-tetrafluor-etán zeotrop keveréke kb. 20% difluor-metán és 40% pentafluor-etán tartalommal)	2A		X	X	X	X	10	32	0,94	ra
3339	R 407B HŰTŐGÁZ (difluor-metán, pentafluor-etán és 1,1,1,2-tetrafluor-etán zeotrop keveréke kb. 10% difluor-metán és 70% pentafluor-etán tartalommal)	2A		X	X	X	X	10	33	0,93	ra



P200 (folyt.)		CSOMAGOLÁSI UTASÍTÁS									P200 (folyt.)	
2. táblázat: CSEPPFOLYÓSÍTOTT GÁZOK ÉS OLDOTT GÁZOK (folyt.)												
UN szám	Megnevezés és leírás	Osztályozási kód	$LC_{50}$ , ml/m <sup>3</sup>	Palack	Nagypalack	Gázhordó	Palackköteg	Vizsgálat időköze, év <sup>a)</sup>	Próbanyomás, bar	Töltési fok	Különleges csomagolási előírás	
3340	R 407C HŰTŐGÁZ (difluor-metán, pentafluor-etán és 1,1,1,2-tetrafluor-etán zeotrop keveréke kb. 23% difluor-metán és 25% pentafluor-etán tartalommal)	2A		X	X	X	X	10	30	0,95	ra	
3354	GYÚLÉKONY ROVARIRTÓ GÁZ, M.N.N.	2F		X	X	X	X	10			ra, z	
3355	MÉRGEZŐ, GYÚLÉKONY ROVARIRTÓ GÁZ, M.N.N.	2TF		X	X	X	X	5			ra, z	
3374	OLDÓSZERMENTES ACETILÉN	2F		X			X	5	60		c, p	

a) Nem érvényes a kompozit tartályokra.

b) Az UN 1965 számú gázkeverékeknél a literenkénti legnagyobb töltési tömeg a következő:



c) Piroforosnak tekintendő.

d) Mérgezőnek tekinthető. Az  $LC_{50}$  értéket még meg kell határozni.

P200 (folyt.)		CSOMAGOLÁSI UTASÍTÁS										P200 (folyt.)
3. táblázat: NEM A 2 OSZTÁLYBA TARTOZÓ ANYAGOK												
UN szám	Megnevezés és leírás	Osztály	Osztályozási kód	LC <sub>50</sub> ml/m <sup>3</sup>	Palack	Nagypalack	Gázhordó	Palackköteg	Vizsgálati időköz, év <sup>a)</sup>	Próbanyomás, bar	Töltési fok	Különleges csomagolási előírás
1051	HIDROGÉN-CIANID, STABILIZÁLT, 3%-nál - kevesebb víztartalommal	6.1	TF1	40	X			X	5	100	0,55	k
1052	HIDROGÉN-FLUORID, VÍZMENTES	8	CT1	966	X		X	X	5	10	0,84	ab, ac
1745	BRÓM-PENTAFLUORID	5.1	OTC	25	X		X	X	5	10	b)	k, ab, ad
1746	BRÓM-TRIFLUORID	5.1	OTC	50	X		X	X	5	10	b)	k, ab, ad
1790	FLUOR-HIDROGÉNSAV 85%-nál több hidrogén- fluorid tartalommal	8	CT1	966	X		X	X	5	10	0,84	ab, ac
2495	JÓD-PENTAFLUORID	5.1	OTC	120	X		X	X	5	10	b)	k, ab, ad

a) Nem érvényes a kompozit tartályokra.

b) Legalább 8 térf.% szabad légtér szükséges.

P201	CSOMAGOLÁSI UTASÍTÁS	P201
Ezt az utasítást az UN 3167, 3168 és 3169 tétel anyagaina kell alkalmazni.		
A következő csomagolóeszközök használhatók:		
1) Az illetékes hatóság által jóváhagyott gyártási, vizsgálati és töltési előírásoknak megfelelő palackok nagypalackok és gázhordók;		
2) Ezenkívül a következő csomagolóeszközök is használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:		
a) Nem mérgező gázokhoz:		
olyan, III csomagolási csoportnak megfelelő kombinált csomagolás, amelynek belső csomagolása légmentesen zárt üveg vagy fém; küldeménydarabonként legfeljebb 5 liter űrtartalomig;		
b) Mérgező gázokhoz:		
olyan, III csomagolási csoportnak megfelelő kombinált csomagolás, amelynek belső csomagolása légmentesen zárt üveg vagy fém; küldeménydarabonként legfeljebb 1 liter űrtartalomig.		

P202	CSOMAGOLÁSI UTASÍTÁS	P202
(fenntartva)		

P203	CSOMAGOLÁSI UTASÍTÁS	P203
A csomagolóeszköz típusa: mélyhűtő tartály.		
<b>Általános előírások:</b>		
<ol style="list-style-type: none"> <li>1) A 4.1.6 szakasz különleges csomagolási előírásait be kell tartani.</li> <li>2) A tartályokat úgy kell szigetelni, hogy felületükön sem dér, sem harmat ne képződhessen.</li> <li>3) A 3O osztályozási kód alá tartozó gázok szállítására szolgáló tartályok illesztéseinek tömítésére és zárószerkezeteik karbantartására használt anyagoknak a tartalommal összeférhetőnek kell lenniük.</li> </ol>		
<b>Különleges utasítások a zárt mélyhűtő tartályokra:</b>		
<ol style="list-style-type: none"> <li>4) Azok a zárt mélyhűtő tartályok, amelyeket a 6.2 fejezet szerint gyártottak, mélyhűtött, cseppfolyósított gázok szállítására használhatók.</li> <li>5) <i>Próbanyomás</i> A mélyhűtött, cseppfolyósított anyagokat olyan zárt mélyhűtő tartályba kell tölteni, amelynek legkisebb próbanyomása a következő: <ol style="list-style-type: none"> <li>a) vákuumszigeteléssel ellátott zárt mélyhűtő tartály esetén a próbanyomás nem lehet kisebb, mint a megtöltött tartály legnagyobb belső nyomása – figyelembe véve a töltés, ill. az ürítés során kialakuló nyomást – és 100 kPa (1 bar) nyomás összegének 1,3-szerese;</li> <li>b) egyéb zárt mélyhűtő tartály esetén a próbanyomás nem lehet kisebb, mint a megtöltött tartály legnagyobb belső nyomásának – figyelembe véve a töltés, ill. az ürítés során kialakuló nyomást – 1,3-szerese;</li> </ol> </li> <li>6) <i>Töltési fok</i> Nem gyúlékony, nem mérgező (3A és 3O osztályozási kódú) mélyhűtött, cseppfolyósított gázok esetén a folyékony fázis térfogata a töltési hőmérsékleten és 100 kPa (1 bar) nyomáson ne haladja meg a nyomástartó tartály víztérfogatának 98%-át. Gyúlékony (3F osztályozási kódú) mélyhűtött, cseppfolyósított gázoknál a töltési fokot úgy kell meghatározni, hogy a tartalom olyan hőmérsékletre történő felmelegedése estén, amelyen a gőznyomás megegyezik a biztonsági szelep nyitónyomásával, a folyékony fázis térfogata ne haladja meg a nyomástartó tartály víztérfogatának 98%-át ezen a hőmérsékleten.</li> <li>7) <i>Nyomáscsökkentő szerkezetek</i> A zárt mélyhűtő tartályokat el kell látni legalább egy nyomáscsökkentő szerkezettel.</li> <li>8) <i>Összeférhetőség</i> Az illesztések tömítéséhez, ill. a zárószerkezetek karbantartásához felhasznált anyagoknak összeférhetőeknek kell lenniük a tartalommal. Gyújtó hatású (3O osztályozási kódú) gázokra lásd még az előző 3) pontot is.</li> <li>9) <i>Időszakos vizsgálat</i> A tartályokat a 6.2.1.6, ill. 6.2.3.5 bekezdés előírásai szerint időszakos vizsgálatnak kell alávetni. Az időszakos vizsgálatot 10 évenként kell végrehajtani. Ettől eltérően a kompozit anyagok felhasználásával készült tartályok (kompozit tartályok) időszakos vizsgálata azon COTIF Tagállam illetékes hatósága által meghatározott időszakonként is végrehajtható, amely a tervezésre és a gyártásra vonatkozó műszaki szabályzatot jóváhagyta.</li> </ol>		
<b>Különleges utasítások a nyitott mélyhűtő tartályokra:</b>		
<ol style="list-style-type: none"> <li>10) Nyitott mélyhűtő tartályok nem használhatók a 3F osztályozási kód alá tartozó gyúlékony, mélyhűtött, cseppfolyósított gázokhoz és az UN 2187 mélyhűtött, cseppfolyósított szén-dioxidhoz és keverékeihez.</li> <li>11) A tartályokat a folyadék kifröccsenését megakadályozó szerkezettel kell ellátni.</li> <li>12) A üvegtartályoknak légritkított kettős falúnak kell lenniük és azokat nedvsvívó szigetelőanyaggal kell körülvenni és drótfonattal védve fémládába kell helyezni. Az üvegtartályokat tartalmazó fémládákat, ill. az egyéb tartályokat is fogantyúkkal kell ellátni.</li> <li>13) A tartályok nyílásait olyan gázáteresztő szerkezettel kell ellátni, ami a folyadék kifröccsenését megakadályozza és kiesés ellen biztosítja van.</li> <li>14) Az UN 1073 mélyhűtött, cseppfolyósított oxigén és keverékei esetén ezeket a szerkezeteket, valamint a nedvsvívó szigetelőanyagot, ami az üvegtartályokat körülveszi, nem éghető anyagból kell készíteni.</li> </ol>		
<b>Szabvány hivatkozás:</b> (fenntartva)		

<b>P204</b>	<b>CSOMAGOLÁSI UTASÍTÁS</b> (törölve)	<b>P204</b>
<b>P205</b>	<b>CSOMAGOLÁSI UTASÍTÁS</b> (törölve)	<b>P205</b>
<b>P206</b>	<b>CSOMAGOLÁSI UTASÍTÁS</b> Ezt a csomagolási utasítást az UN 3150 kisméretű eszközök szénhidrogén-gáz töltettel vagy szénhidrogén-gáz utántöltő patronok kisméretű eszközökhöz tételhez kell alkalmazni. 1) A 4.1.6 szakasz vonatkozó különleges csomagolási utasításait be kell tartani. 2) A tárgyaknak meg kell felelniük azon ország előírásainak, ahol töltötték. 3) Ezeket az eszközöket és utántöltő patronokat a 6.1.4 szakasz szerinti külső csomagolásokba kell helyezni, amelyeket a 6.1 fejezet szerint a II csomagolási csoportra vizsgáltak és hagytak jóvá.	<b>P206</b>
<b>P300</b>	<b>CSOMAGOLÁSI UTASÍTÁS</b> Ezt a csomagolási utasítást az UN 3064 tételre kell alkalmazni. A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják: Egyenként legfeljebb 1 liter űrtartalmú belső fémdobozokból és külső faládából (4C1, 4C2, 4D vagy 4F) álló kombinált csomagolások, amelyek legfeljebb 5 liter oldatot tartalmaznak. <b>Kiegészítő követelmények:</b> 1. A fémdobozokat teljesen körül kell venni nedvszívó párnázóanyaggal. 2. A faládákat teljesen ki kell bélelni a víz és a nitroglicerín áthatolásával szemben ellenálló, alkalmas anyaggal.	<b>P300</b>
<b>P301</b>	<b>CSOMAGOLÁSI UTASÍTÁS</b> Ezt a csomagolási utasítást az UN 3165 tételre kell alkalmazni. A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják: 1) <i>Csőből gyártott és hegesztett fenekekkel kialakított nyomásálló alumíniumtartály</i> A tartályon belül a folyadék megtartó résznek legfeljebb 46 liter térfogattal rendelkező, hegesztett alumínium (monoblokk) belső tartályból kell állnia. A külső tartály legkisebb tervezési nyomásának 1275 kPa-nak, legkisebb repesztőnyomásának 2755 kPa-nak kell lennie. Minden egyes tartályt a gyártás során és a szállítás előtt szivárgás szempontjából meg kell vizsgálni és szivárgásmentesnek kell lennie. A komplett egységet nem éghető párnázóanyag, pl. csillám közé erős, szorosan zárt külső fém csomagolóeszközbe kell biztonságosan csomagolni, amely megfelelően védi az összes szerelvényt. Az egységenkénti és küldeménydarabonkénti folyadékmennyiség legfeljebb 42 liter lehet. 2) <i>Nyomásálló alumíniumtartály</i> A tartályon belül a folyadék megtartó résznek legfeljebb 46 liter térfogattal rendelkező, fúvott műanyag belső tartályból kell állnia. A nyomásálló tartály legkisebb tervezési nyomásának 2860 kPa-nak, legkisebb repesztőnyomásának 5170 kPa-nak kell lennie. Minden egyes tartályt a gyártás során és a szállítás előtt szivárgás szempontjából meg kell vizsgálni és szivárgásmentesnek kell lennie. A komplett egységet nem éghető párnázóanyag, pl. csillám közé erős, szorosan zárt külső fém csomagolóeszközbe kell biztonságosan csomagolni, amely megfelelően védi az összes szerelvényt. Az egységenkénti és küldeménydarabonkénti folyadék mennyiség legfeljebb 42 liter lehet.	<b>P301</b>

<b>P302</b>	<b>CSOMAGOLÁSI UTASÍTÁS</b>	<b>P302</b>
Ezt a csomagolási utasítást az UN 3269 tételre kell alkalmazni.		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:		
<p>Olyan kombinált csomagolások, amelyek az alapanyagra kielégítik a 3 osztály kritériumai szerint a II vagy a III csomagolási csoport igénybevételi szintjét.</p> <p>Az alapanyagot és az aktiváló anyagot (szerves peroxidot) külön-külön kell belső csomagolásokba helyezni.</p> <p>Ezek a komponensek ugyanabba a külső csomagolásba helyezhetők, amennyiben kifolyás esetén nem reagálnak egymással veszélyesen.</p> <p>Az aktiváló anyag mennyisége belső csomagolásként folyékony anyag esetén 125 ml-re, szilárd anyag esetén 500 g-ra van korlátozva.</p>		
<b>P400</b>	<b>CSOMAGOLÁSI UTASÍTÁS</b>	<b>P400</b>
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:		
<p>1) Nyomástartó tartályok, feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják. Csak acélból készült tartályok használhatók, amelyeket üzembe helyezés előtt és azután 10 évente időszakosan legalább 1 MPa (10 bar) nyomással (túlnyomással) kell vizsgálni. Szállítás alatt a folyadéknak inert gázréteg alatt kell lennie, amelynek túlnyomása nem lehet 20 kPa-nál (0,2 bar-nál) kevesebb.</p> <p>2) Olyan ládák (4A, 4B, 4C1, 4C2, 4D, 4F vagy 4G), hordók (1A2, 1B2, 1N2, 1D vagy 1G) vagy kannák (3A2 vagy 3B2), amelyekben légmentesen zárt fémdobozokba helyezett, legfeljebb 1 liter űrtartalmú, tömítéssel rendelkező, menetes zárószerkezettel ellátott üveg vagy fém belső csomagolóeszközök vannak. A belső csomagolóeszközt minden oldalról száraz, nem éghető, nedvszívó anyaggal kell párnázni, amely párnázóanyagnak elegendőnek kell lennie a teljes tartalom felszívására. A belső csomagolóeszközöket legfeljebb űrtartalmuk 90%-áig szabad megtölteni. A külső csomagolóeszköz legfeljebb 125 kg nettó tömeget tartalmazhat.</p> <p>3) Legfeljebb 150 kg nettó tömeget tartalmazó acél, alumínium vagy egyéb fémhordók (1A2, 1B2 vagy 1N2), kannák (3A2 vagy 3B2) vagy ládák (4A vagy 4B), amelyekben tömítéssel rendelkező, menetes zárószerkezettel ellátott, legfeljebb 4 liter űrtartalmú, légmentesen zárt belső fémdobozok vannak. A belső csomagolóeszközt minden oldalról száraz, nem éghető, nedvszívó anyaggal kell párnázni, amely párnázóanyagnak elegendőnek kell lennie a teljes tartalom felszívására. A belső csomagolóeszközök rétegeit a párnázóanyagon kívül megosztó betétekkel is el kell választani. A belső csomagolóeszközöket legfeljebb űrtartalmuk 90%-áig szabad megtölteni.</p>		
<b>Különleges csomagolási előírás:</b>		
<b>PP86</b>	Az UN 3392 és 3394 anyagai esetében a gőztérből a levegőt nitrogénnel ki kell szorítani vagy más módon el kell távolítani.	

P401	CSOMAGOLÁSI UTASÍTÁS			P401
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:				
1)	Nyomástartó tartályok, feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják. Csak acélból készült tartályok használhatók, amelyeket üzembe helyezés előtt és azután 10 évente időszakosan legalább 0,6 MPa (6 bar) nyomással (túlnyomással) kell vizsgálni. Szállítás alatt a folyadéknak inert gázzal kell lennie, amelynek túlnyomása nem lehet 20 kPa-nál (0,2 bar-nál) kevesebb.			
2)	Kombinált csomagolások üveg, fém vagy műanyag belső csomagolóeszközökkel, amelyek menetes zárószervezettel vannak ellátva és a teljes tartalom felszívására elegendő mennyiségű inert párnázó- és felszívóanyaggal vannak körülvéve.	Belső csomagolóeszköz 1 l	Külső csomagolóeszköz 30 kg (legnagyobb nettó tömeg)	
Csak a RID és az ADR szerinti szállításnál érvényes különleges csomagolási előírás:				
RR7 Az UN 1183, 1242, 1295 és 2988 tételekhez: a nyomástartó tartályokat öt évente kell vizsgálni..				

P402	CSOMAGOLÁSI UTASÍTÁS		P402
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:			
1)	Nyomástartó tartályok, feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják. Csak acélból készült tartályok használhatók, amelyeket üzembe helyezés előtt és azután 10 évente időszakosan legalább 0,6 MPa (6 bar) nyomással (túlnyomással) kell vizsgálni. Szállítás alatt a folyadéknak inert gázzréteg alatt kell lennie, amelynek túlnyomása nem lehet 20 kPa-nál (0,2 bar-nál) kevesebb.		
	Belső csomagolóeszköz	Külső csomagolóeszköz	
	legnagyobb nettó tömeg		
2)	Kombinált csomagolások üveg, fém vagy műanyag belső csomagolóeszközökkel, amelyek menetes zárószervezettel vannak ellátva és a teljes tartalom felszívására elegendő mennyiségű inert párnázó- és felszívóanyaggal vannak körülvéve.	10 kg (üveg) 15 kg (fém vagy műanyag)	125 kg 125 kg
3)	Acélhordók (1A1) legfeljebb 250 liter űrtartalommal.		
4)	Összetett csomagolások műanyag tartállyal és külső acél- vagy alumíniumhordóval (6HA1 vagy 6HB1), legfeljebb 250 liter űrtartalommal.		
Csak a RID és az ADR szerinti szállításnál érvényes különleges csomagolási előírás:			
RR4	Az UN 3130-hoz: a tartályok nyílásait két, egymás mögött elhelyezett szerkezettel tömören le kell zárni, amelyek közül az egyiknek csavarmenetesnek vagy azonos értékű módon rögzítettnek kell lennie.		
RR7	Az UN 3129 tételhez: a nyomástartó tartályokat öt évente kell vizsgálni.		
RR8	Az UN 1389, 1391, 1411, 1421, 1928, 3129, 3130 és 3148 tételekhez: a nyomástartó tartályok üzembe helyezés előtti és időszakos vizsgálatát legalább 1 MPa (10 bar) nyomással kell végezni.		

<b>P403 CSOMAGOLÁSI UTASÍTÁS P403</b>	
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják.	
<b>Kombinált csomagolások:</b>	<b>Legnagyobb nettó tömeg</b>
<b>Belső csomagolóeszközök</b>	<b>Külső csomagolóeszközök</b>
Üveg 2 kg Műanyag 15 kg Fém 20 kg A belső csomagolóeszközöket légmentesen (pl. ragasztó-szalaggal vagy menetes záró-szerkezettel) kell zární.	<b>Hordók</b> acélhordók (1A2) 400 kg alumíniumhordók (1B2) 400 kg fémhordók (acélt és alumíniumot kivéve) (1N2) 400 kg műanyag hordók (1H2) 400 kg rétegelt falemez hordók (1D) 400 kg papírlemez hordók (1G) 400 kg <b>Ládák</b> acélládák (4A) 400 kg alumíniumládák (4B) 400 kg közönséges faládák (4C1) 250 kg portömör faládák (4C2) 250 kg rétegelt falemez ládák (4D) 250 kg farostlemez ládák (4F) 125 kg papírlemez ládák (4G) 125 kg habosított műanyag ládák (4H1) 60 kg tömör műanyag ládák (4H2) 250 kg <b>Kannák</b> acélkannák (3A2) 120 kg alumíniumkannák (3B2) 120 kg műanyag kannák (3H2) 120 kg
<b>Önálló csomagolóeszközök:</b>	<b>Legnagyobb nettó tömeg</b>
<b>Hordók</b> acélhordók (1A1, 1A2) alumíniumhordók (1B1, 1B2) fémhordók (acélt és alumíniumot kivéve) (1N1, 1N2) műanyag hordók (1H1, 1H2) <b>Kannák</b> acélkannák (3A1, 3A2) alumíniumkannák (3B1, 3B2) műanyag kannák (3H1, 3H2) <b>Összetett csomagolóeszközök</b> műanyag tartály külső acél- vagy alumíniumhordóval (6HA1 vagy 6HB1) műanyag tartály külső papírlemez, műanyag- vagy rétegelt falemez hordóval (6HG1, 6HH1 vagy 6HD1) műanyag tartály külső acél- vagy alumíniumládával vagy -rekesszel, vagy külső fa-, rétegelt falemez, papírlemez vagy tömör műanyag ládával (6HA2, 6HB2, 6HC, 6HD2, 6HG2 vagy 6HH2)	250 kg 250 kg 250 kg 250 kg 120 kg 120 kg 120 kg 250 kg 75 kg 75 kg
<b>Nyomástartó tartályok</b> , feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják.	

P403 (folyt.)	CSOMAGOLÁSI UTASÍTÁS	P403 (folyt.)
<b>Kiegészítő követelmény:</b> A csomagolóeszközöket légmentesen kell lezárni.		
<b>Különleges csomagolási előírás:</b> <b>PP83</b> Az UN 2813 anyagai esetében a szállításhoz a vízálló tasakokba legfeljebb 20 g hőfejlesztésre szolgáló anyag csomagolható. Minden vízálló tasakot műanyag zsákba kell behegeszteni és köztes csomagolásba kell helyezni. A külső csomagolás legfeljebb 400 g anyagot tartalmazhat. A csomagolásban nem lehet víz vagy olyan folyékony anyag, amely a vízzel reaktív anyaggal reakcióba léphet.		
P404	CSOMAGOLÁSI UTASÍTÁS	P404
Ezt a csomagolási utasítást az UN 1383, 1854, 1855, 2008, 2441, 2545, 2546, 2846, 2881, 3200, 3391 és 3393 alá tartozó piroforos szilárd anyagokra kell alkalmazni.		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:		
1) <i>Kombinált csomagolások</i> külső csomagolóeszközök: (1A2, 1B2, 1N2, 1H2, 1D, 4A, 4B, 4C1, 4C2, 4D, 4F vagy 4H2) belső csomagolóeszközök: Fém csomagolóeszközök legfeljebb 15 kg nettó tömeggel. A belső csomagolóeszközöknek légmentesen zártaknak és menetes zárószervezetűeknek kell lenniük.		
2) <i>Fém csomagolások:</i> (1A1, 1A2, 1B1, 1N1, 1N2, 3A1, 3A2, 3B1 és 3B2) legnagyobb nettó tömeg: 150 kg.		
3) <i>Összetett csomagolások:</i> műanyag tartály acél vagy alumínium hordóval (6HA1 vagy 6HB1) legnagyobb nettó tömeg: 150 kg.		
<b>Nyomástartó tartályok</b> , feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják.		
<b>Különleges csomagolási előírás:</b> <b>PP86</b> Az UN 3391 és 3393 anyagai esetében a gőztérből a levegőt nitrogénnel ki kell szorítani vagy más módon el kell távolítani.		



P405	CSOMAGOLÁSI UTASÍTÁS	P405
Ezt a csomagolási utasítást az UN 1381 tételre kell alkalmazni.		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:		
1)	Az UN 1381 nedves foszforhoz:	
a)	Kombinált csomagolások külső csomagolóeszközök: (4A, 4B, 4C1, 4C2, 4D vagy 4F) legnagyobb nettó tömeg: 75 kg belső csomagolóeszközök:	
i)	légmentesen zárt fémdobozok, legfeljebb 15 kg nettó tömeggel; vagy	
ii)	üveg belső csomagolóeszközök, amelyeket minden oldalról száraz, nem éghető, nedvszívó anyaggal kell párnázni, amely párnázóanyagnak elegendőnek kell lennie a teljes tartalom felszívására, legfeljebb 2 kg nettó tömeggel; vagy	
b)	Hordók (1A1, 1A2, 1B1, 1B2, 1N1 vagy 1N2) legnagyobb nettó tömeg: 400 kg Kannák (3A1 vagy 3B1) legnagyobb nettó tömeg: 120 kg.	
A csomagolóeszközöknek képesnek kell lenniük a 6.1.5.4 bekezdésben meghatározott tömörségi próba elviselésére a II csomagolási csoport igénybevételi szintjén.		
2)	Az UN 1381 száraz foszforhoz:	
a)	Ha a foszfor olvasztott, hordók (1A2, 1B2 vagy 1N2) legfeljebb 400 kg nettó tömeggel; vagy	
b)	Lövedékekben vagy kemény burkolatú tárgyakban, ha az 1 osztályba tartozó alkatrészek nélkül szállítják: az illetékes hatóság által előírt csomagolóeszköz.	

P406	CSOMAGOLÁSI UTASÍTÁS	P406
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják.		
1)	Kombinált csomagolások Külső csomagolások: (4C1, 4C2, 4D, 4F, 4G, 4H1, 4H2, 1G, 1D, 1H2 vagy 3H2) Belső csomagolások: vízálló csomagolások.	
2)	Műanyag, rétegelt falemez vagy papírlemez hordók (1H2, 1D vagy 1G) vagy ládák (4A, 4B, 4C1, 4C2, 4D, 4F, 4G és 4H2) vízálló belső zsákkal, műanyag fólia béléssel vagy vízálló bevonattal.	
3)	Fémhordók (1A1, 1A2, 1B1, 1B2, 1N1 vagy 1N2), műanyaghordók (1H1 vagy 1H2), fémkannák (3A1, 3A2, 3B1 vagy 3B2), műanyagkannák (3H1 vagy 3H2), műanyagtartály külső acél- vagy alumíniumhordóval (6HA1 vagy 6HB1), műanyagtartály külső papírlemez, műanyag- vagy rétegelt falemez hordóval (6HG1, 6HH1 vagy 6HD1), műanyagtartály külső acél- vagy alumíniumládával vagy -rekesszel, vagy külső fa-, rétegelt falemez, papírlemez vagy tömör műanyag ládával (6HA2, 6HB2, 6HC, 6HD2, 6HG2 vagy 6HH2).	
<b>Kiegészítő követelmények:</b>		
1.	A csomagolóeszközt úgy kell kialakítani, hogy a víz-, alkohol-, ill. flegmatizálószer-tartalom ne csökkenhessen.	
2.	A csomagolóeszközt úgy kell kialakítani és lezárni, hogy robbanásveszélyes túlnyomás vagy 300 kPa-t (3 bar-t) meghaladó nyomásnövekedés ne következzen be.	
<b>Különleges csomagolási előírások:</b>		
PP24	Az UN 2852, 3364, 3365, 3366, 3367, 3368 és 3369 anyagainak mennyisége küldeménydarabonként legfeljebb 500 g lehet.	
PP25	Az UN 1347-hez: küldeménydarabonként 15 kg-ot meghaladó mennyiségben nem szállítható.	
PP26	Az UN 1310, 1320, 1321, 1322, 1344, 1347, 1348, 1349, 1517, 2907, 3317 és 3376-hoz: a csomagolóeszközöknek ólom-mentesnek kell lenniük.	
PP48	Az UN 3474 anyaghoz fém csomagolóeszköz nem használható.	
PP78	Az UN 3370 anyaga küldeménydarabonként legfeljebb 11,5 kg mennyiségben szállítható.	
PP80	Az UN 2907 anyagához használt csomagolóeszközöknek a II csomagolási csoport igénybevételi szintjének kell megfelelniük. Az I csomagolási csoport kritériumait teljesítő csomagolóeszközök nem használhatók.	

P407	CSOMAGOLÁSI UTASÍTÁS	P407
Ezt a csomagolási utasítást az UN 1331, 1944, 1945 és 2254 tételre kell alkalmazni.		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:		
Kombinált csomagolás, amelynek belső csomagolásai olyan biztonságosan le vannak zárva, hogy normális szállítási feltételek mellett véletlenszerűen ne gyulladjon meg. A küldeménydarab legnagyobb bruttó tömege nem haladhatja meg a 45 kg-ot, kivéve a papírlemez ládát, ami nem lehet 30 kg-nál nehezebb.		
<b>Kiegészítő követelmény:</b>		
A gyufákat szorosan kell becsomagolni.		
<b>Különleges csomagolási előírás:</b>		
PP27	Az UN 1331-hez: A mindenütt gyulladó gyufát tilos egyéb veszélyes anyagokkal ugyanazon külső csomagolásba egybe csomagolni, kivéve a biztonsági gyufát és „Vesta”-viasz gyufát, amelyeket különálló belső csomagolásokba kell csomagolni. Egy belső csomagolás legfeljebb 700 mindenütt gyulladó gyufát tartalmazhat.	

P408	CSOMAGOLÁSI UTASÍTÁS	P408
Ezt a csomagolási utasítást az UN 3292 tételre kell alkalmazni.		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:		
1) <i>Cellákhoz:</i> Külső csomagolóeszközök elegendő párnázóanyaggal, hogy a szállítás alatt ne következessen be a cellák egymással vagy a külső csomagolás belső felületével való érintkezése, sem pedig a celláknak a külső csomagoláson belüli veszélyes elmozdulása. A csomagolóeszközöknek a II csomagolási csoport igénybevételi szintjének kell megfelelniük.		
2) <i>Akkumulátorokhoz:</i> Az akkumulátorokat csomagolás nélkül vagy védőcsomagolásban (pl. teljesen zárt csomagolásban vagy farekeszben) is lehet szállítani. Az akkumulátorok sorkapcsait sem a többi akkumulátor, sem egyéb, az akkumulátorral egybecsomagolt anyag nem terhelheti a tömegével.		
<b>Kiegészítő követelmény:</b> Az akkumulátorokat a rövidzárlattal szemben védeni kell, ill. oly módon kell elkülöníteni, hogy ne következessen be rövidzárlat.		

P409	CSOMAGOLÁSI UTASÍTÁS	P409
Ezt a csomagolási utasítást az UN 2956, 3242 és 3251 tételre kell alkalmazni.		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:		
1) Papírlemez hordó (1G), amely ellátható béléssel vagy bevonattal; legnagyobb nettó tömeg: 50 kg		
2) Kombinált csomagolások: Papírlemez láda (4G) egy belső műanyag fólia zsákkal; legnagyobb nettó tömeg: 50 kg		
3) Kombinált csomagolások: Papírlemez láda (4G) vagy papírlemez hordó (1G) legfeljebb 5 kg tartalmú belső műanyag zsákokkal; legnagyobb nettó tömeg: 25kg		

P410		CSOMAGOLÁSI UTASÍTÁS		P410
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:				
Kombinált csomagolások:		Legnagyobb nettó tömeg		
Belső csomagolóeszközök		Külső csomagolóeszközök	II csomagolási csoport	III csomagolási csoport
Üveg	10 kg	<b>Hordók</b> acélhordók (1A2) alumíniumhordók (1B2) fémhordók (acélt és alumíniumot kivéve) (1N2) műanyag hordók (1H2) rétegelt falemez hordók (1D) papírlemez hordók (1G) <sup>a)</sup>	400 kg	400 kg
Műanyag <sup>a)</sup>	30 kg		400 kg	400 kg
Fém	40 kg		400 kg	400 kg
Papír <sup>a), b)</sup>	10 kg		400 kg	400 kg
Papírlemez <sup>a), b)</sup>	10 kg		400 kg	400 kg
<i>a) A csomagolóeszközöknek portömörnek kell lenniük. b) Ezek a belső csomagolóeszközök nem használhatók, ha a szállított anyag a szállítás alatt folyékonnyá válhat.</i>			400 kg	400 kg
			400 kg	400 kg
		<b>Ládák</b>		
		acélládák (4A)	400 kg	400 kg
		alumíniumládák (4B)	400 kg	400 kg
		közönséges faládák (4C1)	400 kg	400 kg
		portömör faládák (4C2)	400 kg	400 kg
rétegelt falemez ládák (4D)	400 kg	400 kg		
farostlemez ládák (4F)	400 kg	400 kg		
papírlemez ládák (4G) <sup>a)</sup>	400 kg	400 kg		
habosított műanyag ládák (4H1)	60 kg	60 kg		
tömör műanyag ládák (4H2)	400 kg	400 kg		
		<b>Kannák</b>		
		acélkannák (3A2)	120 kg	120 kg
		alumíniumkannák (3B2)	120 kg	120 kg
		műanyagkannák (3H2)	120 kg	120 kg
<b>Önálló csomagolóeszközök:</b>				
<b>Hordók</b>				
acélhordók (1A1 vagy 1A2)			400 kg	400 kg
alumíniumhordók (1B1 vagy 1B2)			400 kg	400 kg
fémhordók (acélt és alumíniumot kivéve) (1N1 vagy 1N2)			400 kg	400 kg
műanyaghordók (1H1 vagy 1H2)			400 kg	400 kg
<b>Kannák</b>				
acélkannák (3A1 vagy 3A2)			120 kg	120 kg
alumíniumkannák (3B1 vagy 3B2)			120 kg	120 kg
műanyagkannák (3H1 vagy 3H2)			120 kg	120 kg

P410 (folyt.)	CSOMAGOLÁSI UTASÍTÁS		P410 (folyt.)
Önálló csomagolóeszközök: (folyt.)	Legnagyobb nettó tömeg		
	II csomagolási csoport	III csomagolási csoport	
<b>Ládák</b> acélládák (4A) <sup>c)</sup> alumíniumládák (4B) <sup>c)</sup> közöséges faládák (4C1) <sup>c)</sup> rétegelt falemez ládák (4D) <sup>c)</sup> farostlemez ládák (4F) <sup>c)</sup> portömör faládák (4C2) <sup>c)</sup> papírlémez ládák (4G) <sup>c)</sup> tömör műanyag ládák (4H2) <sup>c)</sup>	400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg	400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg 400 kg	
<b>Zsákok</b> zsákok (5H3, 5H4, 5L3, 5M2) <sup>c), d)</sup>	50 kg	50 kg	
<b>Összetett csomagolóeszközök:</b> műanyag tartály külső acél-, alumínium-, rétegelt falemez, papírlémez vagy műanyag hordóval (6HA1, 6HB1, 6HG1, 6HD1 vagy 6HH1) műanyag tartály külső acél- vagy alumíniumládával vagy -rekesszel, vagy külső fa-, rétegelt falemez, papírlémez vagy tömör műanyag ládával (6HA2, 6HB2, 6HC, 6HD2, 6HG2 vagy 6HH2) üveg tartály külső acél-, alumínium-, rétegelt falemez vagy papírlémez hordóval (6PA1, 6PB1, 6PD1 vagy 6PG1) vagy külső acél- vagy alumíniumládával vagy -rekesszel vagy fa- vagy papírlémez ládával vagy fonott kosárral (6PA2, 6PB2, 6PC, 6PG2 vagy 6PD2) vagy külső tömör vagy habosított műanyag csomagolóeszközzel (6PH1 vagy 6PH2)	400 kg          75 kg          75 kg	400 kg          75 kg          75 kg	
<b>Nyomástartó tartályok</b> , feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják.			
<b>Különleges csomagolási előírások:</b> <b>PP39</b> Az UN 1378-hoz: a fém csomagolóeszközöket szellőző-szerkezettel kell ellátni. <b>PP40</b> Az UN 1326, 1352, 1358, 1395, 1396, 1436, 1437, 1871, 2805 és 3182, II csomagolási csoport anyagaihoz zsákok nem használhatók. <b>PP83</b> Az UN 2813 anyagai esetében a szállításhoz a vízálló tasakokba legfeljebb 20 g hőfejlesztésre szolgáló anyag csomagolható. Minden vízálló tasakot műanyag zsákba kell behegeszteni és köztes csomagolásba kell helyezni. A külső csomagolás legfeljebb 400 g anyagot tartalmazhat. A csomagolásban nem lehet víz vagy olyan folyékony anyag, amely a vízzel reaktív anyaggal reakcióba léphet.			

c) Ezek a csomagolások nem használhatók, ha a szállított anyag a szállítás alatt folyékonyvá válhat.

d) Ezek a csomagolások a II csomagolási csoportba tartozó anyagokhoz csak akkor használhatók, ha fedett kocsiban vagy zárt konténerben szállítják.

P411	CSOMAGOLÁSI UTASÍTÁS	P411
Ezt a csomagolási utasítást az UN 3270 tételre kell alkalmazni.		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:		
<div><div>1)</div><div>Papírlémez láda legfeljebb 30 kg össztömeggel;</div></div> <div><div>2)</div><div>Egyéb csomagolóeszközök, ha a megnövekedett belső nyomás következtében robbanás nem lehetséges. A legnagyobb nettó tömeg nem haladhatja meg a 30 kg-ot.</div></div>		

P500		CSOMAGOLÁSI UTASÍTÁS		P500
Ezt a csomagolási utasítást az UN 3356 tételre kell alkalmazni.				
A 4.1.1 és a 4.1.3 szakasz általános előírásait be kell tartani.				
A csomagolóeszközöknek a II csomagolási csoport követelményeinek kell megfelelniük.				
Az oxigénfejlesztőket olyan küldeménydarabban kell szállítani, amely abban az esetben, ha a küldeménydarabban lévő valamelyik oxigénfejlesztő működésbe lép, megfelel a következő követelményeknek:				
a) a küldeménydarabban lévő többi oxigénfejlesztő nem lép működésbe;				
b) a csomagolóeszköz anyaga nem gyullad meg; és				
c) a küldeménydarab külső felületének a hőmérséklete nem haladja meg a 100 °C-ot.				

P501		CSOMAGOLÁSI UTASÍTÁS		P501
Ezt a csomagolási utasítást az UN 2015 tételre kell alkalmazni.				
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják.				
Kombinált csomagolások:		Belső csomagolóeszköz legnagyobb térfogat	Külső csomagolóeszköz legnagyobb nettó tömeg	
1) Ládák (4A, 4B, 4C1, 4C2, 4D, 4H2) vagy hordók (1A2, 1B2, 1N2, 1H2, 1D) vagy kannák (3A2, 3B2, 3H2) üveg, műanyag vagy fém belső csomagolásokkal		5 l	125 kg	
2) Papírlemez láda (4G) vagy papírlemez hordó (1G), műanyag vagy fém belső csomagolóeszközökkel, mindegyik műanyag zsákba helyezve		2 l	50 kg	
Önálló csomagolóeszközök:		Legnagyobb ürtartalom		
Hordók				
acélhordók (1A1)		250 l		
alumíniumhordók (1B1)		250 l		
fémhordók (acélt és alumíniumot kivéve) (1N1)		250 l		
műanyag hordók (1H1)		250 l		
Kannák				
acélkannák (3A1)		60 l		
alumíniumkannák (3B1)		60 l		
műanyag kannák (3H1)		60 l		
Összetett csomagolóeszközök				
műanyag tartály külső acél- vagy alumínium-hordóval (6HA1, 6HB1)		250 l		
műanyag tartály külső papírlemez, műanyag- vagy rétegelt falemez hordóval (6HG1, 6HH1, 6HD1)		250 l		
műanyag tartály külső acél- vagy alumíniumládával vagy -rekesszel vagy külső fa-, rétegelt falemez, papírlemez vagy tömör műanyag ládával (6HA2, 6HB2, 6HC, 6HD2, 6HG2 vagy 6HH2)		60 l		
üvegtartály külső acél-, alumínium-, papírlemez, rétegelt falemez, tömör műanyag vagy habosított műanyag hordóval (6PA1, 6PB1, 6PG1, 6PD1, 6PH1 vagy 6PH2) vagy üvegtartály külső acél- vagy alumíniumládával vagy -rekesszel vagy külső faladával, papírlemez ládával vagy vesszőkosárral (6PA2, 6PB2, 6PC, 6PG2 vagy 6PD2)		60 l		
Kiegészítő követelmények:				
1. A csomagolóeszközöket legfeljebb ürtartalmuk 90%-áig szabad megtölteni.				
2. A csomagolóeszközöket szellőző-szerkezettel kell ellátni.				

P502 CSOMAGOLÁSI UTASÍTÁS P502	
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:	
Kombinált csomagolások:	
Belső csomagolóeszközök	Külső csomagolóeszközök
Üveg 5 l Fém 5 l Műanyag 5 l	<b>Hordók</b> acélhordók (1A2) 125 kg alumíniumhordók (1B2) 125 kg fémhordók (acélt és alumíniumot kivéve) (1N2) 125 kg műanyag hordók (1H2) 125 kg rétegelt falemez hordók (1D) 125 kg papírlemez hordók (1G) 125 kg <b>Ládák</b> acélládák (4A) 125 kg alumíniumládák (4B) 125 kg közönséges faládák (4C1) 125 kg portömör faládák (4C2) 125 kg rétegelt falemez ládák (4D) 125 kg farostlemez ládák (4F) 125 kg papírlemez ládák (4G) 125 kg habosított műanyag ládák (4H1) 60 kg tömör műanyag ládák (4H2) 125 kg
Önálló csomagolóeszközök:	
Legnagyobb nettó tömeg	
<b>Hordók</b> acélhordók (1A1) 250 l alumíniumhordók (1B1) 250 l műanyag hordók (1H1) 250 l <b>Kannák</b> acélkannák (3A1) 60 l alumíniumkannák (3B1) 60 l műanyag kannák (3H1) 60 l <b>Összetett csomagolóeszközök</b> műanyag tartály külső acél- vagy alumíniumhordóval (6HA1, 6HB1) 250 l műanyag tartály külső papírlemez, műanyag- vagy rétegelt falemez hordóval (6HG1, 6HH1, 6HD1) 250 l műanyag tartály külső acél- vagy alumíniumládával vagy -rekesszel vagy műanyag tartály külső fa-, rétegelt falemez, papírlemez vagy tömör műanyag ládával (6HA2, 6HB2, 6HC, 6HD2, 6HG2 vagy 6HH2) 60 l üvegtartály külső acél-, alumínium-, papírlemez, rétegelt falemez, tömör műanyag vagy habosított műanyag hordóval (6PA1, 6PB1, 6PG1, 6PD1, 6PH1 vagy 6PH2) vagy külső acél- vagy alumíniumládával vagy -rekesszel vagy külső fa-, vagy papírlemez ládával vagy vesszőkosárral (6PA2, 6PB2, 6PC, 6PG2 vagy 6PD2) 60 l	
Különleges csomagolási előírás	
<b>PP28</b> Az UN 1873-hoz kombinált csomagolásokban csak üveg belső csomagolóeszközök, ill. az összetett csomagolóeszközöknél csak üveg belső tartályok használhatók.	

<b>P503</b>	<b>CSOMAGOLÁSI UTASÍTÁS</b>		<b>P503</b>
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják.			
<b>Kombinált csomagolások:</b>			<b>Legnagyobb nettó tömeg</b>
<b>Belső csomagolóeszközök</b>	<b>Külső csomagolóeszközök</b>		
Üveg 5 kg	<b>Hordók</b>		
Fém 5 kg	acélhordók (1A2)		125 kg
Műanyag 5 kg	alumíniumhordók (1B2)		125 kg
	fémhordók (acélt és alumíniumot kivéve) (1N2)		125 kg
	műanyag hordók (1H2)		125 kg
	rétegelt falemez hordók (1D)		125 kg
	papírlemez hordók (1G)		125 kg
	<b>Ládák</b>		
	acélládák (4A)		125 kg
	alumíniumládák (4B)		125 kg
	közönséges faládák (4C1)		125 kg
	portömör faládák (4C2)		125 kg
	rétegelt falemez ládák (4D)		125 kg
	farostlemez ládák (4F)		125 kg
	papírlemez ládák (4G)		40 kg
	habosított műanyag ládák (4H1)		60 kg
	tömör műanyag ládák (4H2)		125 kg
<b>Önálló csomagolóeszközök:</b>			
Fémhordók (1A1, 1A2, 1B1, 1B2, 1N1 vagy 1N2) legfeljebb 250 kg nettó tömeggel.			
Papírlemez hordók (1G) vagy rétegelt falemez hordók (1D) belső béléssel ellátva, legfeljebb 200 kg nettó tömeggel.			



P504	CSOMAGOLÁSI UTASÍTÁS	P504
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják.		
Kombinált csomagolások:		Legnagyobb nettó tömeg
1) Üvegtartályok legfeljebb 5 liter űrtartalommal 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H2 külső csomagolóeszközben		75 kg
2) Legfeljebb 30 liter űrtartalmú műanyag tartályok 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H2 külső csomagolóeszközben.		75 kg
3) Fémtartályok legfeljebb 40 liter űrtartalommal 1G, 4F vagy 4G külső csomagolóeszközben.		125 kg
4) Fémtartályok legfeljebb 40 liter űrtartalommal 1A2, 1B2, 1N2, 1H2, 1D, 4A, 4B, 4C1, 4C2, 4D, 4H2 külső csomagolóeszközben.		225 kg
Önálló csomagolóeszközök:		Legnagyobb űrtartalom
<b>Hordók</b>		
acélhordók nem levehető tetővel (1A1)		250 l
acélhordók levehető tetővel (1A2)		250 l
alumíniumhordók nem levehető tetővel (1B1)		250 l
alumíniumhordók levehető tetővel (1B2)		250 l
fémhordók (acélt és alumíniumot kivéve) nem levehető tetővel (1N1)		250 l
fémhordók (acélt és alumíniumot kivéve) levehető tetővel (1N2)		250 l
műanyag hordók nem levehető tetővel (1H1)		250 l
műanyag hordók levehető tetővel (1H2)		250 l
<b>Kannák</b>		
acélkannák nem levehető tetővel (3A1)		60 l
acélkannák levehető tetővel (3A2)		60 l
alumíniumkannák nem levehető tetővel (3B1)		60 l
alumíniumkannák levehető tetővel (3B2)		60 l
műanyag kannák nem levehető tetővel (3H1)		60 l
műanyag kannák levehető tetővel (3H2)		60 l
<b>Összetett csomagolóeszközök</b>		
műanyag tartály külső acél- vagy alumíniumhordóval (6HA1, 6HB1)		250 l
műanyag tartály külső papírlemez, műanyag vagy rétegelt falemez hordóval (6HG1, 6HH1, 6HD1)		120 l
műanyag tartály külső acél- vagy alumíniumládával vagy -rekesszel vagy külső fa-, rétegelt falemez, papírlemez vagy tömör műanyag ládával (6HA2, 6HB2, 6HC, 6HD2, 6HG2 vagy 6HH2)		60 l
üvegtartály külső acél, alumínium, papírlemez, rétegelt falemez, tömör műanyag vagy habosított műanyag hordóval (6PA1, 6PB1, 6PG1, 6PD1, 6PH1 vagy 6PH2), vagy külső acél- vagy alumíniumládával vagy -rekesszel, vagy külső fa- vagy papírlemez ládával vagy vesszőkosárral (6PA2, 6PB2, 6PC, 6PG2 vagy 6PD2)		60 l
<b>Különleges csomagolási előírás:</b>		
<b>PP10</b> Az UN 2014, 2984 és 3149 anyagaihoz szellőző-szerkezettel ellátott csomagolóeszközöket kell használni.		

P520

Csomagolási utasítás

P520

Ezt a csomagolási utasítást az 5.2 osztály szerves peroxidjaira és a 4.1 osztály önreaktív anyagaira kell alkalmazni.

A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.7.1 bekezdés különleges előírásait betartják:

A csomagolási módszerek OP1-OP8 jelöléssel vannak ellátva. A jelenleg besorolt egyes szerves peroxidokhoz és önreaktív anyagokhoz alkalmas csomagolási módszereket a 4.1.7.1.3 és a 2.2.41.4 és 2.2.52.4 bekezdés sorolja fel. Az egyes csomagolási módszerekhez meghatározott mennyiségek a küldeménydarabonként engedélyezett legnagyobb mennyiségeket jelentik. A következő csomagolások használhatók:

1) Kombinált csomagolások külső ládával (4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H1 és 4H2), hordóval (1A2, 1B2, 1G, 1H2 és 1D) vagy kannával (3A2, 3B2 és 3H2);

2) Önálló csomagolóeszközök, amelyek hordók (1A1, 1A2, 1B1, 1B2, 1G, 1H1, 1H2 és 1D) vagy kannák (3A1, 3A2, 3B1, 3B2, 3H1 és 3H2);

3) Összetett csomagolóeszközök műanyag belső tartállyal (6HA1, 6HA2, 6HB1, 6HB2, 6HC, 6HD1, 6HD2, 6HG1, 6HG2, 6HH1 és 6HH2).

Engedélyezett legnagyobb mennyiség csomagolásonként/küldeménydarabonként<sup>a)</sup> az OP1 – OP8 csomagolási módszerhez

Csomagolási módszer  Legnagyobb mennyiség	OP1	OP2 <sup>a)</sup>	OP3	OP4 <sup>a)</sup>	OP5	OP6	OP7	OP8
Legnagyobb tömeg (kg) szilárd anyagra és kombinált csomagolásra (szilárd és folyékony anyag esetén)	0,5	0,5/10	5	5/25	25	50	50	400 <sup>b)</sup>
Legnagyobb tartalom literben folyadékra <sup>c)</sup>	0,5	–	5	–	30	60	60	225 <sup>d)</sup>

a) Ha két adat van megadva, az első a belső csomagolásonkénti legnagyobb nettó tömegre, míg a második a teljes küldeménydarab legnagyobb nettó tömegére vonatkozik.

b) 60 kg kannákra; 200 kg ládákra és 400 kg szilárd anyagokra összetett csomagolásokban, ha a külső csomagolás láda (4C1, 4C2, 4D, 4F, 4G, 4H1 és 4H2) és a belső csomagolások legfeljebb 25 kg nettó tömegű műanyag vagy papírlemez csomagolóeszközök.

c) A viszkózus anyagokat úgy kell kezelni mint a szilárd anyagokat, ha az 1.2.1 szakaszban a folyékony anyagokra adott meghatározásnak nem felelnek meg.

d) 60 liter kannákra.

Kiegészítő követelmények:

1. Fém csomagolóeszközök, akár a kombinált csomagolások belső csomagolóeszközeként, akár az összetett vagy kombinált csomagolások külső csomagolóeszközeként csak az OP7 és OP8 módszernél használhatók.

2. A kombinált csomagolásokban üvegtartályok szilárd anyagok esetén csak legfeljebb 0,5 kg-os, folyékony anyagok esetén csak legfeljebb 0,5 l-es belső csomagolóeszközként használhatók.

3. A kombinált csomagolásoknál a párnázóanyag nem lehet könnyen gyulladó.

4. A „ROBBANÓ” járulékos veszély bárcával (5.2.2.2.2 pont, 1 sz. bárca) ellátandó szerves peroxidot vagy önreaktív anyagot tartalmazó küldeménydarabnak meg kell felelnie a 4.1.5.10 és a 4.1.5.11 bekezdésben található előírásoknak

Különleges csomagolási előírások:

PP21 Az UN 3221, 3222, 3223 és 3224 alá tartozó, egyes B vagy C típusú önreaktív anyagokra az OP5 vagy OP6 csomagolási módszernél engedélyezettnél kisebb csomagolásokat kell használni (lásd a 4.1.7 szakaszt és a 2.2.41.4 bekezdést).

PP22 Az UN 3241 2-bróm-2-nitro-1,3-propándiol-t az OP6 csomagolási módszer szerint kell csomagolni.

P600	CSOMAGOLÁSI UTASÍTÁS	P600
Ezt a csomagolási utasítást az UN 1700, 2016 és 2017 tételre kell alkalmazni.		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:		
Külső csomagolóeszközök: (1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H2), amelyek a II csomagolási csoport igénybevételi szintjét elégítik ki. A tárgyakat egyedileg kell csomagolni és egymástól elválasztani válaszfalak, osztóbetétek, belső csomagolások vagy párnázóanyag segítségével, hogy normális szállítási feltételek között a tárgyak nem szándékos működésbe lépését megakadályozzák. Legnagyobb nettó tömeg: 75 kg.		


P601	CSOMAGOLÁSI UTASÍTÁS	P601
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják és a csomagolóeszközöket légmentesen lezárják:		
<p>1) Olyan, legfeljebb 15 kg bruttó tömegű kombinált csomagolás, amely a következőkből áll:</p> <ul style="list-style-type: none"> <li>– legfeljebb 1 liter űrtartalmú, üveg belső csomagolóeszköz(ök), amelyek legfeljebb űrtartalmuk 90%-áig vannak megtöltve, és amelyek zárását valamilyen alkalmas eszközzel zárt helyzetében rögzíteni kell, ami megakadályozza a zárószervezet kinyílását vagy lazulását a szállítás alatt fellépő ütések vagy rezgések hatására, ezek a belső csomagolóeszközök egyenként</li> <li>– fémtartályba helyezve, az üveg belső csomagolóeszköz(ök) teljes tartalmának felszívására elegendő nedvszívó anyaggal és inert párnázóanyaggal körülvéve, a fémtartályok pedig</li> <li>– 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G vagy 4H2 jelű külső csomagolóeszközbe téve.</li> </ul> <p>2) Olyan, legfeljebb 75 kg bruttó tömegű kombinált csomagolás, amelyben a legfeljebb 5 liter űrtartalmú, fém belső csomagolóeszközök egyenként a teljes tartalmuk felszívására elegendő nedvszívó anyaggal és inert párnázóanyaggal körülvéve 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G vagy 4H2 jelű külső csomagolóeszközben vannak. A belső csomagolóeszközöket legfeljebb űrtartalmuk 90%-áig szabad megtölteni. A belső csomagolóeszközök zárását valamilyen alkalmas eszközzel zárt helyzetében rögzíteni kell, ami megakadályozza a zárószervezet kinyílását vagy lazulását a szállítás alatt fellépő ütések vagy rezgések hatására.</p> <p>3) Olyan csomagolás, amelynek:</p> <ul style="list-style-type: none"> <li>– külső csomagolóeszköze <ul style="list-style-type: none"> <li>olyan levehető tetejű (1A2, ill. 1H2 jelű) acél- vagy műanyag hordó, amelyet vagy mint szilárd, ill. folyékony anyag szállítására használt önálló csomagolóeszközt, vagy mint belső csomagolások befogadására szolgáló csomagolóeszközt vizsgáltak a 6.1.5 szakasz vizsgálati követelményei szerint a szállításra összeállított küldeménydarab tömegének megfelelő tömeggel, és ennek megfelelően van jelöléssel ellátva;</li> </ul> </li> <li>– belső csomagolóeszköze <ul style="list-style-type: none"> <li>olyan hordó vagy összetett csomagolás (1A1, 1B1, 1N1, 1H1 vagy 6HA1), amely kielégíti a 6.1 fejezet önálló csomagolóeszközökre vonatkozó előírásait, és megfelel a következő feltételeknek: <ul style="list-style-type: none"> <li>a) a folyadéknyomás próbát legalább 0,3 MPa (3 bar) nyomással (túlnyomással) kell végrehajtani;</li> <li>b) a típusvizsgálat során és a minden egyes csomagolóeszközön elvégzendő tömörségi próbát 30 kPa (0,3 bar) próbanyomással kell végrehajtani;</li> <li>c) a külső hordótól lökéscsillapítóként inert párnázóanyaggal kell elválasztani, amelynek a belső csomagolóeszközt minden oldalról körül kell vennie;</li> <li>d) űrtartalma nem haladhatja meg a 125 litert; és</li> <li>e) a zárószervezetnek csavarmenetes kupaknak kell lennie,</li> </ul> </li> </ul> </li> </ul>		

P601 (folyt.)	CSOMAGOLÁSI UTASÍTÁS	P601 (folyt.)
	<p>i) amelyet valamilyen alkalmas eszközzel zárt helyzetében rögzíteni kell, ami megakadályozza a zárószerkezet kinyílását vagy lazulását a szállítás alatt fellépő ütések vagy rezgések hatására; és</p> <p>ii) amely légmentesen záró tömítőbetéttel van ellátva;</p> <p>f) a külső és belső csomagolóeszközöket legalább 2,5 évenként a b) pont szerint tömörségi próbának kell alávetni;</p> <p>g) a teljes csomagolóeszközt legalább 3 évenként szemrevételezéssel meg kell vizsgálni az illetékes hatóság számára kielégítő módon.</p> <p>h) a belső és a külső csomagolóeszközökön jól olvashatóan és tartósan fel kell tüntetni:</p> <p>i) az első alkalommal végzett vizsgálat és az utolsó időszakos vizsgálat időpontját (hónap, év);</p> <p>ii) a vizsgálatot és szemrevételezést végző szakértő bélyegzőlenyomatát.</p> <p>4) Nyomástartó tartályok, feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják. A nyomástartó tartályokat üzembe helyezés előtt és azután 10 évente időszakosan legalább 1 MPa (10 bar) nyomással (túlnyomással) kell vizsgálni. A nyomástartó tartályon semmilyen nyomáscsökkentő szerkezet nem lehet. Minden nyomástartó tartályt, amely olyan folyadékot tartalmaz, amelynek <math>LC_{50}</math> értéke belélegzés esetén <math>200 \text{ ml/m}^3</math> (ppm) vagy annál kisebb, olyan zárodugóval vagy zárószeleppel kell lezárni, amely megfelel a következő előírásoknak:</p> <p>a) a zárodugónak, ill. zárószelepnek kúpos csavarmenettel közvetlenül a nyomástartó tartályhoz kell csatlakoznia, és a nyomástartó tartály próbanyomását sérülés és szivárgás nélkül ki kell állnia;</p> <p>b) a zárószelepnek tömítés nélküli, nem-perforált membrános szelepnek kell lennie, kivéve a maró anyagoknál, ahol lehet tömítéssel ellátott szelep is, ha olyan elrendezéssel van gáztömörré téve, ahol a szeleptesthez vagy a nyomástartó tartályhoz rögzített tömítő sapka és a tömítőgyűrű megakadályozza, hogy a tömítésen keresztül vagy amellet szivároghoz az anyag;</p> <p>c) a zárószelep kimenetét menetes sapkával vagy menetes tömör dugóval és inert tömítőanyaggal kell lezárni;</p> <p>d) A nyomástartó tartály szerkezeti anyagának, a szelepek, a dugók, a kimeneti sapkák, a kitt és a tömítések anyagának egymással és a tartalommal összeférhetőnek kell lennie. Az olyan nyomástartó tartályt, amelynek bármely pontján kisebb a falvastagsága, mint 2,0 mm, illetve az olyat, amelynek a szelepe nincs megfelelő védelemmel ellátva, külső csomagolóeszközbe helyezve kell szállítani. A nyomástartó tartályokat nem szabad sem összekapcsolni, sem gyűjtőcsővel ellátni.</p>	
<b>Különleges csomagolási előírás:</b>		
<b>PP82</b>	(törölve)	
<b>Csak a RID és az ADR szerinti szállításnál érvényes különleges csomagolási előírás:</b>		
<b>RR3</b>	(törölve)	
<b>RR7</b>	Az UN 1251 tételhez: a nyomástartó tartályokat öt évente kell vizsgálni.	
<b>RR10</b>	AZ UN 1614 anyagot, ha inert porózus anyagba teljesen abszorbeálva van, legfeljebb 7,5 liter űrtartalmú fém tartályokba kell csomagolni, amelyeket oly módon kell faládákba helyezni, hogy ne érintkezessenek egymással. A tartályokat teljesen ki kell tölteni porózus anyaggal, amelynek olyannak kell lennie, hogy még hosszabb használat után vagy rázkódások esetén se tömörüljön össze és ne képződjenek benne veszélyes üregek még 50 °C hőmérséklet esetén sem.	

P602	CSOMAGOLÁSI UTASÍTÁS	P602
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják és a csomagolóeszközöket légmentesen lezárják:		
1)	<p>Olyan, legfeljebb 15 kg bruttó tömegű kombinált csomagolás, amely a következőkből áll:</p> <ul style="list-style-type: none"> <li>– legfeljebb 1 liter űrtartalmú, üveg belső csomagolóeszköz(ök), amelyek legfeljebb űrtartalmuk 90%-áig vannak megtöltve, és amelyek zárását valamilyen alkalmas eszközzel zárt helyzetében rögzíteni kell, ami megakadályozza a zárószerkezet kinyílását vagy lazulását a szállítás alatt fellépő ütések vagy rezgések hatására, ezek a belső csomagolóeszközök egyenként</li> <li>– fémtartályba helyezve, a teljes tartalmuk felszívására elegendő nedvszívó anyaggal és inert párnázóanyaggal körülvéve, a fémtartályok pedig</li> <li>– 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G vagy 4H2 jelű külső csomagolóeszközbe téve.</li> </ul>	
2)	<p>Olyan, legfeljebb 75 kg bruttó tömegű kombinált csomagolás, amelyben a fém belső csomagolóeszközök egyenként a teljes tartalmuk felszívására elegendő nedvszívó anyaggal és inert párnázóanyaggal körülvéve 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G vagy 4H2 jelű külső csomagolóeszközben van. A belső csomagolóeszközöket legfeljebb űrtartalmuk 90%-áig szabad megtölteni. A belső csomagolóeszközök zárását valamilyen alkalmas eszközzel zárt helyzetében rögzíteni kell, ami megakadályozza a zárószerkezet kinyílását vagy lazulását a szállítás alatt fellépő ütések vagy rezgések hatására. A belső csomagolóeszközök űrtartalma nem haladhatja meg az 5 litert.</p>	
3)	<p>Hordók és összetett csomagolóeszközök (1A1, 1B1, 1N1, 1H1, 6HA1 vagy 6HH1) feltéve, ha megfelelnek következő feltételeknek:</p> <ul style="list-style-type: none"> <li>a) a folyadéknomás próbát legalább 0,3 MPa (3 bar) nyomással (túlnyomás) kell végrehajtani;</li> <li>b) a típusvizsgálat során és a minden egyes csomagolóeszközön elvégzendő tömörségi próbát 30 kPa próbanyomással kell végrehajtani;</li> <li>c) a zárószerkezetnek csavarmenetes kupaknak kell lennie, <ul style="list-style-type: none"> <li>i) amelyet valamilyen alkalmas eszközzel zárt helyzetében rögzíteni kell, ami megakadályozza a zárószerkezet kinyílását vagy lazulását a szállítás alatt fellépő ütések vagy rezgések hatására; és</li> <li>ii) amely légmentesen záró tömítőbetéttel van ellátva.</li> </ul> </li> </ul>	
4)	<p>Nyomástartó tartályok, feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják. A nyomástartó tartályokat üzembe helyezés előtt és azután 10 évente időszakosan legalább 1 MPa (10 bar) nyomással (túlnyomással) kell vizsgálni. A nyomástartó tartályon semmilyen nyomás-csökkentő szerkezet nem lehet. Minden nyomástartó tartályt, amely olyan folyadékot tartalmaz, amelynek <math>LC_{50}</math> értéke belélegzés esetén <math>200 \text{ ml/m}^3</math> (ppm) vagy annál kisebb, olyan zárodugóval vagy zárószeleppel kell lezárni, amely megfelel a következő előírásoknak:</p> <ul style="list-style-type: none"> <li>a) a zárodugónak, ill. zárószelepnek kúpos csavarmenettel közvetlenül a nyomástartó tartályhoz kell csatlakoznia, és a nyomástartó tartály próbanyomását sérülés és szivárgás nélkül ki kell állnia;</li> <li>b) a zárószelepnek tömítés nélküli, nem-perforált membrános szelepnek kell lennie, kivéve a maró anyagoknál, ahol lehet tömítéssel ellátott szelep is, ha olyan elrendezéssel van gáztömörré téve, ahol a szeleptesthez vagy a nyomástartó tartályhoz rögzített tömítő sapka és a tömítőgyűrű megakadályozza, hogy a tömítésen keresztül vagy amellet szivároгjon az anyag;</li> <li>c) a zárószelep kimenetét menetes sapkával vagy menetes tömör dugóval és inert tömítőanyaggal kell lezárni;</li> <li>d) a nyomástartó tartály szerkezeti anyagának, a szelepek, a dugók, a kimeneti sapkák, a kitt és a tömítések anyagának egymással és a tartalommal összeférhetőnek kell lennie.</li> </ul> <p>Az olyan nyomástartó tartályt, amelynek bármely pontján kisebb a falvastagsága, mint 2,0 mm, illetve az olyat, amelynek a szelepe nincs megfelelő védelemmel ellátva, külső csomagolóeszközbe helyezve kell szállítani. A nyomástartó tartályokat nem szabad sem összekapcsolni, sem gyűjtőcsővel ellátni.</p>	

P620	CSOMAGOLÁSI UTASÍTÁS	P620
Ezt a csomagolási utasítást az UN 2814 és 2900 tételre kell alkalmazni.		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.8 szakasz különleges előírásait betartják:		
A 6.3 fejezet követelményeit kielégítő és annak megfelelően jóváhagyott csomagolóeszközök, amelyek a következőkből állnak:		
a)	belső csomagolóeszköz, amely a következőket tartalmazza:	
i)	folyadéktömör elsődleges tartály(oka)t;	
ii)	folyadéktömör másodlagos csomagolást;	
iii)	nem szilárd fertőző anyagok esetén az elsődleges tartály és a másodlagos csomagolás közé helyezett nedvszívó anyagot, amely elegendő mennyiségű az elsődleges tartályok teljes tartalmának felszívására; amennyiben több elsődleges tartály van elhelyezve egyetlen másodlagos csomagolásban, úgy ezeket egyenként be kell burkolni vagy úgy kell elválasztani egymástól, hogy ne érintkezessenek egymással;	
b)	merev falú külső csomagolóeszköz, amelynek legkisebb külső mérete legalább 100 mm..	
<b>Kiegészítő követelmények:</b>		
1.	A fertőző anyagokat tartalmazó belső csomagolóeszközöket tilos más típusú árukkal közös külső csomagolásba együvé csomagolni. A küldeménydarabokat az 1.2.1 és az 5.1.2 szakasz előírásai szerinti egyesítőcsomagolásba lehet tenni, amelyben szárazjég is elhelyezhető.	
2.	A kivételes küldemények kivételével, mint pl. egész szervek, amelyek különleges csomagolást igényelnek, a következő kiegészítő követelményeket kell betartani:	
a)	Ha az anyagot szobahőmérsékleten vagy magasabb hőmérsékleten adják fel szállításra: Az elsődleges tartályokat fémből, üvegből vagy műanyagból kell készíteni. Ezeket szivárgásmentes tömítést eredményező, biztosított zársmóddal kell zárni, mint pl. hőzárás, szoknyával ellátott dugó vagy ráperemezhető fémszár. Amennyiben csavarmenetes fedelet használnak, hatékony eszközzel, pl. ragasztószalaggal, parafinozott zárószalaggal vagy gyárilag kialakított zárószervezettel rögzíteni kell;	
b)	Ha az anyagot hűtve vagy fagyasztva adják fel szállításra: Jeget, szárazjeget vagy egyéb hűtőközeget kell a másodlagos csomagolás(ok) köré helyezni vagy alternatívaként a 6.3.3 szakasz szerint jelölt, komplett küldeménydarabo(ka)t tartalmazó egyesítőcsomagolásba helyezni. Belső távtartókat kell alkalmazni a másodlagos csomagolás(ok) vagy a küldeménydarabok rögzítésére, hogy azok a jég vagy a szárazjég eltűnése után eredeti helyzetükben maradjanak. Amennyiben jeget használnak, a külső csomagolásnak, ill. az egyesítőcsomagolásnak folyadéktömörnek kell lennie. Szárazjég használata esetén a külső csomagolásnak, ill. az egyesítőcsomagolásnak lehetővé kell tennie a szén-dioxid gáz eltávozását. Az elsődleges tartálynak és a másodlagos csomagolásnak meg kell őriznie integritását az alkalmazott hűtőközeg hőmérsékletén;	
c)	Ha az anyagot cseppfolyósított nitrogénben adják fel szállításra: Az elsődleges tartályokat olyan műanyagból kell készíteni, amely ellenáll a nagyon alacsony hőmérsékletnek. A másodlagos csomagolásnak is ellen kell állnia a nagyon alacsony hőmérsékletnek és a legtöbb esetben egyedileg kell illeszkednie a belső tartályhoz. A cseppfolyósított nitrogén szállítására vonatkozó követelményeket ugyancsak be kell tartani. Az elsődleges tartálynak és a másodlagos csomagolásnak meg kell őriznie integritását a cseppfolyósított nitrogén hőmérsékletén;	
d)	A liofilizált anyagok elsődleges tartályokban is szállíthatók, amelyek lánggal leforrasztott üvegampullák vagy fémszárral ellátott, gumidugós üvegcsék.	
3.	Függetlenül a szállítás során előírt hőmérséklettől a fertőző anyagok csomagolására használt elsődleges vagy másodlagos csomagolásnak szivárgás nélkül ellen kell állnia legalább 95 kPa nyomáskülönbséget létrehozó belső nyomásnak és a -40 °C és +55 °C közötti hőmérsékletnek.	
4.	A származási ország <sup>a)</sup> illetékes hatósága az állati eredetű anyagok szállításához más csomagolóeszközt is engedélyezhet a 4.1.8.7 bekezdés szerint.	
a)	Ha a származási ország nem valamely COTIF Tagállam, a küldemény által érintett első COTIF Tagállam illetékes hatósága.	



P621	CSOMAGOLÁSI UTASÍTÁS	P621
Ezt a csomagolási utasítást az UN 3291 tételre kell alkalmazni.		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják.		
1) A 6.1 fejezet előírásait szilárd anyagokra, a II csomagolási csoportra kielégítő merev falú, szivárgásmentes csomagolóeszközök, amennyiben elegendő nedvszívó anyagot tartalmaznak a teljes folyadék mennyiség felszívására és a csomagolóeszköz képes a folyadék megtartására. 2) Nagyobb mennyiségű folyadékot tartalmazó küldeménydarabok esetén a 6.1 fejezet előírásait folyékony anyagokra, a II csomagolási csoportra kielégítő csomagolóeszközök.		
<b>Kiegészítő követelmények:</b>		
1. Az éles tárgyakat, pl. törött üvegeket, tüket tartalmazó csomagolóeszközöknek dőfésállónak kell lenniük, és meg kell tartaniuk a folyékony anyagokat a 6.1 fejezet szerinti vizsgálati körülmények között. 2. A csomagolóeszközök zárószerkezetét úgy kell kialakítani, hogy azok megtöltés után légmentesen zárhatók legyenek és kialakításuk tegye azonnal felismerhetővé a későbbi esetleges felnyitást.		
P650	CSOMAGOLÁSI UTASÍTÁS	P650
Ezt a csomagolási utasítást az UN 3373 tételre kell alkalmazni.		
1) A csomagolásnak jó minőségűnek és elég erősnek kell lennie ahhoz, hogy ellenálljon azoknak az igénybevételeknek, ütődéseknek, amelyeknek rendes körülmények között a szállítás során, a kocsik, ill. konténerek közötti átrakás, a kocsikból, ill. konténerekből a raktárba való berakodás során ki van téve, illetve amelyek akkor léphetnek fel, amikor további kézi vagy gépi árukezelés céljából a rakodólapról vagy az egyesítőcsomagolásból eltávolítják. A csomagolóeszközöket úgy kell gyártani és lezárni, hogy elkerülhető legyen a tartalom bármilyen szivárgása vagy kiszóródása. Ez a szokásos szállítási körülmények között különösen a rezgésekből, illetve a hőmérséklet, a páratartalom vagy a nyomás változásából adódhat. 2) A csomagolásnak legalább három részből kell állnia: a) elsődleges tartály; b) másodlagos csomagolás; és c) külső csomagolás; a másodlagos és a külső csomagolás közül az egyiknek merev falúnak kell lennie. 3) Az elsődleges tartályokat úgy kell a másodlagos csomagolásba helyezni, hogy normális szállítási feltételek esetén ne törhessenek el, ne lyukadhassanak ki és tartalmuk ne szivároгjon a másodlagos csomagolóeszközbe. A másodlagos csomagolásokat megfelelő párnázóanyaggal kell a külső csomagolásban rögzíteni. A tartalom esetleges kiszabadulása nem csökkentheti lényegesen sem a párnázóanyag, sem a külső csomagolóeszköz védő tulajdonságait. 4) A szállításhoz a következő jelölést kell a külső csomagolás külső felületén elütő színű háttérre, jól látható és tartós módon felvinni. A jelölésnek egy legalább 50 x 50 mm nagyságú, csúcsára állított négyzet (rombusz) alakúnak kell lennie, a vonal vastagságának legalább 2 mm-nek, a betűk és számok magasságának legalább 6 mm-nek kell lennie. A külső csomagoláson közvetlenül a rombusz alakú jelölés mellett, legalább 6 mm magasságú betűkkel fel kell tüntetni a helyes szállítási megnevezést: „B” KATEGÓRIÁJÚ BIOLÓGIAI ANYAG.		
		

P650 (folyt.)	CSOMAGOLÁSI UTASÍTÁS	P650 (folyt.)
5)	A külső csomagolás legalább egy oldalfelületének legalább 100 x 100 mm méretűnek kell lennie.	
6)	A kész küldeménydarabnak képesnek kell lennie a 6.3.5.3 bekezdés szerinti, 1,2 m ejtési magassággal végrehajtott ejtőpróba elviselésére, amint azt a 6.3.5.2 bekezdés meghatározza. A megfelelő ejtési sorozat után semmi nem szabadulhat ki az elsődleges tartály(ok)ból a másodlagos csomagolásba, az elsődleges tartály(oka)t a nedvszívó anyagnak – ha az elő van írva – továbbra is védenie kell.	
7)	<i>Folyékony anyagokhoz:</i>	
	a) Az elsődleges tartály(ok)nak szivárgásmentesnek kell lennie (lenniük);	
	b) A másodlagos csomagolásnak szivárgásmentesnek kell lennie;	
	c) Ha több törékeny elsődleges tartályt helyeznek közös másodlagos csomagolásba, akkor azokat vagy egyedileg be kell burkolni vagy úgy kell elválasztani, hogy ne érintkezhessenek egymással.	
	d) Az elsődleges tartály(ok) és a másodlagos csomagolás közé nedvszívó anyagot kell helyezni. A nedvszívó anyagnak elegendőnek kell lennie az elsődleges tartály(ok) teljes tartalmának felszívására, és a folyékony anyag esetleges kiszabadulása nem eredményezheti sem a párnázóanyag, sem a külső csomagolás sérülését;	
	e) Az elsődleges tartálynak vagy a másodlagos csomagolásnak szivárgás nélkül el kell viselnie a legalább 95 kPa (0,95 bar) nyomáskülönbséget eredményező belső nyomást.	
8)	<i>Szilárd anyagokhoz:</i>	
	a) Az elsődleges tartály(ok)nak portömörnek kell lenniük;	
	b) A másodlagos csomagolásnak portömörnek kell lennie;	
	c) Ha több törékeny elsődleges tartályt helyeznek közös másodlagos csomagolásba, akkor azokat vagy egyedileg be kell burkolni vagy úgy kell elválasztani, hogy ne érintkezhessenek egymással.	
	d) Amennyiben nem zárható ki, hogy a szállítás alatt az elsődleges tartályban visszamaradt folyadék lehet jelen, akkor nedvszívó anyagot tartalmazó, folyékony anyaghoz alkalmas csomagolást kell használni.	
9)	<i>Mélyhűtött vagy fagyasztott minták: Jég, szárazjég és cseppfolyósított nitrogén használata</i>	
	a) Ha a minta hűtéséhez szárazjeget vagy cseppfolyósított nitrogént használnak, a RID minden, erre vonatkozó előírását be kell tartani. A jeget vagy a szárazjeget a másodlagos csomagolás(ok) köré, a külső csomagolásba vagy az egyesítőcsomagolásba kell helyezni. Belső távtartókat kell alkalmazni a másodlagos csomagolás(ok) rögzítésére, hogy a jég vagy a szárazjég eltűnése után eredeti helyzetükben maradjanak. Amennyiben jeget használnak, a külső csomagolásnak, ill. az egyesítőcsomagolásnak folyadéktömörnek kell lennie. Szilárd szén-dioxid (szárazjég) használata esetén a csomagolás kialakításának és összeállításának lehetővé kell tennie a szén-dioxid gáz eltávolítását, hogy ne következhesen be a nyomás növekedése, ami a csomagolás törését okozhatja, és a küldeménydarabot (a külső csomagolást, ill. az egyesítőcsomagolást) a „Szilárd szén-dioxid” vagy a „Szárazjég” felirattal kell ellátni.	
	<b>Megjegyzés:</b> Szárazjég használata esetén más követelmény nincs (lásd a2.2.9.1.14 pontot). Cseppfolyósított nitrogén használata esetén elegendő a 3.3 fejezet 593 különleges előírásának betartása.	
	b) Az elsődleges tartálynak és a másodlagos csomagolásnak meg kell őriznie integritását az alkalmazott hűtőközeg hőmérsékletén, valamint a hűtés megszűnése esetén előálló hőmérsékleteken és nyomásokon is.	
10)	Ha a küldeménydarabok egyesítőcsomagolásban vannak, az ezen csomagolási utasítás szerinti küldeménydarab-jelölésnek jól láthatónak kell lennie, vagy az egyesítőcsomagolás külső felületén meg kell ismételni.	
11)	Amennyiben az UN 3373 alá besorolt, fertőző anyagokat ezen csomagolási utasítás szerint csomagolják, a RID más előírásait nem kell betartani.	
12)	A csomagolóeszköz gyártójának, ill. forgalomba hozójának egyértelmű utasítást kell adnia a küldeménydarabot előkészítő feladóról, ill. személy (pl. beteg) számára arról, hogyan kell megtölteni	



P650 (folyt.)	CSOMAGOLÁSI UTASÍTÁS	P650 (folyt.)
13)	és lezárni, annak érdekében, hogy a küldeménydarabot a szállításhoz megfelelően lehessen előkészíteni. A 6.2 osztályba tartozó fertőző anyaggal azonos csomagolóeszközbe nem csomagolható egyéb veszélyes áru, kivéve, ha a fertőző anyag életképességének fenntartásához, stabilizálásához, degenerálódásának megakadályozásához vagy az általa képviselt veszély hatástalanításához szükséges. Egy fertőző anyagot tartalmazó elsődleges tartályba legfeljebb 30 ml mennyiséget szabad a 3, a 8, ill. a 9 osztályba tartozó veszélyes áruból csomagolni. Ha ilyen kis mennyiségű veszélyes árut ezen csomagolási utasítás szerint csomagolnak egybe fertőző anyaggal, a RID más előírásait nem kell betartani.	
14)	Ha az anyag kiszivárgott és a kocsiban vagy a konténerben kifolyt, ill. szétszóródott, az mindaddig nem használható tovább, amíg alaposan ki nem tisztították és szükség esetén nem fertőtlenítették. Az ugyanabban a kocsiban vagy konténerben szállított minden más árut is meg kell vizsgálni az esetleges szennyeződés szempontjából.	
<b>Kiegészítő követelmény:</b>		
A származási ország <sup>a)</sup> illetékes hatósága az állati eredetű anyagok szállításához más csomagolóeszközt is engedélyezhet a 4.1.8.7 bekezdés szerint.		

- a) *Ha a származási ország nem valamely COTIF Tagállam, a küldemény által érintett első COTIF Tagállam illetékes hatósága.*

P800	CSOMAGOLÁSI UTASÍTÁS	P800
Ezt a csomagolási utasítást az UN 2803 és 2809 tételre kell alkalmazni.		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:		
1) Nyomástartó tartályok, feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják; vagy 2) Menetes zárású acél palackok vagy flakonok legfeljebb 3 liter űrtartalomig; vagy 3) Kombinált csomagolások, amelyek megfelelnek a következő követelményeknek: <ul style="list-style-type: none"> <li>a) a folyadékot tartalmazó belső csomagolóeszköz üveg, fém vagy merev műanyag lehet, egyenként legfeljebb 15 kg nettó tömeggel;</li> <li>b) a belső csomagolóeszközöket elegendő mennyiségű párnázóanyag közé kell csomagolni a törés megakadályozására;</li> <li>c) vagy a belső vagy a külső csomagolóeszközöket el kell látni a tartalmazott anyaggal szemben ellenálló, erős, szivárgásmentes és dőfésálló anyagból készített béléssel vagy belső zsákkal, amely teljesen körül veszi, és megakadályozza az anyag kiszabadulását a csomagolóeszközből, függetlenül a küldeménydarab helyzetétől;</li> <li>d) a következő külső csomagolóeszközök és legnagyobb nettó tömegek alkalmazhatók:</li> </ul>		
Külső csomagolóeszközök:		Legnagyobb nettó tömeg
<b>Hordók</b>		
acélhordók (1A2)		400 kg
fémhordók (acélt és alumíniumot kivéve) (1N2)		400 kg
műanyaghordók (1H2)		400 kg
rétegelt falemez hordók (1D)		400 kg
papírlemez hordók (1G)		400 kg
<b>Ládák</b>		
acélládák (4A)		400 kg
közönséges faládák (4C1)		250 kg
portömör faládák (4C2)		250 kg
rétegelt falemez ládák (4D)		250 kg
farostlemez ládák (4F)		125 kg
papírlemez ládák (4G)		125 kg
habosított műanyag ládák (4H1)		60 kg
tömör műanyag ládák (4H2)		125 kg
<b>Különleges csomagolási előírás:</b>		
<b>PP41</b> Az UN 2803-hoz: ha a galliumot alacsony hőmérsékleten kell szállítani, hogy teljesen szilárd állapotban maradjon, a fenti csomagolásokat erős, vízálló külső csomagolásba lehet helyezni, amely szárazjeget vagy más hűtőszert tartalmaz. Ha hűtőközeget használnak, a gallium csomagolásához használt minden anyagnak kémiaiilag és fizikailag ellenállónak kell lennie a hűtőközeggel szemben, és ütésállónak kell lennie az alkalmazott hűtőközeg alacsony hőmérsékletén. Ha szárazjeget használnak, a külső csomagolásnak lehetővé kell tennie a széndioxid gáz távozását.		

P801	CSOMAGOLÁSI UTASÍTÁS	P801
Ezt a csomagolási utasítást az UN 2794, 2795 és 3028 tétel alá sorolt új vagy használt akkumulátor-telepekre kell alkalmazni.		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1.3 bekezdés kivételével a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:		
1) Merev falú külső csomagolások; 2) Farekeszek; 3) Rakodólapok.		
<b>Kiegészítő követelmények:</b> 1. Az akkumulátorokat védeni kell a rövidzárlattal szemben. 2. Az egymásra halmazolt akkumulátorokat megfelelő módon rögzíteni kell és az egyes sorokat nem vezető anyagból készült réteggel kell elválasztani. 3. Az akkumulátorok sorkapcsait a felette levő tárgyak tömegükkel nem terhelhetik. 4. Az akkumulátorokat úgy kell csomagolni vagy rögzíteni, hogy megakadályozzák nem szándékos elmozdulásukat. Amennyiben párnázóanyagot alkalmaznak, annak inertnek kell lennie.		

P801a	CSOMAGOLÁSI UTASÍTÁS	P801a
Ezt a csomagolási utasítást az UN 2794, 2795, 2800 és 3028 tétel alá sorolt használt akkumulátortelepekre kell alkalmazni.		
Legfeljebb 1 m <sup>3</sup> befogadóképességű, rozsdamentes acélból vagy tömör műanyagból készült akkumulátor ládák használhatók, ha a következő feltételeket betartják:		
1) az akkumulátor ládáknak a szállított akkumulátortelepekben levő maró anyaggal szemben ellenállónak kell lenniük; 2) normális szállítási körülmények között az akkumulátor ládákból semmiféle maró anyag nem szivároghat ki, illetve a ládába más anyag (pl. víz) nem kerülhet be. A szállított akkumulátortelepek által tartalmazott maró anyagból semmilyen maradék nem tapadhat a ládák külsejére; 3) az akkumulátortelepeket a ládába csak a ládák falmagasságáig szabad rakni; 4) nem szabad a ládába sem olyan más veszélyes árut, sem olyan különböző anyagokat tartalmazó akkumulátortelepeket tenni, amelyek egymással veszélyes reakcióba léphetnek; 5) az akkumulátor ládákat vagy <ul style="list-style-type: none"> <li>a) le kell fedni; vagy</li> <li>b) fedett vagy ponyvás kocsiban, ill. zárt vagy ponyvás konténerben kell szállítani.</li> </ul>		

P802	CSOMAGOLÁSI UTASÍTÁS	P802
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:		
1)	Kombinált csomagolások: külső csomagolóeszköz: legnagyobb nettó tömeg: belső csomagolóeszközök: legnagyobb űrtartalom:	1A2, 1B2, 1N2, 1H2, 1D, 4A, 4B, 4C1, 4C2, 4D, 4F vagy 4H2 75 kg üveg vagy műanyag 10 liter;
2)	Kombinált csomagolások: külső csomagolóeszköz:  legnagyobb nettó tömeg: belső csomagolóeszközök: legnagyobb űrtartalom:	1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G vagy 4H2 125 kg fém; 40 liter;
3)	Összetett csomagolóeszközök:   legnagyobb űrtartalom:	üveg tartályok külső acél-, alumínium-, rétegelt falemez vagy tömör műanyag hordóval (6PA1, 6PB1, 6PD1, vagy 6PH2), vagy külső acél- vagy alumíniumládával vagy -rekesszel vagy külső faládával vagy külső vesszőkosárral (6PA2, 6PB2, 6PC vagy 6PD2) 60 liter;
4)	Acélhordó (1A1) legfeljebb 250 liter űrtartalommal;	
5)	Nyomástartó tartályok, feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják.	

P803	CSOMAGOLÁSI UTASÍTÁS	P803
Ezt a csomagolási utasítást az UN 2028 tételre kell alkalmazni.		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:		
1)	Hordók (1A2, 1B2, 1N2, 1H2, 1D, 1G);	
2)	Ládák (4A, 4B, 4C1, 4C2, 4D, 4F, 4G, 4H2);	
	Legnagyobb nettó tömeg: 75 kg.	
A tárgyakat egyenként kell csomagolni és egymástól el kell választani megosztó válaszfalak, osztóbetétek, belső csomagolások vagy párnázóanyag használatával, hogy normális szállítási feltételek között a tárgyak nem szándékos működésbe lépését megakadályozzák.		

P804	CSOMAGOLÁSI UTASÍTÁS	P804
Ezt a csomagolási utasítást az UN 1744 tételre kell alkalmazni.		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják és a csomagolóeszközöket légmentesen lezárják:		
1)	Olyan, legfeljebb 25 kg bruttó tömegű kombinált csomagolás, amely a következőkből áll:	
	– legfeljebb 1,3 liter űrtartalmú, üveg belső csomagolóeszköz(ök), amelyek legfeljebb űrtartalmuk 90%-áig vannak megtöltve, és amelyek zárását valamilyen alkalmas eszközzel zárt helyzetben rögzíteni kell, ami megakadályozza a zárszerkezet kinyílását vagy lazulását a szállítás alatt fellépő ütések vagy rezgések hatására, ezek a belső csomagoló-eszközök egyenként	
	– fém vagy merev falú műanyag tartályba helyezve, az üveg belső csomagolóeszköz(ök) teljes tartalmának felszívására elegendő nedvszívó anyaggal és inert párnázóanyaggal körülvéve, a fém, ill. műanyag tartályok pedig	
	– 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G vagy 4H2 jelű külső csomagolóeszközbe téve.	

- 2) Olyan, legfeljebb 75 kg bruttó tömegű kombinált csomagolás, amelyben a legfeljebb 5 liter űrtartalmú, fém vagy poli(vinilidén-fluorid) (PVDF) belső csomagolóeszközök egyenként a teljes tartalmuk felszívására elegendő nedvszívó anyaggal és inert párnázóanyaggal körülvéve 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G vagy 4H2 jelű külső csomagolóeszköz-ben vannak. A belső csomagolóeszközöket legfeljebb űrtartalmuk 90%-áig szabad megtölteni. A belső csomagolóeszközök zárását valamilyen alkalmas eszközzel zárt helyzetében rögzíteni kell, ami megakadályozza a zárószerkezet kinyílását vagy lazulását a szállítás alatt fellépő ütések vagy rezgések hatására.
- 3) Olyan csomagolás, amelynek:
- külső csomagolóeszköze  
 olyan levehető tetejű (1A2, ill. 1H2 jelű) acél- vagy műanyagbordó, amelyet vagy mint szilárd, ill. folyékony anyag szállítására használt önálló csomagolóeszközt, vagy mint belső csomagolások befogadására szolgáló csomagolóeszközt vizsgáltak a 6.1.5 szakasz vizsgálati követelményei szerint a szállításra összeállított küldeménydarab tömegének megfelelő tömeggel, és ennek megfelelően van jelöléssel ellátva;
  - belső csomagolóeszköze  
 olyan hordó vagy összetett csomagolás (1A1, 1B1, 1N1, 1H1 vagy 6HA1), amely kielégíti a 6.1 fejezet önálló csomagolóeszközökre vonatkozó előírásait, és megfelel a következő feltételeknek:
    - a) a folyadéknnyomás próbát legalább 300 kPa (3 bar) nyomással (túlnyomással) kell végrehajtani;
    - b) a típusvizsgálat során és a minden egyes csomagolóeszközön elvégzendő tömörségi próbát 30 kPa (0,3 bar) próbanyomással kell végrehajtani;
    - c) a külső hordótól lökéscsillapítóként inert párnázóanyaggal kell elválasztani, amelynek a belső csomagolóeszközt minden oldalról körül kell vennie;
    - d) űrtartalma nem haladhatja meg a 125 litert;
    - e) a zárószerkezetnek csavarmenetes kupaknak kell lennie,
      - i) amelyet valamilyen alkalmas eszközzel zárt helyzetében rögzíteni kell, ami megakadályozza a zárószerkezet kinyílását vagy lazulását a szállítás alatt fellépő ütések vagy rezgések hatására;
      - ii) amely légmentesen záró tömítőbetéttel van ellátva;
    - f) a külső és belső csomagolóeszközöket legalább 2,5 évenként belső vizsgálatnak és a b) pont szerint tömörségi próbának kell alávetni; és
    - g) a belső és a külső csomagolóeszközökön jól olvashatóan és tartósan fel kell tüntetni:
      - i) az első alkalommal végzett vizsgálat, az utolsó időszakos vizsgálat és a belső csomagolóeszköz vizsgálatának időpontját (hónap, év) és;
      - ii) a vizsgálatot végző szakértő nevét vagy engedélyezett jelét.
- 4) Nyomástartó tartályok, feltéve, hogy a 4.1.3.6 bekezdés általános előírásait betartják.
- a) A nyomástartó tartályokat üzembe helyezés előtt és azután 10 évenként időszakosan legalább 1 MPa (10 bar) nyomással (túlnyomással) kell vizsgálni;
  - b) A nyomástartó tartályokat legalább 2,5 évenként belső vizsgálatnak és tömörségi próbának kell alávetni;
  - c) A nyomástartó tartályokon semmilyen nyomáscsökkentő szerkezet nem lehet;
  - d) Mindegyik nyomástartó tartályt egy másodlagos zárószerkezettel ellátott dugóval vagy szeleppel (szelepekkel) kell lezárni;
  - e) A nyomástartó tartály szerkezeti anyagának, a szelepek, a dugók, a kimeneti sapkák, a kitt és a tömítések anyagának egymással és a tartalommal összeférhetőnek kell lennie.

<b>P900</b>	<b>CSOMAGOLÁSI UTASÍTÁS</b>	<b>P900</b>
(fenntartva)		

<b>P901</b>	<b>CSOMAGOLÁSI UTASÍTÁS</b>	<b>P901</b>
Ezt a csomagolási utasítást az UN 3316 tételre kell alkalmazni.		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:		

P901	CSOMAGOLÁSI UTASÍTÁS	P901
A vizsgálókészlet, ill. elsősegély felszerelés egészéhez hozzárendelt csomagolási csoportnak megfelelő csomagolóeszközök (lásd a 3.3.1 szakasz 251 különleges előírását). A veszélyes áru legnagyobb mennyisége külső csomagolásonként: 10 kg.		
<b>Kiegészítő követelmény:</b> A készletben, ill. felszerelésben levő veszélyes anyagokat olyan belső csomagolóeszközökbe kell elhelyezni, amelyek tartalma nem haladja meg a 250 ml-t vagy 250 g-ot, és védeni kell a vizsgálókészletekben vagy elsősegély felszerelésekben található más anyagoktól.		

P902	CSOMAGOLÁSI UTASÍTÁS	P902
Ezt a csomagolási utasítást az UN 3268 tételre kell alkalmazni.		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják: A III csomagolási csoport igénybevételi szintjének megfelelő csomagolóeszközök. A csomagolóeszközöket úgy kell tervezni és gyártani, hogy normális szállítási feltételek között a tárgyak elmozdulását és nem szándékos működésbe lépését megakadályozzák. Ezek a tárgyak a gyártási helyről a szerelési helyre e célra készült szállítóeszközben, kocsiban, ill. konténerben csomagolatlanul is szállíthatók.		
<b>Kiegészítő követelmény:</b> A nyomástartó tartályoknak meg kell felelniük az illetékes hatóság által a nyomástartó tartályban levő anyag(ok)ra előírt követelményeknek.		

P903	CSOMAGOLÁSI UTASÍTÁS	P903
Ezt a csomagolási utasítást az UN 3090, 3091, 3480 és 3481 tételre kell alkalmazni.		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják: A II csomagolási csoport igénybevételi szintjének megfelelő csomagolóeszközök. Ha a cellák, ill. akkumulátorok készülékkel egybe vannak csomagolva, akkor a II csomagolási csoportnak megfelelő papírlemez belső csomagolásokba kell azokat helyezni. Ha a 9 osztályba tartozó cellák, ill. akkumulátorok készülékekben vannak, az ilyen készülékeket erős külső csomagolásba kell helyezni, megakadályozva a szállítás alatt a véletlen működésbe lépést. Ezen kívül az erős, ütésálló házzal rendelkező, 12 kg vagy annál nagyobb bruttó tömegű akkumulátorok és az ilyen akkumulátorokból álló szerelvények erős külső csomagolásba helyezve, védőburkolatba (pl. teljesen zárt csomagolásba vagy farekeszbe) helyezve, egyéb csomagolás nélkül, vagy rakodólapon is szállíthatók. Az akkumulátorok rögzítésének meg kell akadályoznia nem szándékos elmozdulásukat, és a sorkapcsokat a felettük levő tárgyak tömegükkel nem terhelhetik.		
<b>Kiegészítő követelmény:</b> Az akkumulátorokat védeni kell a rövidzárlattal szemben.		

<b>P903a</b>	<b>CSOMAGOLÁSI UTASÍTÁS</b>	<b>P903a</b>
Ezt a csomagolási utasítást az UN 3090, 3091, 3480 és 3481 tétel alá tartozó használt cellákra és akkumulátorokra kell alkalmazni.		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1.3 bekezdés kivételével a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:		
<p>A II csomagolási csoport igénybevételi szintjének megfelelő csomagolóeszközök.</p> <p>Nem jóváhagyott csomagolóeszközök is használhatók, de csak akkor, ha</p> <ul style="list-style-type: none"> <li>– kielégítik a 4.1.1 és a 4.1.3 szakasz általános előírásait;</li> <li>– a cellák és az akkumulátorok elhelyezése és halmazolása kizárja a rövidzárlat veszélyét;</li> <li>– a küldeménydarab tömege nem haladja meg a 30 kg-ot.</li> </ul>		
<b>Kiegészítő követelmény:</b>		
Az akkumulátorokat védeni kell a rövidzárlattal szemben.		

<b>P903b</b>	<b>CSOMAGOLÁSI UTASÍTÁS</b>	<b>P903b</b>
Ezt a csomagolási utasítást az UN 3090, 3091, 3480 és 3481 tétel alá tartozó használt cellákra és akkumulátorokra kell alkalmazni.		
Az ártalmatlanítás céljából összegyűjtött, egyenként legfeljebb 500 g bruttó tömegű, használt lítium-cellák és -akkumulátorok akár másféle (nemlítium-) cellákkal és akkumulátorokkal együtt, akár magukban szállíthatók egyedi védelem nélkül a következő feltételekkel:		
<ol style="list-style-type: none"> <li>1) olyan 1H2 jelű hordókban vagy 4H2 jelű ládákban, amelyek szilárd anyagokra a II csomagolási csoport igénybevételi szintjének felelnek meg;</li> <li>2) olyan 1A2 jelű hordókban vagy 4A jelű ládákban, amelyek szilárd anyagokra a II csomagolási csoport igénybevételi szintjének felelnek meg, és olyan polietilén zsákkal vannak ellátva, amelyek: <ul style="list-style-type: none"> <li>– tépőszilárdsága legalább 480 g a zsák hossz- és keresztirányában (gyártásirányban és arra merőlegesen);</li> <li>– vastagsága legalább 500 µ, fajlagos elektromos ellenállása nagyobb 10 MOhm-nál és a vízfelvevő képessége 24 óra alatt, 25 °C-on kisebb 0,01%-nál;</li> <li>– zártnak kell lennie és amely</li> <li>– csak egyszer használható;</li> </ul> </li> <li>3) 30 kg-nál kisebb bruttó tömegű gyűjtő tálcákon, amelyek nemvezető anyagból vannak és a 4.1.1.1, a 4.1.1.2 és a 4.1.1.5 – 4.1.1.8 bekezdések előírásainak megfelelnek.</li> </ol>		
<b>Kiegészítő követelmények:</b>		
A csomagolásban fennmaradó üres teret megfelelő párnázóanyaggal kell kitölteni. A párnázóanyag elhagyható, ha a polietilén zsák a csomagolóeszközt teljesen kitölti és a zsák zárva van.		
A légmentesen zárt csomagolásokat a 4.1.1.8 bekezdés szerint szellőző-szerkezetekkel kell ellátni. A szellőző-szerkezetet úgy kell kialakítani, hogy a gázok által kifejtett túlnyomás ne haladja meg a 10 kPa-t.		

P904	CSOMAGOLÁSI UTASÍTÁS	P904
Ezt a csomagolási utasítást az UN 3245 tételre kell alkalmazni.		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:		
<ol style="list-style-type: none"> <li>1) A III csomagolási csoport igénybevételi szintjének megfelelő, P001 vagy a P002 utasítás szerinti csomagolóeszközök.</li> <li>2) Olyan csomagolóeszközök, amelyeknek nem kell megfelelniük a 6. rész csomagolás vizsgálati előírásainak, de meg kell felelniük a következőknek: <ol style="list-style-type: none"> <li>a) belső csomagolás, amely a következőkből áll: <ol style="list-style-type: none"> <li>i) folyadéktömör elsődleges tartály(ok)ból;</li> <li>ii) folyadéktömör másodlagos csomagolásból, amely szivárgásmentes;</li> <li>iii) az elsődleges tartály(ok) és a másodlagos csomagolás közé helyezett nedvszívó anyagból, amely elegendő mennyiségű az elsődleges tartály(ok) teljes tartalmának felszívására, és a folyékony anyag esetleges kiszabadulása nem eredményezheti sem a párnázóanyag, sem a külső csomagolás sérülését;</li> <li>iv) ha több törékeny elsődleges tartályt helyeznek közös másodlagos csomagolásba, akkor azokat vagy egyedileg be kell burkolni vagy úgy kell elválasztani, hogy ne érintkezhessenek egymással;</li> </ol> </li> <li>b) az anyag térfogatának, tömegének és tervezett használatának megfelelő szilárdságú külső csomagolás, amelynek legkisebb külső mérete legalább 100 mm.</li> </ol> </li> </ol>		
<b>Kiegészítő követelmény:</b>		
<i>Szárazjég és cseppfolyósított nitrogén</i>		
Szilárd szén-dioxid (szárazjég) használata esetén a csomagolás kialakításának és összeállításának lehetővé kell tennie a szén-dioxid gáz eltávozását, hogy ne következhesen be a nyomás növekedése, ami a csomagolóeszköz törését okozhatja.		
A cseppfolyósított nitrogénben vagy szárazjégben szállított anyagokat olyan elsődleges tartályokba kell csomagolni, amelyek ellenállnak a nagyon alacsony hőmérsékleteknek. A másodlagos csomagolásoknak is ellen kell állniuk a nagyon alacsony hőmérsékleteknek és a legtöbb esetben az szükséges, hogy egyedileg illesszék az elsődleges tartályra.		



P905	CSOMAGOLÁSI UTASÍTÁS	P905
Ezt a csomagolási utasítást UN 3072 és 2990 tételre kell alkalmazni.		
Bármilyen alkalmas csomagolás engedélyezett, amennyiben a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják, azzal az eltéréssel, hogy a csomagolóeszközöknek nem kell megfelelniük a 6. rész csomagolás vizsgálati előírásainak. Ha a mentőeszköz kialakítása olyan, hogy egy merev, időjárásálló, külső burkolatban van, vagy az a részét képezi (mint pl. a mentőcsónakoknál), akkor csomagolás nélkül is szállítható.		
<b>Kiegészítő követelmények:</b>		
<ol style="list-style-type: none"> <li>1. Az eszközökön belül levő, veszélyes anyagot vagy tárgyat tartalmazó tartozékokat úgy kell rögzíteni, hogy nem szándékos elmozdulás ne következhesse be, és ezen kívül: <ol style="list-style-type: none"> <li>a) az 1 osztályba tartozó jelzőtesteket műanyag vagy papírlemez belső csomagolóeszközökbe kell tenni;</li> <li>b) a nem gyúlékony, nem mérgező gázokat az illetékes hatóság előírásai szerinti palackba kell tölteni;</li> <li>c) az elektromos akkumulátort (8 osztály) és a lítium akkumulátort (9 osztály) le kell kapcsolni vagy elektromosan szigetelni kell és rögzíteni kell a folyadék kifolyásának megakadályozására; és</li> <li>d) a kis mennyiségű egyéb veszélyes anyagot (például a 3, a 4.1 és az 5.2 osztályba tartozókat) erős belső csomagolóeszközbe kell csomagolni.</li> </ol> </li> <li>2. A szállításra való előkészítés és a csomagolás során intézkedéseket kell fogyanatosítani az eszköz nem szándékos felfűvódásának megakadályozására.</li> </ol>		

P906	CSOMAGOLÁSI UTASÍTÁS	P906
Ezt a csomagolási utasítást az UN 2315, 3151, 3152 és 3432 tételre kell alkalmazni.		
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:		
<ol style="list-style-type: none"> <li>1) PCB-t, polihalogénezett bifenileket vagy terfenileket tartalmazó vagy azzal szennyezett folyékony és szilárd anyagokhoz a P001, ill. a P002 szerinti csomagolóeszközök.</li> <li>2) Transzformátorokhoz, kondenzátorokhoz és egyéb berendezésekhez szivárgásmentes csomagolóeszközök, amelyek képesek a berendezésben levő folyékony PCB-k, polihalogénezett bifenilek vagy terfenilek legalább 1,25-szorosának befogadására. A csomagolóeszközben megfelelő mennyiségű inert anyagnak kell lennie, amely a berendezésben levő folyékony anyag legalább 1,1-szeresét képes felszívni. Általában a transzformátorokat és kondenzátorokat olyan szivárgásmentes fém csomagolóeszközökben kell szállítani, amelyek képesek a transzformátorokon és kondenzátorokon túl a bennük levő folyékony anyag legalább 1,25-szorosának befogadására.</li> </ol> <p>Az előzőeken kívül azok a folyékony és szilárd anyagok, amelyek nem a P001 és a P002 utasítás szerint vannak csomagolva, ill. a csomagolatlan transzformátorok és kondenzátorok olyan szállítóegységben is szállíthatók, amely legalább 800 mm magas, szivárgásmentes fémtálcával van ellátva, amely kielégítő mennyiségű nedvszívó anyagot tartalmaz az esetleges folyadék legalább 1,1-szeresének felszívására.</p>		
<b>Kiegészítő követelmény:</b>		
Megfelelő intézkedéseket kell tenni a transzformátorok és kondenzátorok lezárására, hogy megakadályozzák a szivárgást normális szállítási körülmények között.		

R001		CSOMAGOLÁSI UTASÍTÁS		R001
A következő csomagolóeszközök használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják.				
Finomlemez csomagolóeszközök		Legnagyobb úrtartalom/legnagyobb nettó tömeg		
	I csomagolási csoport	II csomagolási csoport	III csomagolási csoport	
acél, nem levehető tetővel (0A1)	Nem használható	40 l / 50kg	40 l / 50kg	
acél, levehető tetővel (0A2) <sup>a)</sup>	Nem használható	40 l / 50kg	40 l / 50kg	
a) Az UN 1261 nitro-metánhoz nem használható.				

- Megjegyzés:** 1. Ez az utasítás folyékony és szilárd anyagokhoz is használható, feltéve, hogy a csomagolóeszköz gyártási típusát ennek megfelelően vizsgálták, ill. látták el jelöléssel.
2. A 3 osztály, II csomagolási csoportjába tartozó anyagok közül ezek a csomagolóeszközök csak olyan anyagokhoz használhatók, amelyek nem rendelkeznek járulékos veszéllyel és gőznyomásuk nem haladja meg 50 °C-on a 110 kPa-t, valamint az enyhén mérgező peszticidekhez.

#### 4.1.4.2 Az IBC-k használatára vonatkozó csomagolási utasítások

<b>IBC01 CSOMAGOLÁSI UTASÍTÁS IBC01</b>
A következő IBC-k használhatók, feltéve, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános előírásait betartják: Fém IBC-k (31A, 31B és 31N).
<b>Csak a RID és az ADR szerinti szállításhoz érvényes különleges csomagolási előírás:</b>
<b>BB1</b> Az UN 3130-hoz: a tartályok nyílásait két, egymás mögött elhelyezett szerkezettel tömören le kell zárni, melyek közül az egyiknek csavarmentesnek vagy azonos értékű módon rögzítettnek kell lennie.

<b>IBC02 CSOMAGOLÁSI UTASÍTÁS IBC02</b>
A következő IBC-k használhatók, feltéve, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános előírásait betartják:
1) Fém IBC-k (31A, 31B és 31N);
2) Merev falú műanyag IBC-k (31H1 és 31H2);
3) Összetett IBC-k (31HZ1).
<b>Különleges csomagolási előírások:</b>
<b>B5</b> Az UN 1791, 2014, 2984 és 3149-hez: az IBC-ket olyan szerkezettel kell ellátni, amely lehetővé teszi a szállítás alatti szellőzést. A szellőző-szerkezet bemenetének a legnagyobb töltési fok mellett is az IBC gőzterében kell maradnia a szállítás alatt.
<b>B7</b> Az UN 1222 és 1865-höz: 450 liternél nagyobb úrtartalmú IBC-k nem használhatók, mivel az anyag nagy mennyiségben szállítva robbanásveszélyes lehet.
<b>B8</b> Ez az anyag tiszta formában nem szállítható IBC-ben, mivel ismeretes, hogy gőznyomása 50 °C-on nagyobb 110 kPa-nál, ill. 55 °C-on nagyobb 130 kPa-nál.
<b>B15</b> Az 55%-nál több tiszta savat tartalmazó UN 2031 salétomsav oldat szállítására használt merev falú műanyag IBC-k és merev falú műanyag belső tartállyal rendelkező összetett IBC-k megengedett használati időtartama a gyártásuk időpontjától számított 2 év.
<b>Csak a RID és az ADR szerinti szállításhoz érvényes különleges csomagolási előírás:</b>
<b>BB2</b> Az UN 1203-hoz: az 534 különleges előírástól (lásd a 3.3.1 szakaszt) eltérően IBC csak akkor használható, ha a tényleges gőznyomás 50 °C-on legfeljebb 110 kPa, ill. 55 °C-on legfeljebb 130 kPa.

IBC03	CSOMAGOLÁSI UTASÍTÁS	IBC03
A következő IBC-k használhatók, feltéve, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános előírásait betartják:		
1) Fém IBC-k (31A, 31B és 31N); 2) Merev falú műanyag IBC-k (31H1 és 31H2); 3) Összetett IBC-k (31HZ1, 31HA2, 31HB2, 31HN2, 31HD2 és 31HH2).		
<b>Különleges csomagolási előírás:</b>		
<b>B8</b> Ez az anyag tiszta formában nem szállítható IBC-ben, mivel ismeretes, hogy gőznyomása 50 °C-on nagyobb 110 kPa-nál, ill. 55 °C-on nagyobb 130 kPa-nál.		
IBC04	CSOMAGOLÁSI UTASÍTÁS	IBC04
A következő IBC-k használhatók, feltéve, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános előírásait betartják: Fém IBC-k (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B és 31N).		
IBC05	CSOMAGOLÁSI UTASÍTÁS	IBC05
A következő IBC-k használhatók, feltéve, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános előírásait betartják:		
1) Fém IBC-k (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B és 31N); 2) Merev falú műanyag IBC-k (11H1, 11H2, 21H1, 21H2, 31H1 és 31H2); 3) Összetett IBC-k (11HZ1, 21HZ1 és 31HZ1).		
IBC06	CSOMAGOLÁSI UTASÍTÁS	IBC06
A következő IBC-k használhatók, feltéve, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános előírásait betartják:		
1) Fém IBC-k (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B és 31N); 2) Merev falú műanyag IBC-k (11H1, 11H2, 21H1, 21H2, 31H1 és 31H2); 3) Összetett IBC-k (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 és 31HZ2).		
<b>Kiegészítő követelmény:</b>		
11HZ2 és 21HZ2 jelű összetett IBC-k nem használhatók, ha a szállítandó anyag a szállítás alatt folyékonyvá válhat.		
<b>Különleges csomagolási előírás:</b>		
<b>B12</b> Az UN 2907-hez: az IBC-knek a II csomagolási csoport igénybevételi szintjének kell megfelelniük. Az I csomagolási csoport igénybevételi szintjének megfelelő IBC-k nem használhatók.		
IBC07	CSOMAGOLÁSI UTASÍTÁS	IBC07
A következő IBC-k használhatók, feltéve, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános előírásait betartják:		
1) Fém IBC-k (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B és 31N); 2) Merev falú műanyag IBC-k (11H1, 11H2, 21H1, 21H2, 31H1 és 31H2); 3) Összetett IBC-k (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 és 31HZ2); 4) Fa IBC-k (11C, 11D és 11F).		
<b>Kiegészítő követelmény:</b>		
A fa IBC-k belésének portömörnek kell lennie.		

IBC08	CSOMAGOLÁSI UTASÍTÁS	IBC08
A következő IBC-k használhatók, feltéve, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános előírásait betartják:		
1)	Fém IBC-k (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B és 31N);	
2)	Merev falú műanyag IBC-k (11H1, 11H2, 21H1, 21H2, 31H1 és 31H2);	
3)	Összetett IBC-k (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 és 31HZ2);	
4)	Papírlemez IBC-k (11G);	
5)	Fa IBC-k (11C, 11D és 11F);	
6)	Hajlékony falú IBC-k (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 és 13M2).	
<b>Különleges csomagolási előírások:</b>		
<b>B3</b>	A hajlékony falú IBC-knek portömörnek és vízállónak kell lenniük, vagy el kell látni portömör és vízálló béléssel.	
<b>B4</b>	A hajlékony falú, a papírlemez és a fa IBC-knek portömörnek és vízállónak kell lenniük, vagy el kell látni portömör és vízálló béléssel.	
<b>B6</b>	Az UN 1363, 1364, 1365, 1386, 1408, 1841, 2211, 2217, 2793 és 3314 tételekhez: az IBC-knek nem kell kielégíteniük a 6.5 fejezetnek az IBC-k vizsgálatára vonatkozó követelményeit.	
<b>B13</b>	<i>Megjegyzés: Az UN 1748, 2208 és 2880 anyagai az IMDG Kódex szerint IBC-ben tengeren nem szállíthatók.</i>	

IBC99	CSOMAGOLÁSI UTASÍTÁS	IBC99
Csak az illetékes hatóság által, ezen áruhoz jóváhagyott IBC-k használhatók. Az illetékes hatóság jóváhagyásának másolatát a küldeményhez mellékelni kell, vagy a fuvarokmányban utalni kell arra, hogy a csomagolóeszközt az illetékes hatóság jóváhagyta.		

IBC100	CSOMAGOLÁSI UTASÍTÁS	IBC100
Ezt a csomagolási utasítást az UN 0082, 0241, 0331 és 0332 tételre kell alkalmazni.		
A következő IBC-k használhatók, feltéve, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános előírásait, valamint a 4.1.5 szakasz különleges előírásait betartják:		
1)	Fém IBC-k (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B és 31N);	
2)	Hajlékony falú IBC-k (13H2, 13H3, 13H4, 13L2, 13L3, 13L4 és 13M2);	
3)	Merev falú műanyag IBC-k (11H1, 11H2, 21H1, 21H2, 31H1 és 31H2);	
4)	Összetett IBC-k (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 és 31HZ2).	
<b>Kiegészítő követelmények:</b>		
1.	IBC-k csak a szabadon folyó anyagokhoz használhatók.	
2.	Hajlékony falú IBC-k csak szilárd anyagokhoz használhatók.	
<b>Különleges csomagolási előírások:</b>		
<b>B9</b>	Az UN 0082-höz: ez a csomagolási utasítás csak akkor alkalmazható, ha az anyag ammónium-nitrát vagy más szervesetlen nitrátok egyéb éghető anyagokkal alkotott keveréke, amelyek nem robbanó alkotórészek. Az ilyen robbanóanyagok nem tartalmazhatnak nitroglicerint, hasonló folyékony szerves nitrátokat vagy klorátokat. Fém IBC-k nem használhatók.	
<b>B10</b>	Az UN 0241-hez: ez a csomagolási utasítás csak olyan anyaghoz használható, amely fő alkotórészként vizet és nagy mennyiségben ammónium-nitrátot vagy más oxidálószer tartalmaz, amely részben vagy teljes egészében oldott állapotban van. A további alkotórészek lehetnek szénhidrogének vagy alumíniumpor, de nem tartalmazhat nitrovegyületeket, pl. trinitro-toluolt. Fém IBC-k nem használhatók.	

IBC520	CSOMAGOLÁSI UTASÍTÁS		IBC520
Ezt a csomagolási utasítást az F típusú szerves peroxidokra és önreaktív anyagokra kell alkalmazni.			
A következőkben felsorolt IBC-kben a felsorolt készítmények szállíthatók, amennyiben a 4.1.1, a 4.1.2 és a 4.1.3 szakasz általános előírásait és a 4.1.7.2 bekezdés különleges előírásait betartják.			
Az alábbi felsorolásban nem szereplő készítményekhez csak az illetékes hatóság által engedélyezett IBC-k használhatók (lásd a 4.1.7.2.2 pontot).			
UN szám	Szerves peroxid	Az IBC típusa	Legnagyobb mennyiség (l/kg)
3109	<b>F TÍPUSÚ, FOLYÉKONY SZERVES PEROXID</b>		
	terc-Butil-hidroperoxid, legfeljebb 72%-os, vízzel	31A	1250
	terc-Butil-peroxi-acetát, legfeljebb 32%-os, A típusú hígítóval	31A 31HA1	1250 1000
	terc-Butil-peroxi-benzoát, legfeljebb 32%-os, A típusú hígítóval	31A	1250
	terc-Butil-peroxi-3,5,5-trimetil-hexanoát, legfeljebb 37%-os, A típusú hígítóval	31A 31HA1	1250 1000
	Kumil-hidroperoxid, legfeljebb 90%-os, A típusú hígítóval	31HA1	1250
	Dibenzoil-peroxid, legfeljebb 42%-os, stabil vizes diszperzió	31H1	1000
	Di-terc-butil-peroxid, legfeljebb 52%-os, A típusú hígítóval	31A 31HA1	1250 1000
	1,1-Di-(terc-butyl-peroxi)-ciklohexán, legfeljebb 37%-os, A típusú hígítóval	31A	1250
	1,1-Di-(terc-butyl-peroxi)-ciklohexán, legfeljebb 42%-os, A típusú hígítóval	31H1	1000
	Dilauroil-peroxid, legfeljebb 42%-os, stabil vizes diszperzió	31HA1	1000
	Izopropil-kumil-hidroperoxid, legfeljebb 72%-os, A típusú hígítóval	31HA1	1250
	p-Mentil-hidroperoxid, legfeljebb 72%-os, A típusú hígítóval	31HA1	1250
	Peroxi-ecetsav, stabilizált, legfeljebb 17%-os	31H1 31HA1 31A	1500 1500 1500
3110	<b>F TÍPUSÚ, SZILÁRD SZERVES PEROXID</b>		
	Dikumil-peroxid	31A 31H1 31HA1	2000 2000 2000

**Kiegészítő követelmények:**

- Az IBC-ket olyan szerkezettel kell ellátni, amely lehetővé teszi a szállítás alatti szellőzést. A szellőző-szerkezet bemenetének a legnagyobb töltési fok mellett is az IBC gőzterében kell maradnia a szállítás alatt.
- A fém IBC-k vagy teljes falú fémburkolattal rendelkező összetett IBC-k robbanásszerű felhasadásának elkerülésére a vészlefúvó-szerkezetnek olyannak kell lennie, hogy az összes bomlástermék és gőz eltávozhasson, ami az öngyorsuló bomlás során fejlődik, vagy akkor, ha legalább egy óráig olyan láng veszi körül, amely a 4.2.1.13.8 pont szerinti vagy a 6.8.4 szakasz TE12 különleges előírásában megadott képlettel jellemezhető.

IBC620	CSOMAGOLÁSI UTASÍTÁS	IBC620
Ezt az utasítást az UN 3291 tételre kell alkalmazni.		
A következő IBC-k használhatók, feltéve, hogy a 4.1.1, 4.1.2 és 4.1.3 szakasz általános előírásait betartják: A II csomagolási csoport teljesítőképességi szintjének megfelelő merev falú, szivárgásmentes IBC-k.		
<b>Kiegészítő követelmények:</b>		
1. Elegendő mennyiségű nedvszívó anyagnak kell lenni az IBC-ben levő folyadék teljes mennyiségének felszívásához.		
2. Az IBC-nek alkalmasnak kell lennie a folyékony anyag megtartására.		
3. Az éles tárgyakat, pl. törött üvegeket, tüket tartalmazó IBC-nek dőfésállónak kell lennie.		

#### 4.1.4.3 A nagycsomagolások használatára vonatkozó csomagolási utasítások

LP01		CSOMAGOLÁSI UTASÍTÁS (folyékony anyaghoz)			LP01
A következő nagycsomagolások használhatók, feltéve, hogy a 4.1.1 és 4.1.3 szakasz általános előírásait betartják.					
Belső csomagolóeszközök		Külső nagycsomagolások	I csomagolási csoport	II csomagolási csoport	III csomagolási csoport
Üveg	10 l	Acél (50A)	Nem használható	Nem használható	Legnagyobb űrtartalom 3 m <sup>3</sup>
Műanyag	30 l	Alumínium (50B)			
Fém	40 l	Fém (acélt és alumíniumot kivéve) (50N)			
		Merev falú műanyag (50H)			
		Közönséges fa (50C)			
		Rétegelt falemez (50D)			
		Farostlemez (50F)			
		Merev falú papírlemez (50G)			

LP02		CSOMAGOLÁSI UTASÍTÁS			LP02
(szilárd anyaghoz)					
A következő nagycsomagolások használhatók, feltéve, hogy a 4.1.1 és 4.1.3 szakasz általános előírásait betartják:					
Belső csomagolóeszközök		Külső nagycsomagolások	I csomagolási csoport	II csomagolási csoport	III csomagolási csoport
Üveg	10 kg	Acél (50A)	Nem használható	Nem használható	Legnagyobb űrtartalom 3 m <sup>3</sup>
Műanyag <sup>b)</sup>	50 kg	Alumínium (50B)			
Fém	50 kg	Fém (acélt és alumíniumot kivéve) (50N)			
Papír <sup>a), b)</sup>	50 kg	Merev falú műanyag (50H)			
Papírlemez <sup>a), b)</sup>	50 kg	Közönséges fa (50C)			
		Rétegelt falemez (50D)			
		Farostlemez (50F)			
		Merev falú papírlemez (50G)			
		Hajlékony falú műanyag (51H) <sup>c)</sup>			
Különleges csomagolási előírás:					
L2	Az UN 1950 aeroszolokhoz használt nagycsomagolásoknak a III csomagolási csoport követelményeinek kell megfelelniük. A 327 különleges előírás szerint szállított, hulladékká vált aeroszolokhoz használt nagycsomagolásokat ezen kívül olyan eszközzel (pl. nedvszívó anyaggal) kell ellátni, ami a szállítás alatt esetleg szabaddá váló folyadékot képes visszatartani.				

a) Ez a csomagolóeszköz nem használható, ha a szállított anyag a szállítás alatt folyékonnyá válhat.

b) A csomagolóeszköznek portömörnek kell lennie.

c) Csak hajlékony falú belső csomagolásokhoz használható.

LP99	CSOMAGOLÁSI UTASÍTÁS	LP99
Csak az illetékes hatóság által ezen árukhoz jóváhagyott csomagolóeszközök használhatók. Az illetékes hatóság jóváhagyásának másolatát a küldeményhez mellékelni kell, vagy a fuvarokmányban utalni kell arra, hogy a csomagolóeszközt az illetékes hatóság jóváhagyta.		

LP101 CSOMAGOLÁSI UTASÍTÁS LP101		
A következő nagycsomagolások használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.		
Belső csomagolóeszközök	Köztes csomagolóeszközök	Külső nagycsomagolások
Nem szükséges	Nem szükséges	Acél (50A) Alumínium (50B) Fém (acélt és alumínium kivéve) (50N) Merev falú műanyag (50H) Közöséges fa (50C) Rétegelt falemez (50D) Farostlemez (50F) Merev falú papírlémez (50G)
<b>Különleges csomagolási előírás:</b> <b>L1</b> Az UN 0006, 0009, 0010, 0015, 0016, 0018, 0019, 0034, 0035, 0038, 0039, 0048, 0056, 0137, 0138, 0168, 0169, 0171, 0181, 0182, 0183, 0186, 0221, 0243, 0244, 0245, 0246, 0254, 0280, 0281, 0286, 0287, 0297, 0299, 0300, 0301, 0303, 0321, 0328, 0329, 0344, 0345, 0346, 0347, 0362, 0363, 0370, 0412, 0424, 0425, 0434, 0435, 0436, 0437, 0438, 0451, 0488 és 0502 számhoz: A rendszerint katonai célú, nagyméretű, robusztus robbanótárgyak gyújtószerkezeteik nélkül vagy gyújtószerkezettel, de legalább két hatékony védőszerkezettel csomagolatlanul szállíthatók. Ha az ilyen tárgyak hajtótöltetet tartalmaznak vagy önhajtók, akkor gyújtórendszereiket védeni kell a normális szállítási feltételek melletti működésbe lépéssel szemben. Ha a csomagolatlan tárgy a 4 vizsgálati sorozatban negatív eredményt ad, ez jelzi, hogy az csomagolás nélküli szállításra figyelembe vehető. Az ilyen csomagolatlan tárgyak csúszótalpakra erősíthetők vagy keretekbe vagy más alkalmas anyagmozgató eszközbe helyezhetők.		

LP102 CSOMAGOLÁSI UTASÍTÁS LP102		
A következő nagycsomagolások használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait és a 4.1.5 szakasz különleges előírásait betartják.		
Belső csomagolóeszközök	Köztes csomagolóeszközök	Külső nagycsomagolások
<b>Zsákok</b> vízálló <b>Tartályok</b> papírlémezből fémből műanyagból fából <b>Burkolatok</b> hullámpapírlémezből <b>Hüvelyek</b> papírlémezből	Nem szükséges	Acél (50A) Alumínium (50B) Fém (acélt és alumínium kivéve) (50N) Merev falú műanyag (50H) Közöséges fa (50C) Rétegelt falemez (50D) Farostlemez (50F) Merev falú papírlémez (50G)



LP621	CSOMAGOLÁSI UTASÍTÁS	LP621
Ezt a csomagolási utasítást az UN 3291 tételre kell alkalmazni.		
A következő nagycsomagolások használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános csomagolási előírásait betartják:		
1) Belső csomagolóeszközökbe helyezett kórházi hulladékhoz: a 6.6 fejezet előírásait szilárd anyagokra, a II csomagolási csoportra kielégítő merev falú, szivárgásmentes nagycsomagolások, amennyiben elegendő nedvszívó anyagot tartalmaznak a teljes folyadékmennyiség felszívására és folyadék megtartására alkalmas nagycsomagolások. 2) Nagyobb mennyiségű folyadékot tartalmazó küldeménydarabokhoz: a 6.6 fejezet előírásait folyékony anyagokra a II csomagolási csoportra kielégítő nagycsomagolások.		
<b>Kiegészítő követelmény:</b> Az éles tárgyakat, pl. törött üvegeket, tüket tartalmazó nagycsomagolásoknak dőfésállónak kell lenniük, és meg kell tartaniuk a folyékony anyagokat a 6.6 fejezet szerinti vizsgálati körülmények között.		

LP902	CSOMAGOLÁSI UTASÍTÁS	LP902
Ezt a csomagolási utasítást az UN 3268 tételre kell alkalmazni.		
A következő nagycsomagolások használhatók, feltéve, hogy a 4.1.1 és a 4.1.3 szakasz általános előírásait betartják:		
A III csomagolási csoport igénybevételi szintjének megfelelő csomagolóeszközök. A csomagolóeszközöket úgy kell tervezni és gyártani, hogy normális szállítási feltételek között a tárgyak elmozdulását és nem szándékos működésbe lépését megakadályozzák. Ezek a tárgyak a gyártási helyről a szerelési helyre e célra készült szállítóeszközben, kocsiban, ill. konténerben csomagolatlanul is szállíthatók.		
<b>Kiegészítő követelmény:</b> Az esetleges nyomástartó tartályoknak meg kell felelniük az illetékes hatóságnak a nyomástartó tartályban levő anyag(ok)ra vonatkozó követelményeinek.		

**4.1.4.4** (törölve)

#### **4.1.5 Különleges csomagolási előírások az 1 osztály áruhoz**

**4.1.5.1** A 4.1.1 szakasz általános előírásait be kell tartani.

**4.1.5.2** Az 1 osztály áruhoz használt minden csomagolóeszközt úgy kell tervezni és kivitelezni, hogy

- a robbanóanyagok és robbanótárgyak védve legyenek, ne szabadulhassanak ki, és normális szállítási feltételek között, beleértve a várható hőmérséklet-, páratartalom- vagy nyomásváltozásokat, a nem szándékos begyűjtés vagy beindulás veszélye ne növekedjen;
- a teljes küldeménydarab normális szállítási feltételek mellett biztonságosan kezelhető legyen; és
- a küldeménydarabok ellenálljanak azon halmazolási terhelésnek, aminek a szállítás során várhatóan ki lehetnek téve, úgy, hogy ne növekedjen a robbanóanyag által képviselt veszély, a csomagolások árumegtartó funkciója ne szenvedjen kárt és ne deformálódjanak olyan mértékben vagy módon, ami azután csökkenti szilárdságukat vagy a halmaz instabilitását okozná.

**4.1.5.3** Minden robbanóanyagot és robbanótárgyat feladásra kész állapotban a 2.2.1 szakaszban leírt eljárás szerint be kell sorolni.

**4.1.5.4** Az 1 osztály áruit a 3.2 fejezet „A” táblázat 8 oszlopában található csomagolási utasítások szerint kell csomagolni, amelyek a 4.1.4 szakaszban vannak részletezve.

- 4.1.5.5** A csomagolóeszközöknek, IBC-knek és nagycsomagolásoknak ki kell elégíteniük a 6.1, a 6.5, ill. a 6.6 fejezet követelményeit és a 6.1.5, a 6.5.6, ill. a 6.6.5 szakaszban II csomagolási csoportra előírt vizsgálati követelményeket, figyelembe véve a 4.1.1.13, a 6.1.2.4 bekezdés és a 6.5.1.4.4 pont előírásait is. Az I csomagolási csoport előírásait kielégítő, nem fém csomagolóeszközök ugyancsak használhatók. A szükségtelen fojtás elkerülésére az I csomagolási csoport fém csomagolóeszközei nem használhatók.
- 4.1.5.6** A folyékony robbanóanyagokat tartalmazó csomagolóeszközök zárószervezeteinek a szivárgás elkerülésére kettős tömítésűnek kell lenniük.
- 4.1.5.7** A fémhordók zárószervezetét megfelelő tömítéssel kell ellátni; ha a zárószervezet csavarmentes kialakítású, a robbanóanyagnak nem szabad a csavarmenetbe bejutnia.
- 4.1.5.8** A vízzeloldható robbanóanyagokhoz használt csomagolóeszközöknek vízállónak kell lenniük. Az érzéketlenített vagy flegmatizált anyagokhoz használt csomagolóeszközöknek a koncentráció változásának megakadályozására a szállítás alatt zárva kell lenniük.
- 4.1.5.9** fenntartva
- 4.1.5.10** Szegek, kapcsok és más fém zárószervezetek, amelyek nincsenek védőbevonattal ellátva, nem hatolhatnak be a külső csomagolás belsejébe, hacsak a belső csomagolás nem védi kellőképpen a robbanóanyagokat és robbanótárgyakat a fémmel való érintkezéstől.
- 4.1.5.11** A belső csomagolásoknak, távtartóknak, párnázó- (tömítő-) anyagoknak, valamint a robbanóanyagok vagy robbanótárgyak elrendezésének a küldeménydarabokban olyannak kell lennie, ami megakadályozza hogy a robbanóanyag szabaddá váljon a külső csomagolás belsejében normális szállítási feltételek mellett. Meg kell akadályozni, hogy a tárgyak fém alkatrészei a fém csomagolóeszközökkel érintkezésbe kerülhessenek. A robbanóanyagot tartalmazó olyan tárgyakat, amelyek nincsenek külső burkolatba helyezve, el kell választani egymástól, hogy megakadályozzuk a súrlódást és a felütközést. Erre a célra a belső vagy a külső csomagolást megosztó párnázó válaszfalak, fészkek vagy tartályok használhatók.
- 4.1.5.12** A csomagolóeszközöket a küldeménydarabban levő robbanóanyagokkal összeférhető és azokkal szemben áthatolhatatlan anyagból kell készíteni, úgy, hogy sem a robbanóanyagok és a csomagolóanyagok közötti kölcsönhatás, sem szivárgás ne következhesen be, aminek eredményeként a robbanóanyag szállítása a továbbiakban nem lenne biztonságos vagy a veszélyességi alosztálya vagy összeférhetőségi csoportja megváltozna.
- 4.1.5.13** Meg kell akadályozni a robbanóanyagok behatolását a korcolt fém csomagolóeszközök illesztéseibe.
- 4.1.5.14** A műanyag csomagolóeszközök nem lehetnek hajlamosak olyan mértékű sztatikus elektromosság gerjesztésére vagy felhalmozására, aminek a kisülése a becsomagolt robbanóanyag begyújtását vagy a robbanótárgy működésbe lépését okozhatja.
- 4.1.5.15** A rendszerint katonai célú, nagyméretű, robusztus robbanótárgyak, gyújtószervezeteik nélkül, vagy gyújtószervezettel, de legalább két hatékony védőszervezettel, csomagolatlanul szállíthatók. Ha az ilyen tárgyak hajtótöltetet tartalmaznak vagy önhajtók, akkor gyújtórendszereiket védeni kell a normális szállítási feltételek melletti működésbelépéssel szemben. Ha a csomagolatlan tárgy a 4. vizsgálati sorozatban negatív eredményt ad, ez jelzi, hogy az csomagolás nélküli szállításra figyelembe vehető. Az ilyen csomagolatlan tárgyak csúszótalpakra erősíthetők vagy keretekbe vagy más alkalmas kezelő-, tárolóeszközbe vagy indítóállványba helyezhetők oly módon, hogy normális szállítási körülmények között ne lazulhassanak ki. Amennyiben ezeket a nagyméretű robbanótárgyakat az üzembiztonsági és alkalmassági vizsgálataik keretében olyan vizsgálatoknak is alávetik, amelyek megfelelnek a RID céljainak, és e vizsgálatokat sikerrel kiállják, az illetékes hatóság engedélyezheti ezen tárgyak RID szerinti szállítását.

- 4.1.5.16** A robbanóanyagokat nem szabad olyan belső vagy külső csomagolóeszközökbe csomagolni, amelyeknél a külső és belső nyomás között termikus vagy más hatások eredményeként létrejövő különbségek a küldeménydarab robbanását vagy törését okozhatják.
- 4.1.5.17** Amennyiben a szabadon levő robbanóanyag vagy a zárt ház nélküli vagy csak részben tokozott tárgy robbanóanyaga fém csomagolóeszközök (1A2, 1B2, 4A, 4B és fémtartályok) belső felületével érintkezhet, a fém csomagolóeszközt el kell látni belső bevonattal vagy béléssel (lásd a 4.1.1.2 bekezdést).
- 4.1.5.18** A P101 csomagolási utasítás bármely robbanóanyaghoz használható, amennyiben a csomagolóeszközt az illetékes hatóság engedélyezte, függetlenül attól, hogy a csomagolóeszköz megfelel-e a 3.2 fejezet „A” táblázat 8 oszlopában feltüntetett csomagolási utasításnak.
- 4.1.6** **Különleges csomagolási előírások a 2 osztály, ill. a többi osztály olyan áruira, amelyekre a P200 csomagolási utasítás vonatkozik**
- 4.1.6.1** Ez a szakasz a 2 osztály gázainak, ill. más osztályok P200 csomagolási utasítás alá tartozó anyagainak (pl. UN 1051 hidrogén-cianid, stabilizált) a szállításához használt nyomástartó tartályok és nyitott mélyhűtő tartályok használatára vonatkozó általános követelményeket tartalmazza. A nyomástartó tartályokat úgy kell gyártani és lezárni, hogy elkerülhető legyen a tartalom bármilyen szivárgása. Ez a szokásos szállítási körülmények között különösen a rezgésekből, illetve a hőmérséklet, a páratartalom vagy a nyomás változásából adódhat (pl. a tengerszint feletti magasság változásának eredményeként).
- 4.1.6.2** A nyomástartó tartályok és a nyitott mélyhűtő tartályok veszélyes áruval közvetlenül érintkező részeit a veszélyes áru nem támadhatja meg, sem lényegesen nem gyengítheti, és ezek a részek nem okozhatnak veszélyes hatást (pl. reakció katalizálását vagy a veszélyes áruval való reakciót) (lásd a szakasz végén a szabványok szabványok táblázatát is).
- 4.1.6.3** Egy adott gázhoz vagy gázkeverékhez a nyomástartó tartályt, annak zárószerkezetét, ill. a nyitott mélyhűtő tartályt úgy kell megválasztani, hogy megfeleljen a 6.2.1.2 bekezdés és a 4.1.4.1 bekezdés vonatkozó csomagolási utasítása követelményeinek. Ezt a bekezdést azokra a nyomástartó tartályokra is alkalmazni kell, amelyek MEG-konténerek, ill. battériás kocsik elemeit képezik.
- 4.1.6.4** Az újratölthető nyomástartó tartályokat a használat megváltoztatása esetén a biztonságos üzemeltetéshez szükséges mértékben ki kell üríteni, ki kell tisztítani, ill. gáztalanítani kell (lásd a szakasz végén a szabványok táblázatát is). Ezenkívül azok a nyomástartó tartályok, amelyek előzőleg 8 osztályba tartozó maró anyagot, vagy más osztályokba tartozó, maró járulékos veszéllyel rendelkező anyagot tartalmaztak, a 2 osztály anyagaihoz csak akkor használhatók, ha elvégezték a 6.2.1.6, ill. 6.2.3.5 bekezdésben meghatározott, szükséges vizsgálatokat.
- 4.1.6.5** Töltés előtt a csomagolónak meg kell vizsgálnia a nyomástartó tartályt, ill. a nyitott mélyhűtő tartályt és meg kell győződnie arról, hogy a nyomástartó tartály, ill. a nyitott mélyhűtő tartály a szállítandó anyaghoz engedélyezett és megfelel a követelményeknek. Töltés után a zárószelepeket el kell zárni és a szállítás alatt zárva kell tartani. A feladónak ellenőriznie kell, hogy a zárószerkezet és a szerelvények nem szivárognak-e.
- Megjegyzés:** A palackkötegben levő egyedi palackok zárószelepei a szállítás alatt nyitva lehetnek, kivéve ha a szállított anyagra a P200 csomagolási utasításban a "k" vagy "q" különleges csomagolási előírás vonatkozik.*
- 4.1.6.6** A nyomástartó tartályokat, ill. a nyitott mélyhűtő tartályokat a betöltendő anyagra vonatkozó csomagolási utasításban meghatározott üzemi nyomás, töltési fok és töltési előírások betartásával kell megtölteni. A bomlásra hajlamos gázokat és gázkeverékeket olyan

nyomásig kell tölteni, hogy a nyomástartó tartályban a nyomás a gáz teljes mennyiségének elbomlása esetén se haladja meg az üzemi nyomást. A palackkötegek palackjait nem szabad a kötegben levő legkisebb üzemi nyomású palack üzemi nyomása fölé tölteni.

**4.1.6.7** A nyomástartó tartályoknak és zárószerkezeteiknek meg kell felelniük a 6.2 fejezetben részletezett tervezési, gyártási, ellenőrzési és vizsgálati követelményeknek. Ha külső csomagolás van előírva, abban a nyomástartó tartályokat, ill. a nyitott mélyhűtő tartályokat szilárdan rögzíteni kell. Ha a vonatkozó csomagolási utasításban nincs más előírva, a belső csomagolásokat egyesével vagy csoportosan lehet a külső csomagolásba helyezni.

**4.1.6.8** A szelepeket úgy kell tervezni és gyártani, hogy azok eredendően képesek legyenek a sérülések elviselésére anélkül, hogy a tartalom kiszabadulna, vagy a következő módszerek valamelyikének alkalmazásával védeni kell az olyan sérülésekkel szemben, amelyek a nyomástartó tartály tartalmának véletlen kiszabadulásához vezetnének (lásd a szakasz végén a szabványok táblázatát is):

- a) a zárószelepek a tartálynyak belsejében vannak elhelyezve és menetes dugóval vagy sapkával vannak védve;
- b) a zárószelepek védőkupakkal vannak ellátva. A védőkupakot megfelelő keresztmetszetű szellőzőlyukakkal kell ellátni, hogy a zárószelep szivárgása esetén a gáz eltávozhasson;
- c) a zárószelepek védőkarimával vagy más védőszerkezettel vannak ellátva;
- d) a nyomástartó tartályokat védőkeretekben szállítják (pl. palackkötegben vannak); vagy
- e) a nyomástartó tartályokat védőládákban szállítják. Az UN nyomástartó tartályok esetén a szállításra kész csomagolásnak olyannak kell lennie, hogy a 6.1.5.3 bekezdés szerinti ejtési próba során az I csomagolási csoport szintjén megfeleljen

**4.1.6.9** A nem újratölthető, nyomástartó tartályok esetén:

- a) a tartályokat külső csomagolásban, például ládában, rekeszben vagy zsugorfóliával, ill. nyújtható fóliával burkolt alátétálcás csomagolásban kell szállítani;
- b) a gyúlékony vagy mérgező gázzal töltött tartályok víztérfogata legfeljebb 1,25 liter lehet;
- c) ezek a tartályok nem használhatók olyan mérgező gázokhoz, amelyek  $LC_{50}$  értéke  $200 \text{ ml/m}^3$  vagy annál kisebb; és
- d) a tartályok használatba vétel után nem javíthatók.

**4.1.6.10** Az újratölthető tartályokat a 6.2.1.6, ill. 6.2.3.5 bekezdés, ill. a P200 vagy a P203 csomagolási utasítás előírásai szerint időszakos vizsgálatnak kell alávetni. A nyomástartó tartályok az időszakos vizsgálat határidejének letelte után nem tölthetők meg, de a vizsgálat végrehajtása vagy ártalmatlanítás céljából az időszakos vizsgálat végrehajtására meghatározott határidő letelte után is szállíthatók, beleértve az átmeneti szállítási műveleteket.

**4.1.6.11** A javításokat a vonatkozó tervezési és gyártási szabványok gyártási és vizsgálati követelményei szerint kell végezni, és csak akkor végezhetők, ha a 6.2 fejezetben felsorolt, az időszakos vizsgálatra vonatkozó szabványok erre utalnak. A nyomástartó tartályok, kivéve a zárt mélyhűtő tartályok burkolatát, nem javíthatók a következő hibák esetén:

- a) hegesztési repedések és egyéb hegesztési hibák;
- b) repedések a tartályfalban;
- c) szivárgások vagy a tartályfal, tető vagy fenék anyagának hibái.

**4.1.6.12** A nyomástartó tartály nem tölthető meg:

- a) ha olyan mértékben sérült, hogy ez befolyásolhatja a nyomástartó tartály vagy üzemi szerelvényei épségét; és
- b) amíg a nyomástartó tartályt és üzemi szerelvényeit meg nem vizsgálták és meg nem állapították, hogy jó üzemi állapotban vannak; és
- c) ha a tanúsításra, az időszakos vizsgálatra, ill. a töltésre vonatkozó jelölés olvashatatlan.

**4.1.6.13** A megtöltött nyomástartó tartály nem adható fel szállításra:

- a) ha szivároog;
- b) ha olyan mértékben sérült, hogy ez befolyásolhatja a nyomástartó tartály vagy üzemi szerelvényei épségét; és
- c) amíg a nyomástartó tartályt és üzemi szerelvényeit meg nem vizsgálták és meg nem állapították, hogy jó üzemi állapotban vannak; és
- d) ha a tanúsításra, az időszakos vizsgálatra, ill. a töltésre vonatkozó jelölés olvashatatlan.

**4.1.6.14** Az UN nyomástartó tartályokra a következőkben felsorolt ISO szabványokat kell alkalmazni. Egyéb nyomástartó tartályok esetén a 4.1.6 szakasz előírásai a következő szabványok értelemszerű alkalmazása esetén teljesítettnek tekinthetők:

A vonatkozó bekezdés	Hivatkozás	A dokumentum címe
4.1.6.2	EN ISO 11114-1:1997	Szállítható gázpalackok. Gázpalack és palackszelep szerkezeti anyagainak megfelelése a gáztöltetnek. 1. Rész: Fémek
	EN ISO 11114-2:2000	Szállítható gázpalackok. Gázpalack és palackszelep szerkezeti anyagainak megfelelése a gáztöltetnek. 2. Rész: Nemfém anyagok
4.1.6.4	ISO 11621:2005	Gázpalackok. Eljárás a gáztöltet megváltoztatására
4.1.6.8 Eredendően védett szelepek	EN ISO 10297:2006 A Melléklet	Gázpalackok – Újratölthető gázpalack szelepek – Meghatározások és típusvizsgálat
	EN 13152:2001+ A1:2003	Cseppfolyósított szénhidrogéngáz palackja szelepének előírásai és vizsgálata. Önelzáró szelepek
	EN 13153:2001+ A1:2003	Cseppfolyósított szénhidrogéngáz palackja szelepének előírásai és vizsgálata. Kézi működtetésű szelepek
4.1.6.8 b) és c)	ISO 11117:1998	Gázpalackok – Szelep védőkupakok és védőszerkezetek ipari és orvosi gázok palackjaihoz – Méretezés, gyártás és vizsgálatok
	EN 962:1996 + A2:2000	Szállítható gázpalackok. Ipari és egészségügyi gázpalackok szelepvédő sapkái és kosarai. Kialakítás, kivitelezés és vizsgálatok

**4.1.7 Különleges csomagolási előírások a szerves peroxidokhoz (5.2 osztály) és az önreaktív anyagokhoz (4.1 osztály)**

**4.1.7.0.1** A szerves peroxidok esetén a tartályokat „hatékonyan le kell zárni”. Ha a küldeménydarabban gázfejlődés miatt jelentős belső nyomás alakulhat ki, szellőző-szerkezet használható, ha a fejlődő gáz nem okoz veszélyt, egyébként a töltési fokot kell korlátozni. A szellőző-szerkezetet úgy kell kialakítani, hogy a küldeménydarab függőleges helyzetében folyadék ne szabadulhasson ki, ill. szennyeződés ne juthasson be. A külső csomagolást, ha van, úgy kell kialakítani, hogy ne zavarja a szellőző-szerkezet működését.

**4.1.7.1 A csomagolóeszközök használata**

**4.1.7.1.1** A szerves peroxidokhoz és az önreaktív anyagokhoz használt csomagolóeszközöknek a 6.1 fejezet, ill. a 6.6 fejezet követelményeinek a II csomagolási csoport szintjén kell megfelelniük. A felesleges fojtást (bezárást) elkerülendő az I csomagolási csoport vizsgálati kritériumait kielégítő fém csomagolóeszközök nem használhatók.

**4.1.7.1.2** A szerves peroxidok és az önreaktív anyagok csomagolási módszereit, amelyek OP1 – OP8 jelöléssel vannak ellátva, a P520 csomagolási utasítás sorolja fel. Az egyes csomagolási módszereknél meghatározott mennyiségek a küldeménydarabonként engedélyezett legnagyobb mennyiséget jelentik.

**4.1.7.1.3** A jelenleg besorolt szerves peroxidokhoz és önreaktív anyagokhoz alkalmas csomagolási módszereket a 2.2.41.4 és a 2.2.52.4 bekezdés sorolja fel.

**4.1.7.1.4** Az új szerves peroxidoknál, az új önreaktív anyagoknál, ill. a jelenleg besorolt szerves peroxidok vagy önreaktív anyagok új készítményeinél a megfelelő csomagolási módszer hozzárendelése céljából a következő eljárást kell alkalmazni:

- a) A B típusú szerves peroxidhoz, ill. B típusú önreaktív anyaghoz:  
az OP5 csomagolási módszert kell hozzárendelni, amennyiben a szerves peroxid (ill. az önreaktív anyag) a csomagolási módszer által engedélyezett valamelyik csomagolásban a Vizsgálatok és Kritériumok kézikönyv 20.4.3 b) bekezdés (ill. a 20.4.2 b) bekezdés) szerinti feltételeket kielégíti. Ha a szerves peroxid (ill. az önreaktív anyag) ezeket a feltételeket csak kisebb csomagolásban elégíti ki, mint ami az OP5 csomagolási módszernél meg van határozva (azaz az OP1 – OP4 módszernél felsorolt valamelyik csomagolásban), akkor az alacsonyabb OP számú, megfelelő csomagolási módszert kell hozzárendelni;
- b) A C típusú szerves peroxidhoz, ill. C típusú önreaktív anyaghoz:  
az OP6 csomagolási módszert kell hozzárendelni, amennyiben a szerves peroxid (ill. az önreaktív anyag) a csomagolási módszer által engedélyezett valamelyik csomagolásban a „Vizsgálatok és Kritériumok kézikönyv” 20.4.3 c) bekezdés (ill. a 20.4.2 c) bekezdés) szerinti feltételeket kielégíti. Ha a szerves peroxid (ill. az önreaktív anyag) ezeket a feltételeket csak kisebb csomagolásban elégíti ki, mint ami az OP6 csomagolási módszernél meg van határozva, akkor az alacsonyabb OP számú, megfelelő csomagolási módszert kell hozzárendelni;
- c) A D típusú szerves peroxidhoz, ill. D típusú önreaktív anyaghoz:  
az OP7 csomagolási módszert kell hozzárendelni;
- d) Az E típusú szerves peroxidhoz, ill. E típusú önreaktív anyaghoz:  
az OP8 csomagolási módszert kell hozzárendelni;
- e) Az F típusú szerves peroxidhoz, ill. F típusú önreaktív anyaghoz:  
az OP8 csomagolási módszert kell hozzárendelni.



**4.1.7.2 Az IBC-k használata**

**4.1.7.2.1** A már besorolt szerves peroxidok közül az IBC520 csomagolási utasításban felsoroltak szállíthatók IBC-ben, az ott feltüntetettek szerint.

**4.1.7.2.2** Egyéb, F típusú szerves peroxidok és önreaktív anyagok a származási ország illetékes hatósága által meghatározott feltételek mellett szállíthatók IBC-kben, ha a megfelelő vizsgálatok alapján az illetékes hatóság meggyőződött arról, hogy az ilyen szállítás biztonságosan végrehajtható. A vizsgálatoknak a következőkre szükséges kiterjedniük:

- a) annak bizonyítására, hogy a szerves peroxid (ill. az önreaktív anyag) megfelel a Vizsgálatok és Kritériumok kézikönyv 20.4.3 f) bekezdésben, illetve a 20.4.2 f) bekezdésben megadott besorolási elveknek, lásd a kézikönyv 20.1 b) ábrájának az F kimeneti kockáját;
- b) minden olyan anyaggal az összeférhetőség bizonyítására, amely az anyaggal a szállítás alatt normál esetben érintkezésbe kerülhet;
- c) (fenntartva)
- d) szükség esetén a nyomáscsökkentő és a vészlefúvó szerkezetek konstrukciójára; és
- e) az esetlegesen szükséges különleges előírások meghatározására.

Ha a származási ország nem valamely COTIF Tagállam, akkor a besorolást és szállítási feltételeket a küldemény által érintett első COTIF Tagállam illetékes hatóságának kell elismernie.

**4.1.7.2.3** A figyelembe veendő vészhelyzetek az anyag öngyorsuló bomlása és amikor a láng a tartályt teljesen körülveszi. A fém vagy külső fémburkolatú, összetett IBC robbanásszerű felrepedésének elkerülésére a vészlefúvó szerkezetnek lehetővé kell tennie minden bomlástermék és gőz eltávolítását, amely az öngyorsuló bomlás során, ill. akkor fejlődik, ha legalább egy óráig olyan láng veszi körül, amely a 4.2.1.13.8 pontban megadott képlettel jellemezhető.

**4.1.8 Különleges csomagolási előírások a fertőző anyagokhoz (6.2 osztály)**

**4.1.8.1** A fertőző anyagok feladójának biztosítania kell, hogy a küldeménydarabok oly módon legyenek előkészítve, hogy rendeltetési helyükre jó állapotban érkezzenek meg, és a szállítás alatt se személyekre, se állatokra ne jelentsenek veszélyt.

**4.1.8.2** A fertőző anyagokat tartalmazó küldeménydarabokra az 1.2.1 szakasz meghatározásai és a 4.1.1.1 – 4.1.1.16 bekezdés általános előírásai vonatkoznak, a 4.1.1.3, a 4.1.1.9 – 4.1.1.12 és a 4.1.1.15 bekezdés kivételével. A folyékony anyagokat azonban csak olyan csomagolóeszközbe szabad tölteni, amely megfelelő mértékben ellenáll a normális szállítási körülmények között kialakuló belső nyomásnak.

**4.1.8.3** A másodlagos csomagolás és a külső csomagolás közé el kell helyezni a tartalom tételes jegyzékét. Ha a szállítandó fertőző anyag ismeretlen, de feltehetően megfelel az „A” kategóriába történő besorolás feltételeinek, akkor a külső csomagolásba helyezett jegyzéken a helyes szállítási megnevezést követően, zárójelbe téve a **„feltehetően „A” kategóriájú fertőző anyag”** szöveget kell feltüntetni.

**4.1.8.4** Mielőtt egy üres csomagolóeszközt a feladóhoz visszaküldenek vagy máshová szállítanak, azt ki kell tisztítani, ill. fertőtleníteni, hogy minden veszélyt kiküszöböljenek, és a rajta levő bárcákat, ill. jelöléseket, amelyek arra utalnak, hogy fertőző anyagot tartalmazott, el kell távolítani, vagy felismerhetetlenné kell tenni.

**4.1.8.5** Azonos minőség esetén a másodlagos csomagoláson belül az elsődleges tartályoknál a

következő változatok engedélyezettek a teljes csomagolás további vizsgálata nélkül:

- a) A vizsgált elsődleges tartállyal azonos méretű vagy kisebb elsődleges tartályok használhatók, amennyiben:
  - i) az elsődleges tartályok hasonló kialakításúak, mint a bevizsgált elsődleges tartályok (pl. hengeres, szögletes);
  - ii) az elsődleges tartályok szerkezeti anyaga (pl. üveg, műanyag, fém) az eredetileg bevizsgált elsődleges tartályokkal azonos vagy nagyobb mértékben ellenáll az ütődéseknél és a halmazolásnál fellépő erőkkel szemben;
  - iii) az elsődleges tartály nyílásai azonos vagy kisebb átmérőjűek és zárásuk hasonló kialakítású (pl. csavarmenetes kupak, bepattanó fedél stb.);
  - iv) elegendő mennyiségű párnázóanyagot használnak a hézagok kitöltésére és az elsődleges tartályok jelentősebb elmozdulásának megakadályozására; és
  - v) az elsődleges tartályok ugyanolyan helyzetben vannak a másodlagos csomagolásban elhelyezve, mint a bevizsgált küldeménydarabban.
- b) Azokból az elsődleges tartályokból, amelyekkel bevizsgálták, vagy az előző a) pontban leírt elsődleges tartályokból kevesebb is használható, amennyiben elegendő mennyiségű párnázóanyagot használnak a hézagok kitöltésére és az elsődleges tartályok jelentősebb elmozdulásának megakadályozására.

**4.1.8.6** A 4.1.8.1 – 4.1.8.5 bekezdések csak az „A” kategóriájú fertőző anyagokra (UN 2814 és UN 2900) vonatkoznak, nem kell alkalmazni sem az UN 3373 „B” kategóriájú biológiai anyagra (lásd a 4.1.4.1 bekezdés P650 csomagolási utasítását), sem az UN 3291 nem specifikált kórházi hulladék, m.n.n. vagy (bio)gyógyászati hulladék, m.n.n. vagy szabályozott gyógyászati hulladék, m.n.n. tétel esetén.

**4.1.8.7** Az állati eredetű anyagok szállítása esetén a vonatkozó csomagolási utasítás által az anyagra, ill. tárgyra kifejezetten engedélyezett csomagolóeszközön (IBC-n) kívül csak olyan csomagolóeszköz (IBC) használható, amelyet a származási ország<sup>3)</sup> illetékes hatósága külön erre jóváhagyott, feltéve, ha:

- a) ez az alternatív csomagolóeszköz megfelel e Rész általános követelményeinek;
- b) ez az alternatív csomagolóeszköz megfelel a 6. Rész követelményeinek is, ha a 3.2 fejezet „A” táblázat 8 oszlopában feltüntetett csomagolási utasítás ezt előírja;
- c) származási ország<sup>3)</sup> illetékes hatósága megállapítja, hogy ez az alternatív csomagolóeszköz legalább olyan szintű biztonságot nyújt, mintha az anyag a 3.2 fejezet „A” táblázat 8 oszlopában feltüntetett csomagolási utasítás által előírt módszer szerint lenne csomagolva;
- d) az illetékes hatóság jóváhagyásának másolata a küldeményhez mellékelve van, vagy a fuvarokmányban utalás van arra, hogy az alternatív csomagolóeszközt az illetékes hatóság jóváhagyta.

#### **4.1.9 Különleges csomagolási előírások a 7 osztályhoz**

##### **4.1.9.1 Általános előírások**

**4.1.9.1.1** A radioaktív anyagnak, a csomagolóeszközöknek és a küldeménydaraboknak a 6.4 fejezet követelményeinek kell megfelelniük. Az egy küldeménydarabban levő radioaktív anyag

3) Ha a származási ország nem valamely COTIF Tagállam, a küldemény által érintett első COTIF Tagállam illetékes hatósága.



mennyisége nem haladhatja meg a 2.2.7.2.2, a 2.2.7.2.4.1, a 2.2.7.2.4.4, a 2.2.7.2.4.5, a 2.2.7.2.4.6 pontban, a 3.3 fejezet 336 különleges előírásában és a 4.1.9.3 bekezdésben meghatározott határokat. A RID-ben szereplő, radioaktív anyagot tartalmazó küldeménydarabok fajtái a következők:

- a) engedményes küldeménydarab (lásd az 1.7.1.5 bekezdést);
- b) 1 típusú ipari küldeménydarab (*IP-1* típusú küldeménydarab);
- c) 2 típusú ipari küldeménydarab (*IP-2* típusú küldeménydarab);
- d) 3 típusú ipari küldeménydarab (*IP-3* típusú küldeménydarab);
- e) *A* típusú küldeménydarab;
- f) *B(U)* típusú küldeménydarab;
- g) *B(M)* típusú küldeménydarab;
- h) *C* típusú küldeménydarab.

A hasadóanyagot vagy urán-hexafluoridot tartalmazó küldeménydarabok további követelmények tárgyát képezik.

**4.1.9.1.2** A küldeménydarabok külső felületén a nem tapadó radioaktív szennyezettséget a lehető legalacsonyabb értéken kell tartani, és normális szállítási körülmények között nem haladhatja meg a következő értékeket:

- a)  $4 \text{ Bq/cm}^2$  béta-, gamma -, valamint csekély toxicitású alfa-sugárzók esetén; és
- b)  $0,4 \text{ Bq/cm}^2$  minden más alfa-sugárzó esetén.

Ezeket a határokat a felület bármely  $300 \text{ cm}^2$ -nyi részén képzett átlagra alkalmazni kell.

**4.1.9.1.3** Egy küldeménydarab – az engedményes küldeménydarab kivételével – a radioaktív anyag alkalmazásához szükséges tárgyakon kívül mást nem tartalmazhat. E tárgyak és a küldeménydarab közötti kölcsönhatás a gyártási típusra vonatkozó szállítási feltételek között nem csökkentheti a küldeménydarab biztonságát.

**4.1.9.1.4** A 7.5.11 szakasz CW33 különleges előírásában meghatározottak kivételével az egyesítő csomagolások, a konténerek, a tartályok, az IBC-k és a kocsik belső és külső felületén a nem tapadó szennyezettség szintje nem haladhatja meg a 4.1.9.1.2 pontban meghatározott határértékeket.

**4.1.9.1.5** A járulékos veszéllyel bíró radioaktív anyagokat a 6. rész megfelelő fejezetének követelményeit mindenben kielégítő és az adott járulékos veszélyre a 4.1, a 4.2, ill. a 4.3 fejezet vonatkozó követelményeinek megfelelő csomagolóeszközökben, IBC-kben vagy tartályokban kell szállítani.

**4.1.9.1.6** Minden küldeménydarab első szállítása előtt a következő követelményeknek kell eleget tenni:

- a) Amennyiben a biztonsági tartály tervezési nyomása meghaladja a  $35 \text{ kPa}$  (túlnyomás) értéket, akkor biztosítani kell, hogy minden küldeménydarab a biztonsági tartály ezen nyomás alatti sértetlenségére vonatkozóan a jóváhagyott minta követelményeinek megfelelően.
- b) Minden *B(U)*, *B(M)* és *C* típusú küldeménydarab és minden hasadóanyagot tartalmazó küldeménydarab esetén biztosítani kell, hogy az árnyékolás és a biztonsági tartály hatékonysága, valamint – szükség esetén – a hőátadási tulajdonságok és a megtartó rendszer hatékonysága azon határok között legyen, amely a jóváhagyott mintára alkalmazandó vagy meg van határozva.

- c) Minden hasadóanyagot tartalmazó küldeménydarab esetében, amelynél a 6.4.11.1 bekezdés előírásainak betartása érdekében a neutronmérgek a küldeménydarabok kifejezett alkotórészét képezik, ellenőrizni kell ezen neutronmérgek jelenlétét és eloszlását.

**4.1.9.1.7** Minden küldeménydarab minden egyes szállítása előtt a következő követelményeket kell teljesíteni:

- a) Minden küldeménydarabnál biztosítani kell, hogy az összes vonatkozó RID előírást és követelményt betartsák.
- b) Biztosítani kell, hogy a teheremelő berendezések, amelyek a 6.4.2.2 bekezdés feltételeinek nem felelnek meg, el legyenek távolítva vagy a küldeménydarabok emelésére más módon alkalmatlanná legyenek téve a 6.4.2.3 bekezdés szerint.
- c) Minden olyan küldeménydarab esetében, amelyhez az illetékes hatóság engedély szükséges, biztosítani kell az engedélyben megállapított minden feltétel betartását.
- d) Minden  $B(U)$ ,  $B(M)$  és  $C$  típusú küldeménydarabot mindaddig vissza kell tartani, amíg az egyensúlyi állapot megközelítőleg be nem következett, úgy, hogy a hőmérsékletre és a nyomásra vonatkozó előírt szállítási feltételeknek való megfelelés bizonyítható legyen, kivéve, ha e feltételek alól az egyoldalú engedély felmentést adott.
- e) Minden  $B(U)$ ,  $B(M)$  és  $C$  típusú küldeménydarabnál vizsgálattal vagy alkalmas próbával kell biztosítani, hogy a biztonsági tartály minden zárószerkezete, szelepe vagy más nyílása, amelyen keresztül a radioaktív anyag a szabadba juthat, szabályosan zárt, és adott esetben oly módon tömített, mint az a 6.4.8.8 és 6.4.10.3 bekezdésnek való megfelelés bizonyításánál elő van írva.
- f) Minden különleges formájú radioaktív anyagnál biztosítani kell, hogy az engedélyben meghatározott követelményeket és a RID vonatkozó követelményeit betartsák.
- g) A hasadóanyagot tartalmazó küldeménydaraboknál a 6.4.11.4 b) pontban meghatározott mérést, valamint a 6.4.11.7 bekezdésben előírt, a küldeménydarab zártágának bizonyítására szolgáló vizsgálatokat el kell végezni, amennyiben vonatkozik rájuk.
- h) Minden kis mértékben diszpergálódó radioaktív anyagnál biztosítani kell, hogy a küldeménydarab-minta engedélyében meghatározott követelményeket és a RID vonatkozó követelményeit betartsák.

**4.1.9.1.8** A feladónak a küldeménydarab helyes zárására és a szállításhoz való egyéb előkészítésére vonatkozó utasítások egy példányával is rendelkeznie kell, mielőtt a szállítás az engedély-okiratok előírásai alapján megtörténne.

**4.1.9.1.9** A kizárólagos használat mellett szállított küldemények kivételével egyetlen küldeménydarab vagy egyesítőcsomagolás szállítási mutatószáma ( $TI$ ) sem haladhatja meg a 10-et, és egyetlen küldeménydarab vagy egyesítőcsomagolás kritikussági biztonsági mutatószáma ( $CSI$ ) sem haladhatja meg az 50-et.

**4.1.9.1.10** A kizárólagos használat mellett és az 7.5.11 szakasz, CW33 előírás 3.5) a) pontjában meghatározott feltételek szerint szállított küldeménydarabok és egyesítőcsomagolások kivételével a maximális sugárzási szint egy küldeménydarab vagy egyesítőcsomagolás külső felületének egyetlen pontján sem haladhatja meg a 2 mSv/h értéket.

**4.1.9.1.11** A maximális sugárzási szint egy kizárólagos használat mellett szállított küldeménydarab vagy egyesítőcsomagolás külső felületének egyetlen pontján sem haladhatja meg a 10 mSv/h értéket.

#### 4.1.9.2 *Az LSA anyagok és SCO tárgyak szállítására és a szállítás ellenőrzésére vonatkozó követelmények*

**4.1.9.2.1** Az LSA anyagok vagy SCO tárgyak mennyiségét egyetlen IP-1 típusú, IP-2 típusú vagy IP-3 típusú küldeménydarabban, vagy az adott esettől függően tárgyban vagy tárgyak összességében oly módon kell korlátozni, hogy a külső sugárzási szint a nem árnyékolt anyagtól vagy tárgytól vagy tárgyak összességétől 3 m távolságban ne haladja meg a 10 mSv/h értéket.

**4.1.9.2.2** Azoknak az LSA anyagoknak és SCO tárgyaknak, amelyek hasadóanyagok vagy azt tartalmaznak, a 6.4.11.1 bekezdés és a 7.5.11 szakasz CW33 különleges előírás 4.1) és 4.2) pontja vonatkozó előírásainak kell megfelelniük.

**4.1.9.2.3** Az LSA anyagok és SCO tárgyak az LSA-I és SCO-I csoportokban a következő feltételek mellett csomagolatlanul szállíthatók:

- minden csomagolatlan anyagot, az olyan érceket kivéve, amelyek kizárólag a természetben előforduló radionuklidokat tartalmaznak, úgy kell szállítani, hogy a normális szállítási körülmények között sem a tartalom elvesztése a kocsiból, sem az árnyékolás csökkenése ne következzen be;
- minden kocsinak kizárólagos használat alatt kell állni, hacsak azzal nem kizárólagosan olyan SCO-I tárgyakat szállítanak, amelyeken a szennyezettség a hozzáférhető és a nem hozzáférhető felületeken nem nagyobb mint a 2.2.7.1.2 pontban a „szennyezettség” meghatározásánál megadott, alkalmazandó érték tízszerese; és
- amennyiben az SCO-I tárgyaknál feltételezhető, hogy a nem hozzáférhető felületeken a 2.2.7.2.3.2 a) i) pontban meghatározott értéknél nagyobb mértékű nem tapadó szennyezettség van jelen, akkor intézkedni kell, hogy a radioaktív anyag a kocsiba ne szabadulhasson ki.

**4.1.9.2.4** Az LSA anyagokat és SCO tárgyakat, hacsak a 4.1.9.2.3 pontban nincs más előírva, a következő táblázat szerint kell csomagolni.

#### Követelmények az ipari küldeménydarabokra LSA anyagokhoz és SCO tárgyakhoz

Radioaktív tartalom	Ipari küldeménydarab típus	
	Kizárólagos használat esetén	Nem kizárólagos használat esetén
LSA-I		
Szilárd <sup>a)</sup>	IP-1 típus	IP-1 típus
Folyékony	IP-1 típus	IP-2 típus
LSA-II		
Szilárd	IP-2 típus	IP-2 típus
Folyékony és gáz alakú	IP-2 típus	IP-3 típus
LSA-III	IP-2 típus	IP-3 típus
SCO-I <sup>a)</sup>	IP-1 típus	IP-1 típus
SCO-II	IP-2 típus	IP-2 típus

a) A 4.1.9.2.3 pontban meghatározott körülmények között az LSA-I anyagok és SCO-I tárgyak csomagolatlanul szállíthatók.

#### 4.1.9.3 *Hasadóanyagot tartalmazó küldeménydarabok*

A 2.2.7.2.3.5 pont alapján nem valamely hasadóanyag tételhez sorolt küldeménydarabok kivételével a hasadóanyagot tartalmazó küldeménydarabok nem tartalmazhatnak:

- a küldeménydarab-mintára engedélyezettől nagyobb tömegű hasadóanyagot;

- b) olyan radionuklidokat vagy hasadóanyagokat, amelyek a küldeménydarab-mintára nincsenek engedélyezve; ill.
- c) olyan anyagokat, amelyek alakjukban, fizikai vagy kémiai állapotukban vagy térbeli elrendeződésükben a küldeménydarab-minta engedélyezett tartalmától eltérnek,

amint az a küldeménydarab-minta engedélyben meg van határozva.

#### **4.1.10 Különleges előírások az egybecsomagolásra**

**4.1.10.1** Amennyiben e fejezet előírásai szerint az egybecsomagolás engedélyezett, a különféle veszélyes áruk vagy veszélyes áruk és más áruk a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolhatók, amennyiben nem reagálnak egymással veszélyesen és e fejezet minden más vonatkozó előírását kielégítik.

*Megjegyzés: 1. Lásd még a 4.1.1.5 és a 4.1.1.6 bekezdést is.*

*2. A 7 osztály anyagaira lásd a 4.1.9 szakaszt.*

**4.1.10.2** A csak az 1 osztály anyagait vagy csak a 7 osztály anyagait tartalmazó küldeménydarabok kivételével, ha külső csomagolásként papírlemez ládát vagy faládát használnak, a különböző árukat egybecsomagolva tartalmazó küldeménydarabok tömege nem haladhatja meg a 100 kg-ot.

**4.1.10.3** Az azonos osztályba és azonos osztályozási kód alá tartozó anyagok egybecsomagolhatók, kivéve, ha a 4.1.10.4 bekezdés vonatkozó különleges előírásában másként szerepel.

**4.1.10.4** Amennyiben a 3.2 fejezet „A” táblázat 9b oszlopában egy adott tételnél fel van tüntetve, az adott tétel alá tartozó áruk más árukkal ugyanazon küldeménydarabba történő egybecsomagolására a következő különleges előírásokat kell alkalmazni.

**MP1** Csak ugyanolyan típusú és összeférhetőségi csoportú áruval csomagolható egybe.

**MP2** Más árukkal nem csomagolható egybe.

**MP3** Az UN 1873 és az UN 1802 anyagainak egybecsomagolása engedélyezett.

**MP4** Nem csomagolható egybe sem más osztályok áruival, sem pedig olyan árukkal, melyek nem esnek a RID hatálya alá. Azonban, ha ez a szerves peroxid valamely 3 osztály anyagához térhálósító vagy keményítő rendszerként szolgál, az egybecsomagolás a 3 osztály ezen anyagával engedélyezett.

**MP5** Az UN 2814 és az UN 2900 anyaga a P620 csomagolási utasításnak megfelelő kombinált csomagolásba egybecsomagolható. Nem csomagolhatók viszont egybe más árukkal, kivéve a P650 csomagolási utasításnak megfelelően csomagolt UN 3373 „B” kategóriájú biológiai anyagot és a hűtőközegként hozzáadott anyagokat, pl. jeget, szárazjeget vagy cseppfolyósított nitrogént.

**MP6** Nem csomagolható egybe más árukkal. Ez nem vonatkozik a hűtőközegként hozzáadott anyagokra, pl. jégre, szárazjégre vagy cseppfolyósított nitrogénre.

**MP7** Belső csomagolásként legfeljebb 5 liter mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- az ugyanazon osztály más osztályozási kódja alá tartozó árukkal, ha az egybecsomagolás azokra is megengedett; vagy
- a RID hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

**MP8** Belső csomagolásonként legfeljebb 3 liter mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- az ugyanazon osztály más osztályozási kódja alá tartozó árukkal, ha az egybecsomagolás azokra is megengedett; vagy
- a RID hatálya alá nem tartozó árukkal

amennyiben nem reagálnak egymással veszélyesen.

**MP9** A 6.1.4.21 bekezdés szerinti kombinált csomagolás külső csomagolásába egybecsomagolható

- a 2 osztály más áruival;
- más osztályok áruival, ha az egybecsomagolás azokra is megengedett; vagy
- a RID hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

**MP10** Belső csomagolásonként legfeljebb 5 kg mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- az ugyanazon osztály más osztályozási kódja alá tartozó árukkal, vagy más osztályok áruival, ha az egybecsomagolás azokra is megengedett; vagy
- a RID hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

**MP11** Belső csomagolásonként legfeljebb 5 kg mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- az ugyanazon osztály más osztályozási kódja alá tartozó árukkal, vagy más osztályok áruival (az 5.1 osztály I vagy II csomagolási csoportjának anyagainak kivételével), ha az egybecsomagolás azokra is megengedett; vagy
- a RID hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

**MP12** Belső csomagolásonként legfeljebb 5 kg mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- az ugyanazon osztály más osztályozási kódja alá tartozó árukkal, vagy más osztályok áruival (az 5.1 osztály I vagy II csomagolási csoportjának anyagainak kivételével), ha az egybecsomagolás azokra is megengedett; vagy
- a RID hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

A küldeménydarabok nem lehetnek 45 kg-nál nehezebbek. Azonban, ha a külső csomagolásként papírlemez ládákat használnak, egy küldeménydarab nem lehet 27 kg-nál nehezebb.

**MP13** Belső csomagolásonként és küldeménydarabonként legfeljebb 3 kg mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- az ugyanazon osztály más osztályozási kódja alá tartozó árukkal, vagy más osztályok áruival, ha az egybecsomagolás azokra is megengedett; vagy
- a RID hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

**MP14** Belső csomagolásonként legfeljebb 6 kg mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- az ugyanazon osztály más osztályozási kódja alá tartozó árukkal, vagy más osztályok áruival, ha az egybecsomagolás azokra is megengedett; vagy
- a RID hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

**MP15** Belső csomagolásonként legfeljebb 3 liter mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- az ugyanazon osztály más osztályozási kódja alá tartozó árukkal, vagy más osztályok áruival, ha az egybecsomagolás azokra is megengedett; vagy
- a RID hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

**MP16** Belső csomagolásonként és küldeménydarabonként legfeljebb 3 liter mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- az ugyanazon osztály más osztályozási kódja alá tartozó árukkal, vagy más osztályok áruival, ha az egybecsomagolás azokra is megengedett; vagy
- a RID hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

**MP17** Belső csomagolásonként legfeljebb 0,5 liter és küldeménydarabonként legfeljebb 1 liter mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- a 7 osztály kivételével más osztályok áruival, ha az egybecsomagolás azokra is megengedett; vagy
- a RID hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

**MP18** Belső csomagolásonként legfeljebb 0,5 kg és küldeménydarabonként legfeljebb 1 kg mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- a 7 osztály kivételével más osztályok áruival, ha az egybecsomagolás azokra is megengedett; vagy
- a RID hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

**MP19** Belső csomagolásonként legfeljebb 5 liter mennyiségben a 6.1.4.21 bekezdésnek megfelelő kombinált csomagolásba egybecsomagolható

- az ugyanazon osztály más osztályozási kódja alá tartozó árukkal, vagy más osztályok áruival, ha az egybecsomagolás azokra is megengedett; vagy
- a RID hatálya alá nem tartozó árukkal,

amennyiben nem reagálnak egymással veszélyesen.

**MP20** Egybecsomagolható az azonos UN szám alá tartozó anyagokkal.

Nem csomagolható egybe az 1 osztály más UN szám alá tartozó anyagaival és tárgyaival, kivéve, ha az MP24 különleges előírás megengedi.

Nem csomagolható egybe más osztályok áruival és a RID hatálya alá nem tartozó árukkal.

**MP21** Egybecsomagolható az azonos UN szám alá tartozó tárgyakkal.

Nem csomagolható egybe az 1 osztály más UN szám alá tartozó áruival, kivéve

- a) saját gyújtószerkezetüket, amennyiben
  - i) a gyújtószerkezet normális szállítási feltételek mellett nem lép működésbe; vagy
  - ii) a gyújtószerkezet legalább két olyan hatékony biztonsági szerkezettel van ellátva, amely a gyújtószerkezet nem szándékos működésbe lépése esetén a tárgy robbanását megakadályozza; vagy
  - iii) gyújtószerkezet, amely nincs felszerelve legalább két hatékony biztonsági szerkezettel (pl. a B összeférhetőségi csoportba sorolt gyújtószerkezet), de a származási ország<sup>4)</sup> illetékes hatóságának véleménye szerint a gyújtószerkezet nem szándékos működésbe lépése normális szállítási körülmények között nem vonja maga után a tárgy felrobbanását;
- b) a C, a D és az E összeférhetőségi csoport tárgyait.

Nem szabad egybecsomagolni más osztályok áruival és olyan árukkal, amelyek nem tartoznak a RID előírásainak hatálya alá.

Ha az árukat e különleges előírás szerint egybecsomagolják, tekintetbe kell venni a küldeménydarabok besorolásának esetleges módosítását a 2.2.1.1 bekezdés alapján. Az áru bejegyzésére a fuvarokmányba lásd az 5.4.1.2.1 b) pontot.

**MP22** Egybecsomagolható az azonos UN szám alá tartozó tárgyakkal.

Nem csomagolható egybe az 1 osztály más UN szám alá tartozó tárgyaival, kivéve

- a) a saját gyújtószerkezetüket, feltéve, hogy a gyújtószerkezet normális szállítási feltételek mellett nem lép működésbe;
- b) a C, a D és az E összeférhetőségi csoport tárgyait;
- c) ha az MP24 különleges előírás megengedi.

Nem csomagolható egybe más osztályok áruival és olyan árukkal, amelyek nem tartoznak a RID előírásainak hatálya alá.

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4) Ha a származási ország nem valamely COTIF Tagállam, akkor a jóváhagyást a küldeménnyel érintett első COTIF Tagállam illetékes hatóságának kell elismernie.



Ha az árukat e különleges előírás szerint egybecsomagolják, tekintetbe kell venni a küldeménydarabok besorolásának esetleges módosítását a 2.2.1.1 bekezdés alapján. Az áru bejegyzésére a fuvarokmányba lásd az 5.4.1.2.1 b) pontot.

**MP23** Egybecsomagolható az azonos UN szám alá tartozó tárgyakkal.

Nem csomagolható egybe az 1 osztály más UN szám alá tartozó tárgyaival, kivéve

- a) a saját gyújtószerkezetüket, feltéve, hogy a gyújtószerkezet normális szállítási feltételek mellett nem lép működésbe;
- b) ha az MP24 különleges előírás megengedi.

Nem csomagolható egybe más osztályok áruival és olyan árukkal, amelyek nem tartoznak a RID előírásainak hatálya alá.

Ha az árukat e különleges előírás szerint egybecsomagolják, tekintetbe kell venni a küldeménydarabok besorolásának esetleges módosítását a 2.2.1.1 bekezdés alapján. Az áru bejegyzésére a fuvarokmányba lásd az 5.4.1.2.1 b) pontot.

**MP24** Egybecsomagolható a következő táblázatban található UN számok alá tartozó árukkal a következő feltételekkel:

- amennyiben a táblázatban A betű van feltüntetve, az árukat az ezen UN számok alá tartozó árukkal mindenféle tömegkorlátozás nélkül egy küldeménydarabbá szabad egyesíteni;
- amennyiben a táblázatban B betű van feltüntetve, az árukat az ezen UN számok alá tartozó árukkal legfeljebb 50 kg robbanóanyag össztömegig szabad egyesíteni.

Ha az árukat e különleges előírás szerint egybecsomagolják, tekintetbe kell venni a küldeménydarabok besorolásának esetleges módosítását a 2.2.1.1 bekezdés alapján. Az áru bejegyzésére a fuvarokmányba lásd az 5.4.1.2.1 b) pontot.



UN szám	0012	0014	0027	0028	0044	0054	160	0161	0186	0191	0194	0195	0197	0238	0240	0312	0333	0334	0335	0336	0337	0373	0405	0428	0429	0430	0431	0432	0505	0506	0507
0012		A																													
0014	A																														
0027								B																							
0028			B	B			B	B																							
0044			B	B			B	B																							
0054									B	B		B	B	B	B	B							B	B	B	B	B	B	B	B	B
0160			B	B	B			B																							
0161			B	B	B		B																								
0186						B				B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B
0191						B			B		B	B	B	B	B	B							B	B	B	B	B	B	B	B	B
0194						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B
0195						B			B	B	B		B	B	B	B							B	B	B	B	B	B	B	B	B
0197						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B
0238						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B
0240						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B
0312						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B
0333																	A	A	A	A											
0334																	A	A	A	A											
0335																	A	A	A	A											
0336																	A	A	A	A											
0337																	A	A	A	A											
0373						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B
0405						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B
0428						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B
0429						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B
0430						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B
0431						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B
0432						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B
0505						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B
0506						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B
0507						B			B	B	B	B	B	B	B	B							B	B	B	B	B	B	B	B	B

## 4.2 fejezet

### A mobil tartányok és az UN többelemes gázkonténerek (UN MEG-konténerek) használata

- Megjegyzés: 1.** A fémből gyártott tartánnyal rendelkező tartálykocsik, leszerelhető tartányok, tankkonténerek és tartányos cserefelépítmények, továbbá battériás kocsik és többelemes gázkonténerek (MEG-konténerek) használatára lásd a 4.3 fejezetet; a szálvázaz műanyag tankkonténerek használatára lásd a 4.4 fejezetet; a hulladékok szállítására szolgáló, vákuummal üzemelő tartányok használatára lásd a 4.5 fejezetet.
- 2.** A RID szerinti szállításra felhasználhatók azok a 6.7 fejezet szerinti jelöléssel ellátott mobil tartányok és UN MEG-konténerek is, amelyeket olyan országban hagytak jóvá, amely nem COTIF Tagállam.

#### 4.2.1 Általános előírások a mobil tartányok használatára az 1 és a 3 – 9 osztály anyagainak szállításához

- 4.2.1.1** Ez a szakasz az 1, 3, 4.1, 4.2, 4.3, 5.1, 5.2, 6.1, 6.2, 7, 8 és 9 osztályba tartozó veszélyes áruk szállítására szolgáló mobil tartányok használatára vonatkozó általános előírásokat tartalmazza. Ezen általános előírásokon kívül a mobil tartányoknak a tervezés, gyártás és vizsgálat tekintetében meg kell felelniük a 6.7.2 szakaszban részletezett előírásoknak. Az anyagokat olyan mobil tartányban kell szállítani, amely megfelel a 3.2 fejezet „A” táblázat 10 oszlopában hivatkozott és a 4.2.5.2.6 pontban meghatározott (T1 – T23) mobil tartány utasításnak, és a 3.2 fejezet „A” táblázat 11 oszlopában az egyes anyagokhoz hozzárendelt és a 4.2.5.3 bekezdésben meghatározott mobil tartány különleges előírásoknak.
- 4.2.1.2** A mobil tartányokat alkalmas módon védeni kell a szállítás során a hosszirányú és keresztirányú lökésekből vagy felborulásból adódóan a tartányt, ill. üzemi szerelvényeit érő sérülésekkel szemben. Amennyiben a tartány és az üzemi szerelvények úgy vannak kialakítva, hogy a lökéseknek és a felborulásnak ellenállnak, akkor nem szükséges ily módon védeni. A tartányok védelmének példái a 6.7.2.17.5 pontban találhatók.
- 4.2.1.3** Bizonyos anyagok vegyileg nem állandóak. Ezek csak akkor fogadhatók el szállításra, ha megtették a szükséges intézkedéseket a szállítás alatti veszélyes bomlásuk, átalakulásuk vagy polimerizálódásuk megakadályozására. E célból különösen arról kell gondoskodni, hogy a mobil tartányok ne tartsanak olyan anyagokat, amelyek az ilyen reakciókat elősegíthetik.
- 4.2.1.4** A tartány külső falának (kivéve a nyílásokat és zárószerveket) vagy a hőszigetelésének hőmérséklete a szállítás során nem emelkedhet 70 °C fölé. Szükség esetén a tartánynak hőszigeteltnek kell lennie.
- 4.2.1.5** Az üres, tisztítatlan és nem gáztalanított mobil tartányoknak ugyanolyan előírásoknak kell megfelelniük, mint az előzőleg szállított anyaggal megtöltött mobil tartányoknak.
- 4.2.1.6** Különböző anyagok nem szállíthatók szomszédos tartánykamrákban, ha azok veszélyesen reagálhatnak egymással (lásd a „veszélyes reakció” fogalmát az 1.2.1 szakaszban).
- 4.2.1.7** Az illetékes hatóság vagy az általa felhatalmazott szerv által a mobil tartányra kiadott gyártási típus jóváhagyási bizonyítványt, vizsgálati jegyzőkönyvet és az üzembe helyezés előtti és időszakos vizsgálatok eredményeit tartalmazó bizonyítványokat mind ennek a hatóságnak vagy szervnek, mind a tulajdonosnak meg kell őriznie. A tulajdonosnak ezeket az okmányokat bármely illetékes hatóság kérésére be kell tudni mutatnia.

**4.2.1.8** Ha a szállított anyag(ok) neve nincs feltüntetve a 6.7.2.20.2 pontban meghatározott fémtáblán, a 6.7.2.18.1 pontban előírt bizonyítvány másolatát az illetékes hatóság vagy általa felhatalmazott szerv kérésére a feladó, a címzett vagy az ügynöke útján késedelem nélkül be kell mutatni.

**4.2.1.9** *Töltési fok*

**4.2.1.9.1** Töltés előtt a feladónak biztosítania kell, hogy megfelelő mobil tartányt használjanak, és hogy a mobil tartányba ne töltsenek olyan anyagot, amely a tartány, a tömítések, az üzemi szerelvények vagy a védőbevonatok anyagával érintkezve veszélyesen reagálhat, veszélyes anyagokat képezhet vagy anyagukat jelentősen gyengítheti. A feladónak szükség esetén konzultálnia kell az anyag gyártójával és az illetékes hatósággal, hogy tájékozódjon az anyagnak a mobil tartány anyagával való összeférhetőségéről.

**4.2.1.9.1.1** A mobil tartányokat nem szabad a 4.2.1.9.2 – 4.2.1.9.6 pontban meghatározott mértéket meghaladóan megtölteni. A 4.2.1.9.2, a 4.2.1.9.3 vagy a 4.2.1.9.5.1 pont érvényességét az egyes anyagokra a 4.2.5.2.6 pontban, ill. a 4.2.5.3 bekezdésben és a 3.2 fejezet „A” táblázat 10, ill. 11 oszlopában található mobil tartány utasítások és különleges előírások határozzák meg.

**4.2.1.9.2** A legnagyobb töltési fok (%-ban) általános esetre a következő képlettel határozható meg:

$$\text{a töltési fok} = \frac{97}{1 + \alpha(t_r - t_f)}.$$

**4.2.1.9.3** A 6.1 és a 8 osztály I vagy II csomagolási csoportba tartozó folyékony anyagai esetén, és az olyan folyékony anyagok esetén, amelyek telített gőznyomása 65 °C-on meghaladja a 175 kPa-t (1,75 bar-t), a legnagyobb töltési fokot (%-ban) a következő képlettel kell meghatározni:

$$\text{a töltési fok} = \frac{95}{1 + \alpha(t_r - t_f)}.$$

**4.2.1.9.4** Ezekben a képletekben  $\alpha$  a folyékony anyag átlagos köbös hőtágulási együtthatóját jelenti a folyékony anyag töltés alatti átlagos hőmérséklete ( $t_f$ ) és az anyag szállítás alatti legnagyobb átlagos hőmérséklete ( $t_r$ ) között (mindkettő °C-ban). Azoknál a folyékony anyagoknál, amelyeket környezeti hőmérsékleten szállítanak,  $\alpha$  a következő képlettel számítható ki:

$$\alpha = \frac{d_{15} - d_{50}}{35d_{50}},$$

ahol  $d_{15}$  és  $d_{50}$  a folyékony anyag sűrűsége 15 °C-on, ill. 50 °C-on.

**4.2.1.9.4.1** A folyékony anyag legnagyobb átlagos hőmérsékletét ( $t_r$ ) 50 °C-nak kell venni, kivéve az olyan mérsékelt vagy szélsőséges éghajlati körülmények közötti szállításokat, amelyekre az érintett illetékes hatóságok az adott esetben megfelelően alacsonyabb hőmérsékletet is elfogadhatnak, vagy magasabb hőmérsékletet írhatnak elő.

**4.2.1.9.5** A 4.2.1.9.2 – 4.2.1.9.4.1 pont előírásait nem kell alkalmazni az olyan mobil tartányokra, amelyek tartalmát a szállítás alatt 50 °C felett tartják (pl. fűtőberendezéssel). A fűtőberendezéssel ellátott mobil tartányokat el kell látni hőmérséklet-szabályozóval annak biztosítására, hogy a tartány a szállítás időtartama alatt végig legfeljebb 95%-ig legyen megtöltve.

**4.2.1.9.5.1** Az olvadáspontjuk feletti hőmérsékleten szállított szilárd anyagok és a magas hőmérsékletű folyékony anyagok esetén a legnagyobb töltési fokot (%-ban) a következő képlettel kell meghatározni:

$$\text{a töltési fok} = 95 \frac{d_r}{d_f},$$

ahol  $d_f$  és  $d_r$  a folyékony anyag sűrűsége a folyékony anyag töltés alatti átlagos hőmérsékletén, illetve szállítás alatti legnagyobb átlagos hőmérsékletén.

**4.2.1.9.6** A mobil tartány nem adható át szállításra:

- a) ha a töltési fok a 2680 mm<sup>2</sup>/s-nál kisebb viszkozitású folyékony anyagok esetén 20 °C-on, ill. melegített anyagoknál a legmagasabb szállítási hőmérsékleten nagyobb, mint 20%, de legfeljebb 80%, kivéve, ha a mobil tartány válaszfalakkal vagy hullámtörő lemezekkel legfeljebb 7500 liter befogadóképességű rekeszekre van osztva;
- b) ha az előzőleg szállított áru maradéka a tartány külsejére vagy az üzemi szerelvényekre tapadt;
- c) ha szivárog vagy olyan mértékben sérült, hogy ez befolyásolhatja a mobil tartány vagy emelő- vagy rögzítőszerkezetének épségét; és
- d) amíg az üzemi szerelvényeket meg nem vizsgálták és meg nem állapították, hogy jó üzemi állapotban vannak.

**4.2.1.9.7** A mobil tartány emelővilla zsebeinek megtöltött tartánynál zárva kell lenniük. Ez az előírás nem vonatkozik azokra a mobil tartányokra, amelyeknek emelővilla zsebeit a 6.7.2.17.4 pont szerint nem kell zárószerkezettel ellátni.

**4.2.1.10** *Kiegészítő előírások a 3 osztály anyagainak mobil tartányban történő szállítására*

**4.2.1.10.1** A gyúlékony folyékony anyagok szállítására szánt minden mobil tartánynak zártnak kell lennie és a 6.7.2.8 – 6.7.2.15 bekezdés szerinti nyomáscsökkentő szerkezetekkel kell rendelkeznie.

**4.2.1.10.1.1** A csak szárazföldi használatra szánt mobil tartányoknál nyitott szellőző-berendezések is használhatók, ha a 4.3 fejezet megengedi.

**4.2.1.11** *Kiegészítő előírások a 4.1 osztály anyagainak (az önreaktív anyagok kivételével), a 4.2 és a 4.3 osztály anyagainak mobil tartányban történő szállítására*

(fenntartva)

*Megjegyzés:* A 4.1 osztály önreaktív anyagaira lásd a 4.2.1.13.1 pontot.

**4.2.1.12** *Kiegészítő előírások az 5.1 osztály anyagainak mobil tartányban történő szállítására*

(fenntartva)

**4.2.1.13** *Kiegészítő előírások az 5.2 osztály anyagainak és a 4.1 osztály önreaktív anyagainak mobil tartányban történő szállítására*

**4.2.1.13.1** Minden anyagnak bevizsgálnak kell lenni és a vizsgálati jegyzőkönyvet jóváhagyásra be kell nyújtani a származási ország illetékes hatóságához. Erről értesítést kell küldeni a rendeltetési ország illetékes hatóságához. Az értesítésnek tartalmaznia kell a vonatkozó szállítási feltételeket és a jegyzőkönyvet a vizsgálati eredményekkel. A végrehajtott vizsgálatoknak a következőket kell lehetővé tenniük:

- a) annak bizonyítását, hogy a szállított anyag összeférhető minden olyan anyaggal, amellyel normál esetben a szállítás során érintkezésbe kerül;
- b) hogy megfelelő adatok álljanak rendelkezésre ahhoz, hogy a mobil tartány szerkezeti jellemzőit figyelembe véve a nyomáscsökkentő szelepek és vészlefúvó szerkezetek

tervezhető legyenek.

Az anyag biztonságos szállításához szükséges mindenféle különleges előírást egyértelműen be kell írni a jegyzőkönyvbe.

- 4.2.1.13.2** Az 55 °C vagy annál magasabb öngyorsuló bomlási hőmérséklettel (ÖBH) rendelkező F típusú szerves peroxidok és F típusú önreaktív anyagok szállítására használt mobil tartányokra a következő követelményeket kell alkalmazni. Ellentmondás esetén ezeket az előírásokat kell érvényesíteni a 6.7.2 szakaszban előírtakkal szemben. A figyelembe veendő vészhelyzetek az anyag öngyorsuló bomlása és a 4.2.1.13.8 pontban leírt eset, amikor a láng a tartányt teljesen körülveszi.
- 4.2.1.13.3** A kiegészítő előírásokat az 55 °C-nál alacsonyabb ÖBH-val rendelkező szerves peroxidok és önreaktív anyagok mobil tartányban történő szállításához a származási ország illetékes hatóságának kell meghatározni. Erről értesítést kell küldeni a rendeltetési ország illetékes hatóságához.
- 4.2.1.13.4** A mobil tartányt legalább 0,4 MPa (4 bar) próbanyomásra kell méretezni.
- 4.2.1.13.5** A mobil tartányt hőmérséklet-érzékelő szerkezetekkel kell ellátni.
- 4.2.1.13.6** A mobil tartányt nyomáscsökkentő szelepekkel és vészlelfúvó szerkezetekkel kell ellátni. Vákuumszelepek is használhatók. A nyomáscsökkentő szelepeknek az anyag tulajdonságai és a mobil tartány szerkezeti jellemzői alapján meghatározott nyomáson kell működésbe lépniük. A tartányon olvadóbetétek nem engedélyezettek.
- 4.2.1.13.7** A nyomáscsökkentő szerkezeteknek rugóterhelésű szelepekből kell állniuk, amelyeket úgy kell beállítani, hogy megakadályozzák a tartányban az 50 °C hőmérsékleten felszabaduló bomlástermékek és gőzök jelentős felhalmozódását. A nyomáscsökkentő szelepek áteresztési keresztmetszetét és nyitónyomását a 4.2.1.13.1 pontban előírt vizsgálatok eredményei alapján kell meghatározni. A nyitónyomás azonban semmilyen esetben sem lehet olyan, hogy a mobil tartány felborulása esetén a szelepe(ke)n keresztül folyadék távozhasson.
- 4.2.1.13.8** A vészlelfúvó szerkezetek rugóterhelésűek vagy hasadótárcsás típusúak vagy a kettő kombinációi egyaránt lehetnek, és lehetővé kell tenniük minden bomlástermék és gőz eltávolítását, amely az öngyorsuló bomlás alatt fejlődik, vagy akkor, ha legalább egy óráig olyan láng veszi körül, amely a következő képlettel jellemezhető:

$$q = 70961 \cdot F \cdot A^{0,82},$$

ahol:

$$q = \text{hőfelvétel} \quad [\text{W}]$$

$$A = \text{nedvesített felület} \quad [\text{m}^2]$$

$$F = \text{szigetelési együttható} \quad [-]$$

$F = 1$  nem szigetelt tartány esetén, vagy

$$F = \frac{U(923 - T)}{47032} \text{ szigetelt tartány esetén}$$

ahol:

$$U = K/L = \text{a szigetelő réteg hőátadási együtthatója} \quad [\text{W} \cdot \text{m}^{-2} \cdot \text{K}^{-1}]$$

$$K = \text{a szigetelő réteg hővezetési együtthatója} \quad [\text{W} \cdot \text{m}^{-1} \cdot \text{K}^{-1}]$$

$$L = \text{a szigetelőréteg vastagsága} \quad [\text{m}]$$

$T$  = az anyag hőmérséklete lefúváskor [K]

A vészlefüvő szerkezet(ek) nyitónyomásának nagyobbak kell lennie, mint a 4.2.1.13.7 pontban meghatározott nyomás, és azt a 4.2.1.13.1 pontban meghatározott vizsgálatok eredményei alapján kell meghatározni. A vészlefüvő szerkezeteket úgy kell méretezni, hogy a tartányban a legnagyobb nyomás soha ne haladja meg a tartány próbanyomását.

**Megjegyzés:** A vészlefüvő szerkezet méretezésére a „Vizsgálatok és kritériumok kézikönyv” 5. Függelékében található példa.

- 4.2.1.13.9** Szigeteléssel ellátott mobil tartányoknál a vészlefüvő szerkezet(ek) teljesítményét és beállítását a felület 1%-át kitevő szigetelés veszteséget feltételezve kell meghatározni.
- 4.2.1.13.10** A vákuumszelepeket és a rugóterhelésű szelepeket lángzárral kell ellátni. A lefúvási teljesítmény lángzár által okozott csökkenését figyelembe kell venni.
- 4.2.1.13.11** Az üzemi szerelvényeket, pl. szelepeket és külső csővezetéseket úgy kell kialakítani, hogy a mobil tartány megtöltése után ne maradjon bennük anyag.
- 4.2.1.13.12** A mobil tartányokat szigeteléssel vagy a napsugárzás elleni védőlemezzel lehet ellátni. Ha a mobil tartányban levő anyag ÖBH értéke 55 °C vagy annál alacsonyabb, vagy ha a mobil tartány alumíniumból készült, akkor a mobil tartányt teljes szigeteléssel kell ellátni. A külső felületet fehérre kell festeni vagy világos színű, metál fényezésűnek kell lennie.
- 4.2.1.13.13** A töltési fok 15 °C-on nem haladhatja meg a 90%-ot.
- 4.2.1.13.14** A 6.7.2.20.2 pontban előírt jelölésnek tartalmaznia kell az UN számot és a műszaki megnevezést az anyag engedélyezett koncentrációjával együtt.
- 4.2.1.13.15** Csak a 4.2.5.2.6 pontban a T23 mobil tartány utasításban külön felsorolt szerves peroxidok és önreaktív anyagok szállíthatók mobil tartányban.
- 4.2.1.14** *Kiegészítő előírások a 6.1 osztály anyagainak mobil tartányban történő szállítására*  
(fenntartva)
- 4.2.1.15** *Kiegészítő előírások a 6.2 osztály anyagainak mobil tartányban történő szállítására*  
(fenntartva)
- 4.2.1.16** *Kiegészítő előírások a 7 osztály anyagainak mobil tartányban történő szállítására*
- 4.2.1.16.1** A radioaktív anyagok szállítására használt mobil tartányokat tilos más áruk szállítására használni.
- 4.2.1.16.2** A mobil tartányok töltési foka nem haladhatja meg a 90%-ot, illetve az illetékes hatóság által engedélyezett más értéket.
- 4.2.1.17** *Kiegészítő előírások a 8 osztály anyagainak mobil tartányban történő szállítására*
- 4.2.1.17.1** A 8 osztály anyagainak szállításához használt mobil tartányok nyomáscsökkentő szerkezeteit legalább évente felül kell vizsgálni.
- 4.2.1.18** *Kiegészítő előírások a 9 osztály anyagainak mobil tartányokban történő szállítására*  
(fenntartva)

**4.2.1.19** *Kiegészítő előírások a szilárd anyagok olvadáspontjuk feletti hőmérsékleten történő szállítására*

**4.2.1.19.1** Azok az olvadáspontjuk feletti hőmérsékleten szállított (vagy szállításra feladott) szilárd anyagok, amelyekhez a 3.2 fejezet „A” táblázat 10 oszlopában nincs mobil tartány utasítás hozzárendelve, ill. a hozzárendelt mobil tartány utasítás nem vonatkozik az olvadáspont feletti hőmérsékleten történő szállításra, csak akkor szállíthatók mobil tartányban, ha a szilárd anyag a 4.1, 4.2, 4.3, 5.1, 6.1, 8 vagy 9 osztályba tartozik, a II vagy III csomagolási csoporthoz van hozzárendelve és a 6.1, ill. a 8 osztály veszélyén kívül más járulékos veszélye nincs.

**4.2.1.19.2** Hacsak a 3.2 fejezet „A” táblázatában nincs másként előírva, a szilárd anyagok olvadáspontjuk feletti hőmérsékleten történő szállítására használt mobil tartányoknak a III csomagolási csoportba tartozó szilárd anyagok esetén a T4 mobil tartány utasítás előírásainak, ill. a II csomagolási csoportba tartozó szilárd anyagok esetén a T7 mobil tartány utasítás előírásainak kell megfelelniük. A 4.2.5.2.5 pont értelmében azonos vagy nagyobb biztonsági szintet kielégítő, más mobil tartány is választható. A legnagyobb töltési fokot (%-ban) a 4.2.1.9.5.1 pont szerint kell meghatározni (TP3 különleges előírás).

**4.2.2** *Általános előírások a mobil tartányok használatára a nem mélyhűtött, cseppfolyósított gázok szállításához*

**4.2.2.1** Ez a szakasz azokat az általános előírásokat tartalmazza, amelyeket a mobil tartányok nem mélyhűtött, cseppfolyósított gázok szállításához történő használatánál kell alkalmazni.

**4.2.2.2** A mobil tartányoknak a 6.7.3 szakaszban részletezett tervezési, gyártási és vizsgálati követelményeknek kell megfelelniük. A nem mélyhűtött, cseppfolyósított gázokat a 4.2.5.2.6 pontban található T50 mobil tartány utasításnak és a 3.2 fejezet „A” táblázat 11 oszlopában az adott gázra vonatkozó, a 4.2.5.3 bekezdésben található mobil tartány különleges előírásoknak megfelelő mobil tartányokban kell szállítani.

**4.2.2.3** A mobil tartányokat alkalmas módon védeni kell a szállítás során a hosszirányú és keresztirányú lökésekkel vagy felborulásból adódóan a tartányt, ill. üzemi szerelvényeit érő sérülésekkel szemben. Amennyiben a tartány és az üzemi szerelvények úgy vannak kialakítva, hogy a lökéseknek és a felborulásnak ellenállnak, akkor nem szükséges ily módon védeni. A tartányok védelmének példái a 6.7.3.13.5 pontban találhatók.

**4.2.2.4** Bizonyos nem mélyhűtött, cseppfolyósított gázok vegyileg nem állandóak. Ezek csak akkor fogadhatók el szállításra, ha megtették a szükséges intézkedéseket a szállítás alatti veszélyes bomlásuk, átalakulásuk vagy polimerizálódásuk megakadályozására. E célból különösen arról kell gondoskodni, hogy a mobil tartányok ne tartalmazzanak olyan nem mélyhűtött, cseppfolyósított gázokat, amelyek az ilyen reakciókat elősegítik.

**4.2.2.5** Ha a szállított gáz(ok) neve nincs feltüntetve a 6.7.3.16.2 pontban meghatározott fémtáblán, a 6.7.3.14.1 pontban előírt bizonyítvány másolatát az illetékes hatóság vagy általa felhatalmazott szerv kérésére a feladó, a címzett vagy az ügynöke útján késedelem nélkül be kell mutatni.

**4.2.2.6** Az üres, tisztítatlan és nem gáztalanított mobil tartányoknak ugyanolyan előírásoknak kell megfelelniük, mint az előzőleg szállított nem mélyhűtött, cseppfolyósított gázzal megtöltött mobil tartányoknak.



**4.2.2.7 Töltés**

**4.2.2.7.1** Töltés előtt a mobil tartányt ellenőrizni kell annak biztosítására, hogy a szállítandó nem mélyhűtött, cseppfolyósított gázra engedélyezett legyen és nem töltenek bele olyan nem mélyhűtött, cseppfolyósított gázt, amely a tartány, a tömítések, az üzemi szerelvények vagy a védőbevonatok anyagával érintkezve veszélyesen reagálhat, veszélyes anyagokat képezhet vagy anyagukat jelentősen gyengítheti. Töltés alatt a nem mélyhűtött, cseppfolyósított gáz hőmérsékletének a méretezési hőmérséklet tartomány határain belül kell lennie.

**4.2.2.7.2** A nem mélyhűtött, cseppfolyósított gáz úrtartalom literenkénti legnagyobb mennyisége (kg/l) a tartányban nem lehet nagyobb, mint a nem mélyhűtött, cseppfolyósított gáz 50 °C-on fennálló sűrűségének 0,95-szorosa. Ezen kívül a tartány 60 °C-on nem lehet a folyadékkal teljesen tele.

**4.2.2.7.3** A mobil tartányok nem tölthetők meg az engedélyezett legnagyobb bruttó tömeget és az egyes szállítandó gázokra engedélyezett legnagyobb töltőtömeget meghaladó mértékben.

**4.2.2.8** A mobil tartány nem adható át szállításra:

- a) ha a belsejében levő folyadékteltes tér akkora, hogy a mobil tartányon belül a folyadék hullámozása megengedhetetlen hidraulikus erőket keltene;
- b) ha szivárogoz;
- c) ha olyan mértékben sérült, hogy ez befolyásolhatja a mobil tartány vagy emelő- vagy rögzítőszerkezeteinek épségét; és
- d) amíg az üzemi szerelvényeket meg nem vizsgálták és meg nem állapították, hogy jó üzemi állapotban vannak.

**4.2.2.9** A mobil tartány emelővilla zsebeinek megtöltött tartánynál zárva kell lenniük. Ez az előírás nem vonatkozik azokra a mobil tartányokra, amelyeknek emelővilla zsebeit a 6.7.3.13.4 pont szerint nem kell zárószerkezettel ellátni.

**4.2.3 Általános előírások a mobil tartányok használatára a mélyhűtött, cseppfolyósított gázok szállításához**

**4.2.3.1** Ez a szakasz azokat az általános előírásokat tartalmazza, amelyeket a mobil tartányok mélyhűtött, cseppfolyósított gázok szállításához történő használatánál kell alkalmazni.

**4.2.3.2** A mobil tartányoknak a 6.7.4 szakaszban részletezett tervezési, gyártási és vizsgálati követelményeknek kell megfelelniük. A mélyhűtött, cseppfolyósított gázokat a 4.2.5.2.6 pontban található T75 mobil tartány utasításának és a 3.2 fejezet „A” táblázat 11 oszlopában az adott anyagra vonatkozó, a 4.2.5.3 bekezdésben található mobil tartány különleges előírásoknak megfelelő mobil tartányokban kell szállítani.

**4.2.3.3** A mobil tartányokat alkalmas módon védeni kell a szállítás során a hosszirányú és keresztirányú lökésekkel vagy felborulásból adódóan a tartányt, ill. üzemi szerelvényeit érő sérülésekkel szemben. Amennyiben a tartány és az üzemi szerelvények úgy vannak kialakítva, hogy a lökéseknek és a felborulásnak ellenállnak, akkor nem szükséges ily módon védeni. A tartányok védelmének példái a 6.7.4.12.5 pontban találhatók.

**4.2.3.4** Ha a szállított gáz(ok) neve nincs feltüntetve a 6.7.4.15.2 pontban meghatározott fémtáblán, a 6.7.4.13.1 pontban előírt bizonyítvány másolatát az illetékes hatóság vagy általa felhatalmazott szerv kérésére a feladó, a címzett vagy az ügynöke útján késedelem nélkül be kell mutatni.

**4.2.3.5** Az üres, tisztítatlan és nem gáztalanított mobil tartányoknak ugyanolyan előírásoknak kell



megfelelniük, mint az előzőleg szállított mélyhűtött, cseppfolyósított gázzal megtöltött mobil tartányoknak.

#### **4.2.3.6** *Töltés*

**4.2.3.6.1** Töltés előtt a mobil tartányt ellenőrizni kell annak biztosítására, hogy a szállítandó mélyhűtött, cseppfolyósított gázra engedélyezett legyen és nem töltenek bele olyan mélyhűtött, cseppfolyósított gázt, amely a tartány, a tömítések, az üzemi szerelvények vagy a védőbevonatok anyagával érintkezve veszélyesen reagálhat, veszélyes anyagokat képezhet vagy anyagukat jelentősen gyengítheti. Töltés alatt a mélyhűtött, cseppfolyósított gáz hőmérsékletének a méretezési hőmérséklet tartomány határain belül kell lennie.

**4.2.3.6.2** A kezdeti töltési fok becsléséhez figyelembe kell venni a tervezett szállításhoz szükséges megtartási időt, beszámítva a lehetséges késéseket. A 4.2.3.6.3 és a 4.2.3.6.4 pontban előírtak kivételével a tartány kezdeti töltési fokának akkorának kell lennie, hogy ha a tartalom – a hélium kivételével – olyan hőmérsékletet érne el, amelyen a gőznyomás egyenlő a megengedett legnagyobb üzemi nyomással, a folyadék által elfoglalt térfogat nem lenne nagyobb 98%-nál.

**4.2.3.6.3** A hélium szállítására szolgáló tartányokat legfeljebb a nyomáscsökkentő szelep bemenetéig szabad megtölteni.

**4.2.3.6.4** Az illetékes hatóság nagyobb kezdeti töltési fokot engedélyezhet, amennyiben a szállítás várható időtartama lényegesen rövidebb, mint a megtartási idő.

#### **4.2.3.7** *Tényleges megtartási idő*

**4.2.3.7.1** A tényleges megtartási időt minden egyes szállításra ki kell számítani az illetékes hatóság által elismert eljárás szerint a következők alapján:

- a) a szállítandó mélyhűtött, cseppfolyósított gázra vonatkozó referencia megtartási idő (lásd a 6.7.4.2.8.1 pontot) (a 6.7.4.15.1 pont szerinti táblán feltüntetve);
- b) a tényleges töltési sűrűség;
- c) a tényleges töltési nyomás;
- d) a nyomáshatároló eszköz(ök) legkisebb nyitónyomása.

**4.2.3.7.2** A tényleges megtartási időt vagy magán a mobil tartányon vagy a mobil tartányra tartósan rögzített fémtáblán kell feltüntetni a 6.7.4.15.2 pont szerint.

**4.2.3.8** A mobil tartány nem adható át szállításra:

- a) ha a belsejében levő folyadékmentes tér akkora, hogy a mobil tartányon belül a folyadék hullámozása megengedhetetlen hidraulikus erőket keltene;
- b) ha szivárog;
- c) ha olyan mértékben sérült, hogy ez befolyásolhatja a mobil tartány vagy emelő- vagy rögzítő szerkezeteinek épségét;
- d) amíg az üzemi szerelvényeket meg nem vizsgálták és meg nem állapították, hogy jó üzemi állapotban vannak;
- e) amíg a tényleges megtartási időt a szállított mélyhűtött, cseppfolyósított gázra meg nem a határozták a 4.2.3.7 bekezdés szerint, és a mobil tartányt a 6.7.4.15.2 pont szerinti jelöléssel el nem látták; és
- f) ha a szállítás időtartama, figyelembe véve a lehetséges késéseket is, meghaladja a tényleges megtartási időt.

- 4.2.3.9** A mobil tartány emelővilla zsebeinek megtöltött tartánynál zárva kell lenniük. Ez az előírás nem vonatkozik azokra a mobil tartányokra, amelyeknek emelővilla zsebeit a 6.7.4.12.4 pont szerint nem kell zárószerkezettel ellátni.
- 4.2.4** **Általános előírások az UN többelemes gázkonténerek (UN MEG-konténerek) használatára**
- 4.2.4.1** Ez a szakasz a nem mélyhűtött, cseppfolyósított gázok szállítására szolgáló, a 6.7.5 szakasz szerinti többelemes gázkonténerek (MEG-konténerek) használatára vonatkozó általános előírásokat tartalmazza.
- 4.2.4.2** A MEG-konténereknek a 6.7.5 szakaszban részletezett tervezési, gyártási és vizsgálati követelményeknek kell megfelelniük. A MEG-konténerek elemeit a 4.1.4.1 bekezdés P200 csomagolási utasításában és a 6.2.1.6 bekezdésben található előírások szerint kell időszakos vizsgálatnak alávetni.
- 4.2.4.3** A MEG-konténereket alkalmas módon védeni kell a szállítás során a hosszirányú és keresztirányú lökésekkel vagy felborulásból adódóan az elemeket, ill. üzemi szerelvényeket érő sérülésekkel szemben. Amennyiben az elemek és az üzemi szerelvények úgy vannak kialakítva, hogy a lökéseknek és a felborulásnak ellenállnak, akkor nem szükséges ily módon védeni. Az ilyen védelemre példák a 6.7.5.10.4 pontban találhatók.
- 4.2.4.4** A MEG-konténerek időszakos vizsgálatára vonatkozó előírásokat a 6.7.5.12 bekezdés tartalmazza. A MEG-konténer, ill. elemei az időszakos vizsgálat határideje után nem tölthetők meg, de a MEG-konténer a határidő eltelte után is szállítható.
- 4.2.4.5** *Töltés*
- 4.2.4.5.1** Töltés előtt a MEG-konténert ellenőrizni kell annak biztosítására, hogy a szállítandó gázra engedélyezett legyen és a RID vonatkozó előírásait betartották.
- 4.2.4.5.2** A MEG-konténer elemeit a 4.1.4.1 bekezdés P200 csomagolási utasításában az adott gázra meghatározott üzemi nyomás, töltési fok és töltési előírások betartásával kell megtölteni. Ha egy MEG-konténert vagy elemei egy csoportját nem elemenként, hanem egységként töltenek meg, akkor semmilyen esetben sem szabad a legkisebb üzemi nyomású elem üzemi nyomása fölé tölteni.
- 4.2.4.5.3** A MEG-konténereket nem szabad a megengedett legnagyobb bruttó tömegüket meghaladó mértékben megtölteni.
- 4.2.4.5.4** A leválasztó szelepeket a töltés után el kell zárni és a szállítás alatt zárva kell maradniuk. Mérgező (a T, TF, TC, TO, TFC és TOC csoportba tartozó) gázok csak olyan MEG-konténerben szállíthatók, amely elemei leválasztó szeleppel vannak ellátva.
- 4.2.4.5.5** A töltőnyílás(oka)t dugóval vagy sapkával kell lezárni. A zárószerkezetek és a szerelvények tömítettségét a töltőnek a töltés után ellenőriznie kell.
- 4.2.4.5.6** A MEG-konténer nem adható át töltésre:
- a) ha olyan mértékben sérült, hogy ez befolyásolhatja a nyomástartó tartályok, az üzemi vagy a szerkezeti szerelvények épségét;
  - b) amíg a nyomástartó tartályokat, az üzemi és a szerkezeti szerelvényeket meg nem vizsgálták és meg nem állapították, hogy jó üzemi állapotban vannak; és
  - c) ha a tanúsításra, az időszakos vizsgálatra, ill. a töltésre vonatkozó jelölés olvashatatlan.

**4.2.4.6** A megtöltött MEG-konténer nem adható át szállításra:

- a) ha szivároog;
- b) ha olyan mértékben sérült, hogy ez befolyásolhatja a nyomástartó tartályok, az üzemi vagy a szerkezeti szerelvények épségét;
- c) amíg a nyomástartó tartályokat, az üzemi és a szerkezeti szerelvényeket meg nem vizsgálták és meg nem állapították, hogy jó üzemi állapotban vannak; és
- d) ha a tanúsításra, az időszakos vizsgálatra, ill. a töltésre vonatkozó jelölés olvashatatlan.

**4.2.4.7** Az üres, tisztítatlan és nem gáztalanított MEG-konténernek ugyanazon követelményeknek kell megfelelnie, mint az előzőleg szállított anyaggal megtöltött MEG-konténernek.

## **4.2.5 Mobil tartány utasítások és különleges előírások**

### **4.2.5.1 Általános előírások**

**4.2.5.1.1** Ez a szakasz a mobil tartányban szállítható veszélyes árukhoz tartozó mobil tartány utasításokat és különleges előírásokat tartalmazza. Minden mobil tartány utasítást egy betűből és számokból álló kód jelöl (pl. T1). A mobil tartányban szállítható anyagokhoz az alkalmazandó mobil tartány utasítást a 3.2 fejezet „A” táblázat 10 oszlopa tünteti fel. Ha a 10 oszlopban az adott anyagra nincs mobil tartány utasítás feltüntetve, akkor ez az anyag nem szállítható mobil tartányban, kivéve, ha azt az illetékes hatóság a 6.7.1.3 bekezdés szerint engedélyezte. A mobil tartány különleges előírások a 3.2 fejezet „A” táblázat 11 oszlopában találhatók. Minden mobil tartány különleges előírást egy betűkből és számokból álló kód jelöl (pl. TP1). A mobil tartány különleges előírásokat a 4.2.5.3 bekezdés tartalmazza.

***Megjegyzés:** A MEG-konténerben történő szállításra engedélyezett gázoknál a 3.2 fejezet „A” táblázat 10 oszlopában „(M)” jelölés található.*

### **4.2.5.2 Mobil tartány utasítások**

**4.2.5.2.1** A mobil tartány utasításokat az 1 – 9 osztály veszélyes anyagaihoz kell alkalmazni. A mobil tartány utasítás az adott anyaghoz használható mobil tartányra vonatkozó előírásokról ad tájékoztatást. Ezeket az előírásokat az e fejezet és a 6.7 fejezet általános követelményei kiegészítéseképpen kell betartani.

**4.2.5.2.2** Az 1 és a 3 – 9 osztály anyagaihoz a mobil tartány utasítások tartalmazzák az alkalmazandó legkisebb próbanyomást, a tartány legkisebb falvastagságát (referencia acélra), az alsó nyílásokra és a nyomás csökkentésre vonatkozó követelményeket. A T23 mobil tartány utasításban szerepel azoknak a 4.1 osztályba tartozó önreaktív anyagoknak és az 5.2 osztályba tartozó szerves peroxidoknak a felsorolása, amelyek mobil tartányban szállíthatók.

**4.2.5.2.3** A nem mélyhűtött, cseppfolyósított gázokra a T50 mobil tartány utasítás vonatkozik. A T50 utasítás a mobil tartányban szállítható, nem mélyhűtött, cseppfolyósított gázokra tartalmazza a megengedett legnagyobb üzemi nyomást, a folyadékszint alatt levő nyílásokra és a nyomás csökkentésére vonatkozó követelményeket és a legnagyobb töltési sűrűséget.

**4.2.5.2.4** A mélyhűtött, cseppfolyósított gázokra a T75 mobil tartány utasítás vonatkozik.

### **4.2.5.2.5 A megfelelő mobil tartány utasítás meghatározása**

Egy adott veszélyes árura a 3.2 fejezet „A” táblázat 10 oszlopában előírt mobil tartány utasítás szerintin kívül olyan mobil tartányok is használhatók, amelyeknek a legkisebb próbanyomása nagyobb, vagy nagyobb a falvastagsága, ill. az alsó nyílásokra és a nyomáscsökkentő berendezésekre szigorúbb előírások vonatkoznak. Az adott anyag szállításához megfelelő mobil tartány határozható meg a következők szerint.

Az előírt mobil tartány utasítás	További engedélyezett mobil tartány utasítások
T1	T2, T3, T4, T5, T6, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22
T2	T4, T5, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22
T3	T4, T5, T6, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22
T4	T5, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22
T5	T10, T14, T19, T20, T22
T6	T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22
T7	T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22
T8	T9, T10, T13, T14, T19, T20, T21, T22
T9	T10, T13, T14, T19, T20, T21, T22
T10	T14, T19, T20, T22
T11	T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22
T12	T14, T16, T18, T19, T20, T22
T13	T14, T19, T20, T21, T22
T14	T19, T20, T22
T15	T16, T17, T18, T19, T20, T21, T22
T16	T18, T19, T20, T22
T17	T18, T19, T20, T21, T22
T18	T19, T20, T22
T19	T20, T22
T20	T22
T21	T22
T22	Nincs
T23	Nincs

#### 4.2.5.2.6 Mobil tartány utasítások

A mobil tartány utasítások az egyes anyagok szállításához használt mobil tartányra vonatkozó követelményeket határozzák meg. A T1 – T22 mobil tartány utasítás meghatározza az alkalmazandó legkisebb próbanyomást, a legkisebb falvastagságot (referencia acélra mm-ben), a nyomás csökkentésre és az alsó nyílásokra vonatkozó követelményeket.

T1 – T22		MOBIL TARTÁNY UTASÍTÁSOK			T1 – T22
Ezek a mobil tartány utasítások a 3 – 9 osztály folyékony és szilárd anyagaira vonatkoznak. A 4.2.1 szakasz általános előírásait és a 6.7.2 szakasz követelményeit be kell tartani.					
Mobil tartány utasítás	Legkisebb próbanyomás (bar)	Legkisebb falvastagság (referencia acélra mm-ben) (lásd 6.7.2.4)	A nyomás csökkentésre vonatkozó követelmények <sup>a)</sup> (lásd 6.7.2.8)	Az alsó nyílásokra vonatkozó követelmények (lásd 6.7.2.6)	
T1	1,5	Lásd 6.7.2.4.2	Normál	Lásd 6.7.2.6.2	
T2	1,5	Lásd 6.7.2.4.2	Normál	Lásd 6.7.2.6.3	
T3	2,65	Lásd 6.7.2.4.2	Normál	Lásd 6.7.2.6.2	
T4	2,65	Lásd 6.7.2.4.2	Normál	Lásd 6.7.2.6.3	
T5	2.65	Lásd 6.7.2.4.2	Lásd 6.7.2.8.3	Nem engedélyezett	
T6	4	Lásd 6.7.2.4.2	Normál	Lásd 6.7.2.6.2	
T7	4	Lásd 6.7.2.4.2	Normál	Lásd 6.7.2.6.3	
T8	4	Lásd 6.7.2.4.2	Normál	Nem engedélyezett	
T9	4	6 mm	Normál	Nem engedélyezett	
T10	4	6 mm	Lásd 6.7.2.8.3	Nem engedélyezett	
T11	6	Lásd 6.7.2.4.2	Normál	Lásd 6.7.2.6.3	
T12	6	Lásd 6.7.2.4.2	Lásd 6.7.2.8.3	Lásd 6.7.2.6.3	
T13	6	6 mm	Normál	Nem engedélyezett	
T14	6	6 mm	Lásd 6.7.2.8.3	Nem engedélyezett	
T15	10	Lásd 6.7.2.4.2	Normál	Lásd 6.7.2.6.3	
T16	10	Lásd 6.7.2.4.2	Lásd 6.7.2.8.3	Lásd 6.7.2.6.3	
T17	10	6 mm	Normál	Lásd 6.7.2.6.3	
T18	10	6 mm	Lásd 6.7.2.8.3	Lásd 6.7.2.6.3	
T19	10	6 mm	Lásd 6.7.2.8.3	Nem engedélyezett	
T20	10	8 mm	Lásd 6.7.2.8.3	Nem engedélyezett	
T21	10	10 mm	Normál	Nem engedélyezett	
T22	10	10 mm	Lásd 6.7.2.8.3	Nem engedélyezett	

a) A rovatokban szereplő „Normál” szó arra utal, hogy a 6.7.2.8 bekezdés minden követelményét teljesíteni kell, a 6.7.2.8.3 pont kivételével.

<div style="display: flex; justify-content: space-between;"> <span><b>T23</b></span> <span><b>MOBIL TARTÁNY UTASÍTÁS</b></span> <span><b>T23</b></span> </div>						
Ez a mobil tartány utasítás a 4.1 osztály önreaktív anyagaina és az 5.2 osztály szerves peroxidjaira vonatkozik. A 4.2.1 szakasz általános előírásait és a 6.7.2 szakasz követelményeit teljesíteni kell. A 4.1 osztály önreaktív anyagaina és az 5.2 osztály szerves peroxidjaira a 4.2.1.13 bekezdés vonatkozó kiegészítő előírásait ugyancsak be kell tartani.						
UN szám	Anyag	Legkisebb próbanyomás (bar)	Legkisebb falvastagság (referencia acélra, mm-ben)	Az alsó nyílásokra vonatkozó követelmények	A nyomás csökkentésre vonatkozó követelmények	Töltési fok
3109	<b>F TÍPUSÚ, FOLYÉKONY SZERVES PEROXID</b>  terc-Butil-hidroper- oxid <sup>a)</sup> , legfeljebb 72%-os, vízzel Kumil-hidroperoxid, legfeljebb 90%-os, A típusú hígítóval Di-terc-butil-peroxid, legfeljebb 32%-os, A típusú hígítóval Izopropil-kumil-hid- roperoxid, legfeljebb 72%-os, A típusú hígítóval p-Mentil-hidro- peroxid legfeljebb 72%-os, A típusú hígítóval Pinanil-hidroperoxid, legfeljebb 56%-os, A típusú hígítóval	4	Lásd 6.7.2.4.2	Lásd 6.7.2.6.3	Lásd 6.7.2.8.2 4.2.1.13.6 4.2.1.13.7 4.2.1.13.8	Lásd 4.2.1.13.13
3110	<b>F TÍPUSÚ, SZILÁRD SZERVES PEROXID Dikumil-peroxid<sup>b)</sup></b>	4	Lásd 6.7.2.4.2	Lásd 6.7.2.6.3	Lásd 6.7.2.8.2 4.2.1.13.6 4.2.1.13.7 4.2.1.13.8	Lásd 4.2.1.13.13
3229	<b>F TÍPUSÚ, ÖNREAKTÍV FOLYÉKONY ANYAG</b>	4	Lásd 6.7.2.4.2	Lásd 6.7.2.6.3	Lásd 6.7.2.8.2 4.2.1.13.6 4.2.1.13.7 4.2.1.13.8	Lásd 4.2.1.13.13
3230	<b>F TÍPUSÚ, ÖNREAKTÍV SZILÁRD ANYAG</b>	4	Lásd 6.7.2.4.2	Lásd 6.7.2.6.3	Lásd 6.7.2.8.2 4.2.1.13.6 4.2.1.13.7 4.2.1.13.8	Lásd 4.2.1.13.13

a) Amennyiben intézkedéseket tettek a 65% terc-butil-hidroperoxid és 35% víz keverékével azonos biztonság eléréséhez.

b) Legnagyobb mennyiség mobil tartánynként 2000 kg.

T50 MOBIL TARTÁNY UTASÍTÁS T50					
Ez a mobil tartány utasítás a nem mélyhűtött, cseppfolyósított gázokra vonatkozik. A 4.2.2 szakasz általános előírásait és a 6.7.3 szakasz követelményeit be kell tartani.					
UN szám	Nem mélyhűtött, cseppfolyósított gázok	Legnagyobb megengedett üzemi nyomás (bar) – kis méretű tartányra <sup>a)</sup> ; – hőszigetelés nélküli tartányra <sup>a)</sup> ; – napsugárzás elleni védőlemez esetén <sup>a)</sup> ; – szigetelés esetén <sup>a)</sup>	Nyílás a folyadéksztint alatt	A nyomás csökkentésre vonatkozó követelmények <sup>b)</sup> (lásd 6.7.3.7)	Legnagyobb töltési sűrűség (kg/l)
1005	Ammónia, vízmentes	29,0 25,7 22,0 19,7	Megengedett	Lásd 6.7.3.7.3	0,53
1009	Bróm-trifluor-metán (R 13B1 hűtőgáz)	38,0 34,0 30,0 27,5	Megengedett	Normál	1,13
1010	Butadiének, stabilizált	7,5 7,0 7,0 7,0	Megengedett	Normál	0,55
1010	Butadiének és szénhidrogén keveréke, stabilizált	Lásd a megengedett legnagyobb üzemi nyomás meghatározását a 6.7.3.1 bekezdésben	Megengedett	Normál	Lásd 4.2.2.7
1011	Bután	7,0 7,0 7,0 7,0	Megengedett	Normál	0,51
1012	Butén	8,0 7,0 7,0 7,0	Megengedett	Normál	0,53
1017	Klór	19,0 17,0 15,0 13,5	Nem megengedett	Lásd 6.7.3.7.3	1,25
1018	Klór-difluor-metán (R 22 hűtőgáz)	26,0 24,0 21,0 19,0	Megengedett	Normál	1,03
1020	Klór-pentafluor-etán (R 115 hűtőgáz)	23,0 20,0 18,0 16,0	Megengedett	Normál	1,06
1021	1-Klór-1,2,2,2-tetrafluor-etán (R 124 hűtőgáz)	10 3 9,8 7,9 7,0	Megengedett	Normál	1,20
1027	Ciklopropán	18,0 16,0 14,5 13,0	Megengedett	Normál	0,53

T50 (folyt.)		MOBIL TARTÁNY UTASÍTÁS			T50 (folyt.)
UN szám	Nem mélyhűtött, cseppfolyósított gázok	Legnagyobb megengedett üzemi nyomás (bar) – kis méretű tartányra <sup>a)</sup> ; – hőszigetelés nélküli tartányra <sup>a)</sup> ; – napsugárzás elleni védőlemez esetén <sup>a)</sup> ; – szigetelés esetén <sup>a)</sup>	Nyílás a folyadékszint alatt	A nyomás csökkentésre vonatkozó követelmény ek <sup>b)</sup> (lásd 6.7.3.7)	Legnagyobb töltési sűrűség (kg/l)
1028	Diklór-difluor-metán (R 12 hűtőgáz)	16,0 15,0 13,0 11,5	Megengedett	Normál	1,15
1029	Diklór-fluor-metán (R 21 hűtőgáz)	7,0 7,0 7,0 7,0	Megengedett	Normál	1,23
1030	1,1-Difluor-etán (R 152a hűtőgáz)	16,0 14,0 12,4 11,0	Megengedett	Normál	0,79
1032	Dimetil-amin, vízmentes	7,0 7,0 7,0 7,0	Megengedett	Normál	0,59
1033	Dimetil-éter	15,5 13,8 12,0 10,6	Megengedett	Normál	0,58
1036	Etil-amin	7,0 7,0 7,0 7,0	Megengedett	Normál	0,61
1037	Etil-klorid	7,0 7,0 7,0 7,0	Megengedett	Normál	0,80
1040	Etilén-oxid nitrogénnel 50 °C-on legfeljebb 1 MPa (10 bar) össznyomásig	- - - 10,0	Nem megengedett	Lásd 6.7.3.7.3	0,78
1041	Etilén-oxid és szén-dioxid keveréke 9%-nál több, de legfeljebb 87% etilén-oxid tartalommal	Lásd a megengedett legnagyobb üzemi nyomás meghatározását a 6.7.3.1 bekezdésben	Megengedett	Normál	Lásd 4.2.2.7
1055	Izobutén	8,1 7,0 7,0 7,0	Megengedett	Normál	0,52
1060	Metil-acetilén és propadién keverék, stabilizált	28,0 24,5 22,0 20,0	Megengedett	Normál	0,43



T50 (folyt.)		MOBIL TARTÁNY UTASÍTÁS			T50 (folyt.)
UN szám	Nem mélyhűtött, cseppfolyósított gázok	Legnagyobb megengedett üzemi nyomás (bar) – kis méretű tartányra <sup>a)</sup> ; – hőszigetelés nélküli tartányra <sup>a)</sup> ; – napsugárzás elleni védőlemez esetén <sup>a)</sup> ; – szigetelés esetén <sup>a)</sup>	Nyílás a folyadékszint alatt	A nyomás csökkentésre vonatkozó követelmény ek <sup>b)</sup> (lásd 6.7.3.7)	Legnagyobb töltési sűrűség (kg/l)
1061	Metil-amin, vízmentes	10,8 9,6 7,8 7,0	Megengedett	Normál	0,58
1062	Metil-bromid legfeljebb 2% klórpikrin tartalommal	7,0 7,0 7,0 7,0	Nem megengedett	Lásd 6.7.3.7.3	1,51
1063	Metil-klorid (R 40 hűtőgáz)	14,5 12,7 11,3 10,0	Megengedett	Normál	0,81
1064	Metil-merkaptán	7,0 7,0 7,0 7,0	Nem megengedett	Lásd 6.7.3.7.3	0,78
1067	Dinitrogén-tetroxid (nitrogén-dioxid)	7,0 7,0 7,0 7,0	Nem megengedett	Lásd 6.7.3.7.3	1,30
1075	Petróleumgáz, cseppfolyósított	Lásd a megengedett legnagyobb üzemi nyomás meghatározását a 6.7.3.1 bekezdésben	Megengedett	Normál	Lásd 4.2.2.7
1077	Propilén (propén)	28,0 24,5 22,0 20,0	Megengedett	Normál	0,43
1078	Hűtőgáz, m.n.n.	Lásd a megengedett legnagyobb üzemi nyomás meghatározását a 6.7.3.1 bekezdésben	Megengedett	Normál	Lásd 4.2.2.7
1079	Kén-dioxid	11,6 10,3 8,5 7,6	Nem megengedett	Lásd 6.7.3.7.3	1,23
1082	Trifluor-klór-etilén, stabilizált	17,0 15,0 13,1 11,6	Nem megengedett	Lásd 6.7.3.7.3	1,13
1083	Trimetil-amin, vízmentes	7,0 7,0 7,0 7,0	Megengedett	Normál	0,56
1085	Vinil-bromid, stabilizált	7,0 7,0 7,0 7,0	Megengedett	Normál	1,37

T50 (folyt.)		MOBIL TARTÁNY UTASÍTÁS			T50 (folyt.)
UN szám	Nem mélyhűtött, cseppfolyósított gázok	Legnagyobb megengedett üzemi nyomás (bar) – kis méretű tartányra <sup>a)</sup> ; – hőszigetelés nélküli tartányra <sup>a)</sup> ; – napsugárzás elleni védőlemez esetén <sup>a)</sup> ; – szigetelés esetén <sup>a)</sup>	Nyílás a folyadékszint alatt	A nyomás csökkentésre vonatkozó követelmény ek <sup>b)</sup> (lásd 6.7.3.7)	Legnagyobb töltési sűrűség (kg/l)
1086	Vinil-klorid, stabilizált	10,6 9,3 8,0 7,0	Megengedett	Normál	0,81
1087	Vinil-metil-éter, stabilizált	7,0 7,0 7,0 7,0	Megengedett	Normál	0,67
1581	Klórpikrin és metil-bromid keveréke 2%-nál nagyobb klórpikrin tartalommal	7,0 7,0 7,0 7,0	Nem megengedett	Lásd 6.7.3.7.3	1,51
1582	Klórpikrin és metil-klorid keveréke	19,2 16,9 15,1 13,1	Nem megengedett	Lásd 6.7.3.7.3	0,81
1858	Hexafluor-propilén (R 1216 hűtőgáz)	19,2 16,9 15,1 13,1	Megengedett	Normál	1,11
1912	Metil-klorid és diklór- metán keverék	15,2 13,0 11,6 10,1	Megengedett	Normál	0,81
1958	1,2-Diklór-1,1,2,2-tetra- fluor-etán (R 114 hűtőgáz)	7,0 7,0 7,0 7,0	Megengedett	Normál	1,30
1965	Szénhidrogén-gáz keverék, cseppfolyósított, m.n.n.	Lásd a legnagyobb megengedett üzemi nyomás meghatározását a 6.7.3.1 bekezdésben	Megengedett	Normál	Lásd 4.2.2.7
1969	Izobután	8,5 7,5 7,0 7,0	Megengedett	Normál	0,49
1973	Klór-difluor-metán és klór- pentafluor-etán keverék állandó forrásponttal, kb. 49% klór-difluor-metán tartalommal (R 502 hűtőgáz)	28,3 25,3 22,8 20,3	Megengedett	Normál	1,05
1974	Bróm-klór-difluor-metán (R 12B1 hűtőgáz)	7,4 7,0 7,0 7,0	Megengedett	Normál	1,61

<div style="display: flex; justify-content: space-between;"> <span><b>T50</b> (folyt.)</span> <span><b>MOBIL TARTÁNY UTASÍTÁS</b></span> <span><b>T50</b> (folyt.)</span> </div>					
UN szám	Nem mélyhűtött, cseppfolyósított gázok	Legnagyobb megengedett üzemi nyomás (bar) – kis méretű tartányra <sup>a)</sup> ; – hőszigetelés nélküli tartányra <sup>a)</sup> ; – napsugárzás elleni védőlemez esetén <sup>a)</sup> ; – szigetelés esetén <sup>a)</sup>	Nyílás a folyadékszint alatt	A nyomás csökkentésre vonatkozó követelmény ek <sup>b)</sup> (lásd 6.7.3.7)	Legnagyobb töltési sűrűség (kg/l)
1976	Oktafluor-ciklobután (RC 318 hűtőgáz)	8,8 7,8 7,0 7,0	Megengedett	Normál	1,34
1978	Propán	22,5 20,4 18,0 16,5	Megengedett	Normál	0,42
1983	1-Klór-2,2,2-trifluor-etán (R 133a hűtőgáz)	7,0 7,0 7,0 7,0	Megengedett	Normál	1,18
2035	1,1,1-Trifluor-etán (R 143a hűtőgáz)	31,0 27,5 24,2 21,8	Megengedett	Normál	0,76
2424	Oktafluor-propán (R 218 hűtőgáz)	23,1 20,8 18,6 16,6	Megengedett	Normál	1,07
2517	1-Klór-1,1-difluor-etán (R 142b hűtőgáz)	8,9 7,8 7,0 7,0	Megengedett	Normál	0,99
2602	Diklór-difluor-metán és 1,1-difluor-etán azeotrop keveréke kb. 74% diklór- difluor-metán tartalommal (R 500 hűtőgáz)	20,0 18,0 16,0 14,5	Megengedett	Normál	1,01
3057	Trifluor-acetil-klorid	14,6 12,9 11,3 9,9	Nem megengedett	6.7.3.7.3	1,17
3070	Etilén-oxid és diklór- difluor-metán keverék legfeljebb 12,5% etilén- oxiddal	14,0 12,0 11,0 9,0	Megengedett	6.7.3.7.3	1,09
3153	Perfluor-(metil-vinil-éter)	14,3 13,4 11,2 10,2	Megengedett	Normál	1,14
3159	1,1,1,2-Tetrafluor-etán (R 134a hűtőgáz)	17,7 15,7 13,8 12,1	Megengedett	Normál	1,04

T50 (folyt.)		MOBIL TARTÁNY UTASÍTÁS			T50 (folyt.)
UN szám	Nem mélyhűtött, cseppfolyósított gázok	Legnagyobb megengedett üzemi nyomás (bar) – kis méretű tartányra <sup>a)</sup> ; – hőszigetelés nélküli tartányra <sup>a)</sup> ; – napsugárzás elleni védőlemez esetén <sup>a)</sup> ; – szigetelés esetén <sup>a)</sup>	Nyílás a folyadékszint alatt	A nyomás csökkentésre vonatkozó követelmény ek <sup>b)</sup> (lásd 6.7.3.7)	Legnagyobb töltési sűrűség (kg/l)
3161	Cseppfolyósított gáz, - gyúlékony, m.n.n.	Lásd a megengedett legnagyobb üzemi nyomás meghatározását a 6.7.3.1 bekezdésben	Megengedett	Normál	Lásd 4.2.2.7
3163	Cseppfolyósított gáz, m.n.n.	Lásd a megengedett legnagyobb üzemi nyomás meghatározását a 6.7.3.1 bekezdésben	Megengedett	Normál	Lásd 4.2.2.7
3220	Pentafluor-etán (R 125 hűtőgáz)	34,4 30,8 27,5 24,5	Megengedett	Normál	0,95
3252	Difluor-metán (R 32 hűtőgáz))	43,0 39,0 34,4 30,5	Megengedett	Normál	0,78
3296	Heptafluor-propán (R 227 hűtőgáz)	16,0 14,0 12,5 11,0	Megengedett	Normál	1,20
3297	Etilén-oxid és klór- tetrafluor-etán keverék legfeljebb 8,8% etilén-oxid tartalommal	8,1 7,0 7,0 7,0	Megengedett	Normál	1,16
3298	Etilén-oxid és pentafluor- etán keverék legfeljebb 7,9% etilén-oxid tartalommal	25,9 23,4 20,9 18,6	Megengedett	Normál	1,02
3299	Etilén-oxid és tetrafluor- etán keverék legfeljebb 5,6% etilén-oxid tartalommal	16,7 14,7 12,9 11,2	Megengedett	Normál	1,03
3318	Ammónia oldat, vizes, relatív sűrűség 15 °C-on kisebb, mint 0,880, 50%- nál több ammóniatartalommal	Lásd a megengedett legnagyobb üzemi nyomás meghatározását a 6.7.3.1 bekezdésben	Megengedett	Lásd 6.7.3.7.3	Lásd 4.2.2.7
3337	R 404A hűtőgáz	31,6 28,3 25,3 22,5	Megengedett	Normál	0,84
3338	R 407A hűtőgáz	31,3 28,1 25,1 22,4	Megengedett	Normál	0,95
3339	R 407B hűtőgáz	33,0 29,6 26,5	Megengedett	Normál	0,95

T50 (folyt.)		MOBIL TARTÁNY UTASÍTÁS			T50 (folyt.)
UN szám	Nem mélyhűtött, cseppfolyósított gázok	Legnagyobb megengedett üzemi nyomás (bar) – kis méretű tartányra <sup>a)</sup> ; – hőszigetelés nélküli tartányra <sup>a)</sup> ; – napsugárzás elleni védőlemez esetén <sup>a)</sup> ; – szigetelés esetén <sup>a)</sup>	Nyílás a folyadékszint alatt	A nyomás csökkentésre vonatkozó követelmény ek <sup>b)</sup> (lásd 6.7.3.7)	Legnagyobb töltési sűrűség (kg/l)
		23,6			
3340	R 407C hűtőgáz	29,9 26,8 23,9 21,3	Megengedett	Normál	0,95

- a) A „kis méretű tartány” átmérője legfeljebb 1,5 m;  
a „hőszigetelés nélküli tartány” átmérője 1,5 m-nél nagyobb és nincs hőszigeteléssel vagy napsugárzás elleni védőlemezzel ellátva (lásd 6.7.3.2.12);  
a „napsugárzás elleni védőlemezzel ellátott tartány” átmérője 1,5 m-nél nagyobb és napsugárzás elleni védőlemezzel van ellátva (lásd 6.7.3.2.12);  
a „szigetelt tartány” átmérője 1,5 m-nél nagyobb és szigeteléssel van ellátva (lásd 6.7.3.2.12);  
(A „tervezési referencia hőmérséklet” meghatározására lásd a 6.7.3.1 bekezdést.)
- b) A nyomás csökkentésre vonatkozó követelmények oszlopban a „Normál” szó azt jelenti, hogy a 6.7.3.7.3 pontban előírt hasadótárcsa nem szükséges.

T75	MOBIL TARTÁNY UTASÍTÁS	T75
Ez a mobil tartány utasítás a mélyhűtött, cseppfolyósított gázokra vonatkozik. A 4.2.3 szakasz általános előírásait és a 6.7.4 szakasz követelményeit be kell tartani.		

#### 4.2.5.3 Mobil tartány különleges előírások

Egyes anyagokra mobil tartány különleges előírások vonatkoznak, amelyek azokat az előírásokat jelzik, amelyek kiegészítik vagy módosítják a mobil tartány utasításokban, ill. a 6.7 fejezetben rögzített követelményeket. A mobil tartány különleges előírások TP betűkkel kezdődő kóddal (az angol „tank provision” kifejezés rövidítése) vannak jelölve és a 3.2 fejezet „A” táblázat 11 oszlopában vannak feltüntetve az egyes anyagokhoz. A következő felsorolás tartalmazza a mobil tartány különleges előírásokat:

**TP1** A 4.2.1.9.2 pontban előírt töltési fokot be kell tartani

$$(\text{töltési fok} = \frac{97}{1 + \alpha(t_r - t_f)}).$$

**TP2** A 4.2.1.9.3 pontban előírt töltési fokot be kell tartani

$$(\text{töltési fok} = \frac{95}{1 + \alpha(t_r - t_f)}).$$

**TP3** Az olvadáspontjuk feletti hőmérsékleten szállított szilárd anyagok és a magas hőmérsékletű folyékony anyagok esetén a töltési fokot (%-ban) a 4.2.1.9.5 pont szerint kell meghatározni (töltési fok =  $95 \frac{d_r}{d_f}$ ).

**TP4** A mobil tartány töltési foka nem haladhatja meg a 90%-ot, ill. az illetékes hatóság által engedélyezett más értéket (lásd a 4.2.1.16.2 pontot).

- TP5** A 4.2.3.6 bekezdésben előírt töltési fokot be kell tartani.
- TP6** Annak érdekében, hogy a tartány felrepedését minden körülmények között megakadályozzák (beleértve azt az esetet is, ha a láng teljesen körülveszi), a tartányt olyan nyomáscsökkentő szerkezettel kell ellátni, amely megfelel a tartány befogadóképességének és a szállított anyag természetének. A szerkezetnek az anyaggal összeférhetőnek kell lennie.
- TP7** A gőztérből a levegőt nitrogénnel vagy más módon ki kell űzni.
- TP8** A mobil tartány próbanyomását 1,5 bar-ra lehet csökkenteni, ha a szállított anyag lobbanáspontja nagyobb mint 0 °C.
- TP9** Az ezen tétel alá tartozó anyag csak az illetékes hatóság engedélyével szállítható mobil tartányban.
- TP10** Legalább 5 mm vastag ólom bélés szükséges, amelyet évente kell vizsgálni vagy az illetékes hatóság által engedélyezett más alkalmas bélés anyag.
- TP11** (fenntartva)
- TP12** (törölve)
- TP13** (fenntartva)
- TP14** (fenntartva)
- TP15** (fenntartva)
- TP16** A tartányt különleges szerkezettel kell ellátni vákuum és túlnyomás megakadályozására normális szállítási feltételek mellett. Ezt az illetékes hatóságnak engedélyeznie kell. A nyomás csökkentésre vonatkozó követelmények megegyeznek a 6.7.2.8.3 pontban leírtakkal a termék nyomáscsökkentő szelepből történő kikristályosodásának megakadályozására.
- TP17** A tartány hőszigeteléséhez csak szervesetlen, nem éghető anyagok használhatók.
- TP18** A hőmérsékletet 18 °C és 40 °C között kell tartani. A megszilárdult metakrilsavat tartalmazó mobil tartányt a szállítás alatt nem szabad visszamelegíteni.
- TP19** A számított falvastagságot 3 mm-rel kell növelni. A falvastagságokat ultrahanggal kell ellenőrizni az időszakos folyadéknyomás-próbák között félidőben.
- TP20** Ez az anyag csak szigetelt tartányban, nitrogén alatt szállítható.
- TP21** A falvastagság nem lehet 8 mm-nél kisebb. A tartányokat legalább 2,5 évenként hidraulikus nyomáspróbának és belső vizsgálatnak kell alávetni.
- TP22** A csatlakozásokhoz vagy egyéb eszközökhöz használt kenőanyagoknak az oxigénnel összeférhetőeknek kell lenniük.
- TP23** A szállítás csak az illetékes hatóság által előírt különleges feltételek mellett engedélyezett.
- TP24** A mobil tartány ellátható a legnagyobb töltési fok mellett is a tartány gőztérében maradó eszközzel a szállított anyag lassú bomlása következtében kialakuló túlnyomás megakadályozására. Ennek az eszköznek meg kell akadályoznia

felborulás esetén a folyadék túlzott mértékű kifolyását vagy idegen anyagoknak a tartányba való bejutását. Ezt az eszközt az illetékes hatóságnak vagy az általa felhatalmazott szervnek engedélyeznie kell.

- TP25** (fenntartva)
- TP26** Felmelegített állapotban történő szállításkor a fűtőberendezésnek a tartány külsején kell lennie. Az UN 3176 tétel esetén ezt az előírást csak akkor kell figyelembe venni, ha az anyag a vízzel veszélyesen reagál.
- TP27** 4 bar legkisebb próbanyomású mobil tartány is használható, ha bizonyítható, hogy a 6.7.2.1 bekezdésben a próbanyomásra vonatkozó fogalommeghatározás alapján 4 bar vagy annál kisebb próbanyomás is elfogadható.
- TP28** 2,65 bar legkisebb próbanyomású mobil tartány is használható, ha bizonyítható, hogy a 6.7.2.1 bekezdésben a próbanyomásra vonatkozó fogalommeghatározás alapján 2,65 bar vagy annál kisebb próbanyomás is elfogadható.
- TP29** 1,5 bar legkisebb próbanyomású mobil tartány is használható, ha bizonyítható, hogy a 6.7.2.1 bekezdésben a próbanyomásra vonatkozó fogalommeghatározás alapján 1,5 bar vagy annál kisebb próbanyomás is elfogadható.
- TP30** Ezt az anyagot szigetelt tartányban kell szállítani.
- TP31** Ez az anyag csak szilárd állapotban szállítható tartányban.
- TP32** Az UN 0331, 0332 és 3375 anyagokhoz mobil tartányok csak a következő feltételek teljesülése esetén használhatók:
- a) A szükségtelen fojtás elkerülésére a fémből gyártott mobil tartányokat nyomáscsökkentő szerkezettel kell ellátni, ami lehet rugóterhelésű szelep, hasadótárcsa vagy olvadóbetét. Az a nyomás, amelyen a nyomáscsökkentő szerkezet működésbe lép, nem lehet 2,65 bar-nál nagyobb az olyan mobil tartányoknál, amelyek legkisebb próbanyomása 4 bar-nál nagyobb.
  - b) A tartányban történő szállításra való alkalmasságot bizonyítani kell. Ennek meghatározására alkalmas módszer pl. a 8 vizsgálati sorozat 8.d) próbája (lásd „Vizsgálatok és kritériumok kézikönyv”, I rész, 18.7 pont).
  - c) Az anyag nem hagyható a tartányban olyan hosszú ideig, ami károsodást okozhat. Megfelelő intézkedéseket kell tenni, hogy az anyag a tartányban ne tömörödjön össze és ne ülepedjen le (pl. tisztítás stb.).
- TP33** Az ehhez az anyaghoz tartozó mobil tartány utasítás a szemcsés és porszerű anyagokra, valamint az olyan szilárd anyagokra vonatkozik, amelyeket olvadáspontjuk feletti hőmérsékleten töltenek és ürítenek, de lehűtve, szilárd anyagként szállítanak. Az olvadáspontjuk feletti hőmérsékleten szállított szilárd anyagokra lásd a 4.2.1.19 bekezdést.
- TP34** A mobil tartányt nem kell a 6.7.4.14.1 pont szerinti ütközési próbának kitenni, ha a mobil tartányon a 6.7.4.15.1 pontban meghatározott táblán és ezenkívül a tartány mindkét oldalán, a külső burkolaton, legalább 10 cm-es betűkkel fel van tüntetve a „VASÚTON NEM SZÁLLÍTHATÓ” felirat.
- TP35** A 2008. december 31-ig érvényes RID szerinti T14 mobil tartány utasítás 2014. december 31-ig tovább alkalmazható.

### 4.3 fejezet

#### A fémből gyártott tartálykocsik, leszerelhető tartányok, tankkonténerek és tartányos cserefelépítmények, valamint battériás kocsik és többelemes gázkonténerek (MEG-konténerek) használata

*Megjegyzés: A mobil tartányok és az UN többelemes gázkonténerek (UN MEG-konténerek) használatára lásd a 4.2 fejezetet; a szálvázaz műanyag tankkonténerek használatára lásd a 4.4 fejezetet; a hulladékok szállítására szolgál, vákuummal üzemelő tartányok használatára lásd a 4.5 fejezetet.*

#### 4.3.1 Alkalmazási terület

**4.3.1.1** Az oldal teljes szélességében nyomtatott követelményeket a tartálykocsikra, a leszerelhető tartányokra, a battériás kocsikra, a tankkonténerekre, a tartányos cserefelépítményekre és a MEG-konténerekre egyaránt alkalmazni kell. Az egyetlen oszlopban nyomtatott követelményeket csak

- a tartálykocsikra, a leszerelhető tartányokra és a battériás kocsikra (bal oldali oszlop); ill.
- a tankkonténerekre, a tartányos cserefelépítményekre és a MEG-konténerekre (jobb oldali oszlop)

kell alkalmazni.

**4.3.1.2** Ezeket a követelményeket a gáz alakú, a folyékony, a porszerű vagy szemcsés anyagok szállításához használt

tartálykocsikra, leszerelhető tartányokra és tankkonténerekre, tartányos cserefelépítményekre és MEG-konténerekre

kell alkalmazni.

**4.3.1.3** A 4.3.2 szakasz tartalmazza az összes osztály anyagainak szállítására szolgáló tartálykocsik, leszerelhető tartányok, tankkonténerek és tartányos cserefelépítmények és a 2 osztály gázainak szállítására szolgáló battériáskocsik és MEG-konténerek használatára vonatkozó előírásokat. A 4.3.3 és a 4.3.4 szakasz a használatra vonatkozó különleges előírásokat tartalmazza, amelyek kiegészítik vagy módosítják a 4.3.2 szakasz előírásait.

**4.3.1.4** A gyártásra, a szerelvényekre, a típusjóváhagyásra, a vizsgálatokra és a jelölésre vonatkozó követelményeket lásd a 6.8 fejezetben.

**4.3.1.5** A jelen fejezet alkalmazását illető átmeneti előírásokat az  
1.6.3 | 1.6.4

szakasz tartalmazza.

#### 4.3.2 Az összes osztályra vonatkozó követelmények

##### 4.3.2.1 Használat

**4.3.2.1.1** A RID hatálya alá tartozó valamely anyag csak akkor szállítható tartálykocsiban, leszerelhető tartányban, battériás kocsiban, tankkonténerben, tartányos cserefelépítményben vagy MEG-konténerben, ha a 3.2 fejezet „A” táblázat 12 oszlopában a 4.3.3.1.1 vagy a 4.3.4.1.1 pont szerinti valamely tartánykódra hivatkozás szerepel.



- 4.3.2.1.2** Az előírt tartány, battériás kocsi és MEG-konténer típus a 3.2 fejezet „A” táblázat 12 oszlopában egy kód formájában van megadva. Az itt megjelenő azonosító kód meghatározott sorrendben betűkből, ill. betűkből és számokból áll. A négy részes kód magyarázata a 4.3.3.1.1 pontban található, ha a szállítandó anyag a 2 osztályba tartozik, illetve a 4.3.4.1.1 pontban, ha a szállítandó anyag a 3 – 9 osztályba<sup>5)</sup> tartozik.
- 4.3.2.1.3** A 4.3.2.1.2 pont szerint előírt tartány típus az a típus, amely a legkevésbé szigorú gyártási követelményeknek felel meg, amelyek a szóban forgó anyag esetében még elfogadhatók. Ha ebben a fejezetben vagy a 6.8 fejezetben nincs más előírva, lehetséges olyan tartány használata is, amelynek kódja nagyobb tervezési nyomást ír elő, ill. a töltő és ürítő nyílásokra vagy a biztonsági szelepekre, szerkezetekre szigorúbb előírást tartalmaz (a 2 osztályra vonatkozóan lásd a 4.3.3.1.1, a 3 – 9 osztályra a 4.3.4.1.1 pontot).
- 4.3.2.1.4** Bizonyos anyagok esetében a tartányokra, a battériás kocsikra, ill. MEG-konténerekre kiegészítő előírások is vonatkoznak, amelyeket a 3.2 fejezet „A” táblázat 13 oszlopa különleges előírások formájában tartalmaz.
- 4.3.2.1.5** A tartányokat, a battériás kocsikat és a MEG-konténereket csak olyan veszélyes anyagokkal szabad megtölteni, amelyekre a 6.8.2.3.1 pont szerint engedélyezve vannak, és amelyek a tartány anyagával, a tömítésekkel, a szerelvényekkel és a védőbevonattal érintkezve nem léphetnek veszélyes reakcióba (a veszélyes reakciókat lásd az 1.2.1 szakaszban), nem hozhatnak létre veszélyes terméket, vagy nem gyöngíthetik jelentősen a tartány anyagát<sup>6)</sup>.
- 4.3.2.1.6** A veszélyes anyagokhoz használt tartányokban nem szabad élelmiszereket szállítani, kivéve, ha a közegészségügyi szempontból káros következmények megelőzéséhez szükséges intézkedéseket megtették.
- 4.3.2.1.7** A tartány-vizsgálati könyvet (gépkönyvet) a tulajdonosnak vagy az üzemben tartónak kell őriznie, és a könyv dokumentumait az illetékes hatóság kérésére be kell tudnia mutatni. A tartány-vizsgálati könyvet (gépkönyvet) a tartány teljes élettartama alatt vezetni kell, és a tartány használatból való kivonása után még 15 hónapig meg kell őrizni.
- Ha a tartány élettartama alatt bármikor megváltozik a tulajdonos vagy az üzemben tartó, a tartány-vizsgálati könyvet (gépkönyvet) az új tulajdonosnak, ill. üzemben tartónak át kell adni.
- A tartány időszakos, ill. soron kívüli vizsgálatok a 6.8.2.4.5, ill. a 6.8.3.4.16 pontok szerinti próbákat, ellenőrzéseket vagy vizsgálatokat végző szakértő rendelkezésére kell bocsátani a tartány-vizsgálati könyv, ill. minden szükséges dokumentum másolatát.
- 4.3.2.2** *Töltési fok*
- 4.3.2.2.1** Folyékony anyagok környezeti hőmérsékleten való szállítására használt tartányoknál a következő töltési fokokat nem szabad túllépni:
- a) egyéb veszélyeket (pl. mérgezést, marást) nem jelentő gyúlékony anyagok esetén szellőztető-berendezéssel vagy biztonsági szeleppel felszerelt tartányoknál (akkor is, ha a szelep előtt hasadótárcsa van):
- $$\text{a töltési fok} = \text{a befogadóképesség} \frac{100}{1 + \alpha(50 - t_F)} \% - a;$$
- b) mérgező vagy maró anyagok esetén (akár gyúlékonyak, akár nem) szellőztető-berendezéssel vagy biztonsági szeleppel felszerelt tartányoknál (akkor is, ha a szelep előtt hasadótárcsa van):

5) Kivételt képeznek az 5.2 és a 7 osztály anyagainak szállítására szolgáló tartányok (lásd a 4.3.4.1.3 pontot).

6) Szükség esetén az anyag gyártójával és az illetékes hatósággal kell konzultálni annak megítéléséhez, hogy az anyag a tartány, a battériás kocsi vagy a MEG-konténer anyagával összeférhető-e.

$$\text{a töltési fok} = \text{a befogadóképesség} \frac{98}{1 + \alpha(50 - t_F)} \% - \text{a};$$

- c) gyúlékony anyagok és az enyhén mérgező vagy gyengén maró anyagok esetén (akár gyúlékonyak, akár nem) légmentesen zárt, biztonsági szelep nélküli tartányoknál:

$$\text{a töltési fok} = \text{a befogadóképesség} \frac{97}{1 + \alpha(50 - t_F)} \% - \text{a};$$

- d) nagyon mérgező vagy mérgező, erősen maró vagy maró anyagok esetén (akár gyúlékonyak, akár nem) légmentesen zárt, biztonsági szelep nélküli tartányoknál:

$$\text{a töltési fok} = \text{a befogadóképesség} \frac{95}{1 + \alpha(50 - t_F)} \% - \text{a}.$$

- 4.3.2.2.2** Ezekben a képletekben  $\alpha$  a folyadék átlagos köbös hőtágulási együtthatóját jelenti 15 °C és 50 °C között, azaz 35 °C legnagyobb hőmérséklet-változásra. Az  $\alpha$ -t a következő képlet szerint kell kiszámítani:

$$\alpha = \frac{d_{15} - d_{50}}{35d_{50}}.$$

Az előző képletekben

$d_{15}$  és  $d_{50}$  a folyadék sűrűsége 15°C-on, ill. 50°C-on;

$t_F$  a folyadék átlagos hőmérséklete a töltés alatt.

- 4.3.2.2.3** A 4.3.2.2.1 a) – d) pontban előírtak nem vonatkoznak az olyan tartányokra, amelyek a szállított anyagot a szállítás során fűtőberendezéssel 50 °C fölötti hőmérsékleten tartják. Ilyen esetben a szállítás megkezdésekor a töltési fokot úgy kell megválasztani, ill. a hőmérsékletet úgy kell szabályozni, hogy a tartány a szállítás időtartama alatt végig legfeljebb 95%-ig legyen megtöltve, és a szállítás során a hőmérséklet ne emelkedjen a töltési hőmérséklet fölé.

- 4.3.2.2.4** (fenntartva)

Amennyiben a folyékony állapotú anyagok, a cseppfolyósított, ill. a mélyhűtött, cseppfolyósított gázok szállítására használt tartány nincs válaszfalakkal vagy hullámtörő lemezekkel legfeljebb 7500 liter űrtartalmú rekeszekre osztva, a töltési foknak a befogadóképesség legalább 80%-ának vagy legfeljebb 20%-ának kell lennie.

Ez az előírás nem vonatkozik:

- azokra a folyékony anyagokra, amelyeknek a kinematikai viszkozitása 20 °C-on legalább 2680 mm<sup>2</sup>/s;
- azokra az olvadékokra, amelyeknek a kinematikai viszkozitása a töltési hőmérsékleten legalább 2680 mm<sup>2</sup>/s;
- az UN 1963 mélyhűtött, cseppfolyósított héliumra és az UN 1966 mélyhűtött, cseppfolyósított hidrogénre.

### 4.3.2.3 *Üzemeltetés*

**4.3.2.3.1** A tartány falvastagságának a teljes használati időtartam alatt nem szabad  
a 6.8.2.1.17 – 6.8.2.1.18 | a 6.8.2.1.17 – 6.8.2.1.20

pontban előírt legkisebb érték alá csökkennie.

**4.3.2.3.2** (fenntartva) A tankkonténereket, ill. MEG-konténereket a szállítás során a vasúti kocsin úgy kell rögzíteni, hogy az oldalról és a hátulról jövő lökések vagy felborulás ellen megfelelő módon biztosítva legyenek<sup>7)</sup> a koci vagy a tankkonténer, ill. MEG-konténer berendezései által. Ha a tankkonténerek, ill. MEG-konténerek, beleértve az üzemi szerelvényeket is, úgy vannak kialakítva, hogy a lökéseknek és a felborulásnak ellenállnak, akkor nem szükséges azokat ilyen módon biztosítani.

**4.3.2.3.3** Megfelelő intézkedéseket kell tenni a gázok és gőzök veszélyes mennyiségben történő kiszabadulásának megakadályozására a tartányok, battériás kocsik, ill. MEG-konténerek töltése és ürítése alatt. A tartányt, battériás kocsit és MEG-konténert úgy kell lezárni, hogy tartalma ellenőrizhetetlenül ne juthasson a szabadba. Az alsó ürítésű tartány nyílásait csavarmenetes dugóval, vakkarimával vagy más, ugyanilyen hatékonyságú szerkezettel kell lezárni. A tartány, battériás koci és MEG-konténer zárószervezeteinek tömítettségét – különösen a merülőcső tetején levőt – a töltőnek a tartány megtöltése után ellenőrizni kell.

**4.3.2.3.4** Abban az esetben, ha több, egymás mögött elhelyezett zárószervezet van, legelőször a betöltött anyaghoz legközelebb esőt kell elzárni.

**4.3.2.3.5** A szállítás alatt a tartány külsején nem lehet a betöltött anyagból semmilyen veszélyes maradék.

**4.3.2.3.6** Egymással veszélyesen reagáló anyagokat nem szabad a tartányok szomszédos kamráiban szállítani.

Szállíthatók azonban egymással veszélyesen reagáló anyagok a tartányok szomszédos kamráiban akkor, ha ezeket a kamrákat a tartányfallal azonos vagy nagyobb vastagságú fal választja el egymástól, illetve, ha a rakott kamrákat üres tér vagy üres kamra választja el.

### 4.3.2.4 *Üres, tisztítatlan tartányok, battériás kocsik és MEG-konténerek*

**Megjegyzés:** Az üres, tisztítatlan tartányokra, battériás kocsikra és MEG-konténerekre a 4.3.5 szakasz TU1, TU2, TU4, TU16 és TU35 különleges előírás vonatkozik.

**4.3.2.4.1** A szállítás alatt a tartány külsején nem maradhat a betöltött anyagból semmilyen veszélyes maradék.

**4.3.2.4.2** Az üres, tisztítatlan tartányokat, battériás kocsikat, ill. MEG-konténereket csak úgy szabad szállításra felvenni, ha ugyanúgy vannak lezárva és ugyanolyan tömítettek, mintha töltve lennének.

7) A tartány védelmének példái:

- az oldalirányú védelem állhat pl. hosszanti tartórudakból, amelyek a tartány két hosszanti oldala középvonalában vannak;
- a felborulás elleni védelem állhat pl. erősítőgyűrűkből vagy a keretre erősített keresztrudakból;
- a hátulról jövő lökések elleni védelem lehet pl. lökhárító vagy ütközőkeret.

**4.3.2.4.3** Ha az üres, tisztítatlan tartányok, battériás kocsik és MEG-konténerek nincsenek ugyanúgy lezárva és nem ugyanolyan tömítettek, mintha töltve lennének és ezért nem felelnek meg a RID előírásainak, a megfelelő biztonságot szem előtt tartva, a legközelebbi alkalmas helyre szállíthatók, ahol a tisztítás vagy javítás elvégezhető.

A biztonság megfelelőnek tekinthető, ha megtették a szükséges intézkedéseket ahhoz, hogy a RID előírásainak megfelelő biztonságot érjenek el, és a veszélyes áruk ellenőrzés nélkül ne jussanak a szabadba.

**4.3.2.4.4** Az üres, tisztítatlan tartálykocsik, leszerelhető tartányok, battériás kocsik, tankkonténerek, tartányos cserefelépítmények és MEG-konténerek a 6.8.2.4.2 és a 6.8.2.4.3 pontban meghatározott időköz eltelte után is szállíthatók a vizsgálat végrehajtása céljából.

### 4.3.3 A 2 osztályra vonatkozó különleges előírások

#### 4.3.3.1 Kódok és tartány rangsor

##### 4.3.3.1.1 A tartányok, battériás kocsik és MEG-konténerek kódja

A 3.2 fejezet „A” táblázat 12 oszlopában szereplő kódok (tartánykódok) négy részének jelentése a következő:

Rész	Leírás	Tartánykód
1	A tartány, battériás kocsi vagy MEG-konténer típusa	C = sűrített gázok szállítására szolgáló tartány, battériás kocsi vagy MEG-konténer P = cseppfolyósított gázok vagy oldott gázok szállítására szolgáló tartány, battériás kocsi vagy MEG-konténer R = mélyhűtött, cseppfolyósított gázok szállítására szolgáló tartány
2	Tervezési nyomás	* = a 4.3.3.2.5 táblázat szerinti legkisebb próbanyomás értéke (bar-ban), vagy 22 = a legkisebb tervezési nyomás (bar-ban)
3	Nyílások (lásd a 6.8.2.2 és a 6.8.3.2 bekezdést)	B = háromszoros zárószervezetű alsó töltő- vagy ürítőnyílással ellátott tartány; vagy olyan battériás kocsi, ill. MEG-konténer, amelynek nyílásai a folyadék szint alatt vannak vagy amely sűrített gázok szállítására szolgál C = háromszoros zárószervezetű felső töltő- vagy ürítőnyílással ellátott tartány, amelynél a folyadékszint alatt csak tisztítónyílások vannak D = háromszoros zárószervezetű felső töltő- vagy ürítőnyílással ellátott tartány; vagy olyan battériás kocsi, ill. MEG-konténer, amelynél a folyadékszint alatt nincsenek nyílások
4	Biztonsági szelepek, ill. szerkezetek	N = a 6.8.3.2.9, ill. a 6.8.3.2.11 és a 6.8.3.2.12 vagy a 6.8.3.2.10 pont szerinti biztonsági szeleppel ellátott tartány, battériás kocsi, ill. MEG-konténer, amely nem légmentesen zárt H = légmentesen zárt (lásd az 1.2.1 szakaszt) tartány, battériás kocsi, ill. MEG-konténer

**Megjegyzés: 1.** A 3.2 fejezet „A” táblázat 13 oszlopában bizonyos gázokra feltüntetett TUI7 különleges előírás azt jelzi, hogy a gáz csak olyan battériás kocsiban vagy MEG-konténerben szállítható, amelynek elemei tartályok.

**2.** A magán a tartányon vagy a táblán feltüntetett nyomás nem lehet kisebb, mint a „\*”-nak megfelelő érték vagy a legkisebb tervezési nyomás.

#### 4.3.3.1.2 Tartányrangsor

**Tartánykód** A tartánykódhoz engedélyezett anyagok szállítására használható, további tartányok kódjai

C*BN	C#BN, C#CN, C#DN, C#BH, C#CH, C#DH
C*BH	C#BH, C#CH, C#DH
C*CN	C#CN, C#DN, C#CH, C#DH
C*CH	C#CH, C#DH
C*DN	C#DN, C#DH
C*DH	C#DH
P*BN	P#BN, P#CN, P#DN, P#BH, P#CH, P#DH
P*BH	P#BH, P#CH, P#DH
P*CN	P#CN, P#DN, P#CH, P#DH
P*CH	P#CH, P#DH
P*DN	P#DN, P#DH
P*DH	P#DH
R*BN	R#BN, R#CN, R#DN
R*CN	R#CN, R#DN
R*DN	R#DN

A #-jellel jelölt helyen szereplő számnak legalább egyenlőnek kell lennie a \*-gal jelölt helyen szereplő számmal.

**Megjegyzés:** Ez a rangsor nem veszi figyelembe az egyes tételekre vonatkozó esetleges különleges előírásokat (lásd a 4.3.5 és a 6.8.4 szakaszt).

#### 4.3.3.2 Töltési feltételek és próbanyomások

**4.3.3.2.1** A sűrített gázok szállítására használt tartányoknál a próbanyomásnak az üzemi nyomás 1,5-szeresének kell lennie, az üzemi nyomás alatt az 1.2.1 szakaszban a nyomástartó tartály üzemi nyomására adott meghatározás szerinti nyomás értendő.

**4.3.3.2.2** A próbanyomást

- a nagy nyomáson cseppfolyósított gázok; és
- az oldott gázok

szállítására használt tartányoknál a úgy kell meghatározni, hogy a tartányt a legnagyobb töltési fokra megtöltve az anyag nyomása hőszigetelt tartány esetében 55 °C-on, illetve hőszigetelés nélküli tartány esetében 65 °C-on ne haladja meg a próbanyomást.

**4.3.3.2.3** A kis nyomáson cseppfolyósított gázok szállítására használt tartányoknál a próbanyomás:

- a) hőszigetelt tartány esetén legalább a folyadéknak 60 °C-hoz tartozó, 0,1 MPa-lal (1 bar-ral) csökkentett gőznyomása, de legalább 1 MPa (10 bar);
- b) hőszigetelés nélküli tartány esetén legalább a folyadéknak 65 °C-hoz tartozó, 0,1 MPa-lal (1 bar-ral) csökkentett gőznyomása, de legalább 1 MPa (10 bar).

A legnagyobb töltési fok meghatározásához az ürtartalom literenként engedélyezett legnagyobb töltési tömeget a következők szerint kell kiszámítani:

az ürtartalom literenként engedélyezett legnagyobb töltési tömeg = a folyadékfázis 50 °C-on fennálló sűrűsége (kg/l-ben) x 0,95.

Ezenkívül a gőzfázis 60 °C alatt nem tűnhet el.

Ha a tartány átmérője legfeljebb 1,5 m, a próbanyomásra és a legnagyobb töltési fokra a 4.1.4.1 bekezdés P200 csomagolási utasítása szerinti értékek érvényesek.

**4.3.3.2.4** A mélyhűtött, cseppfolyósított gázok szállítására használt tartányok esetén a próbanyomás nem lehet kisebb, mint a tartányon feltüntetett legnagyobb megengedett üzemi nyomás 1,3-szerese, de legalább 300 kPa (3 bar) nyomás (túlnyomás); a vákuumszigetelésű tartányok próbanyomása nem lehet kisebb, mint a legnagyobb megengedett üzemi nyomás és 100 kPa (1 bar) összegének 1,3-szerese.

**4.3.3.2.5** **A tartálykocsiban, leszerelhető tartányban, battériás kocsiban, tankkonténerben és MEG-konténerben szállítható gázok és gázkeverékek táblázata a tartány legkisebb próbanyomásának, valamint adott esetben a töltési fokának megadásával**

Az m.n.n. tételek alá sorolt gázoknál és gázkeverékeknél a próbanyomásra és a legnagyobb töltési fokra vonatkozó értékeket az illetékes hatóság által elismert szakértőnek kell meghatároznia.

Ha a sűrített vagy nagy nyomáson cseppfolyósított gázok szállítására szolgáló tartányokat a táblázatban megadottnál kisebb próbanyomásnak vetik alá, és a tartányok hőszigeteléssel vannak ellátva, az illetékes hatóság által elismert szakértő csökkentheti az engedélyezett legnagyobb töltési tömeget, amennyiben az anyag nyomása a tartányban 55 °C-on nem haladja meg a tartányon feltüntetett próbanyomást.

UN szám	Megnevezés	Oszta- lyozási kód	A tartány legkisebb próbanyomása				Engedélyezett legnagyobb töltési tömeg az ür- tartalom 1 literjére, kg
			hőszigeteléssel		hőszigetelés nélkül		
			MPa	bar	MPa	bar	
1001	Acetilén, oldott	4F	csak tartályokból álló battériás kocsiban, ill. MEG- konténerben szállítható				
1002	Levegő, sűrített	1A	lásd 4.3.3.2.1				
1003	Levegő, mélyhűtött, cseppfolyósított	3O	lásd 4.3.3.2.4				
1005	Ammónia, vízmentes	2TC	2,6	26	2,9	29	0,53
1006	Argon, sűrített	1A	lásd 4.3.3.2.1				
1008	Bór-trifluorid	2TC	22,5 30	225 300	22,5 30	225 300	0,715 0,86
1009	Bróm-trifluor-metán (R 13B1 hűtőgáz)	2A	12	120	4,2 12 25	42 120 250	1,50 1,13 1,44 1,60
1010	Butadiének, stabilizált (1,2-butadién) vagy Butadiének, stabilizált (1,3-butadién) vagy Butadiének és szénhidrogén keveréke, stabilizált	2F	1  1  1	10  10  10	1  1  1	10  10  10	0,59  0,55  0,50
1011	Bután	2F	1	10	1	10	0,51
1012	Butén keverék vagy 1-butén vagy cisz-2-butén vagy transz-2-butén	2F	1 1 1 1	10 10 10 10	1 1 1 1	10 10 10 10	0,50 0,53 0,55 0,54
1013	Szén-dioxid	2A	19 22,5	190 225	  19 25	  190 250	0,73 0,78 0,66 0,75
1016	Szén-monoxid, sűrített	1TF	lásd 4.3.3.2.1				
1017	Klór	2TOC	1,7	17	1,9	19	1,25
1018	Klór-difluor-metán (R 22 hűtőgáz)	2A	2,4	24	2,6	26	1,03
1020	Klór-pentafluor-etán (R 115 hűtőgáz)	2A	2	20	2,3	23	1,08
1021	1-Klór-1,2,2,2-tetrafluor-etán (R 124 hűtőgáz)	2A	1	10	1,1	11	1,20
1022	Klór-trifluor-metán (R 13 hűtőgáz)	2A	12 22,5	120 225	  10 12 19 25	  100 120 190 250	0,96 1,12 0,83 0,90 1,04 1,10
1023	Városi gáz, sűrített	1TF	lásd 4.3.3.2.1				
1026	Dicián	2TF	10	100	10	100	0,70
1027	Ciklopropán	2F	1,6	16	1,8	18	0,53
1028	Diklór-difluor-metán (R 12 hűtőgáz)	2A	1,5	15	1,6	16	1,15

UN szám	Megnevezés	Oszta- lyozási kód	A tartány legkisebb próbanyomása				Engedélyezett legnagyobb töltési tömeg az ür- tartalom 1 literjére, kg	
			hőszigeteléssel		hőszigetelés nélkül			
			MPa	bar	MPa	bar		
1029	Diklór-fluor-metán	2A	1	10	1	10	1,23	
1030	1,1-Difluor-etán (R 152a hűtőgáz)	2F	1,4	14	1,6	16	0,79	
1032	Dimetil-amin, vízmentes	2F	1	10	1	10	0,59	
1033	Dimetil-éter	2F	1,4	14	1,6	16	0,58	
1035	Etán	2F	12	120	9,5 12 30	95 120 300	0,32 0,25 0,29 0,39	
1036	Etil-amin	2F	1	10	1	10	0,61	
1037	Etil-klorid	2F	1	10	1	10	0,80	
1038	Etilén, mélyhűtött, cseppfolyósított	3F	lásd 4.3.3.2.4					
1039	Etil-metil-éter	2F	1	10	1	10	0,64	
1040	Etilén-oxid nitrogénnel, 50 °C- on legfeljebb 1 MPa (10 bar) össznyomásig	2TF	1,5	15	1,5	15	0,78	
1041	Etilén-oxid és szén-dioxid keveréke 9%-nál több, de legfeljebb 87% etilén-oxid tartalommal	2F	2,4	24	2,6	26	0,73	
1046	Hélium, sűrített	1A	lásd 4.3.3.2.1					
1048	Hidrogén-bromid, vízmentes	2TC	5	50	5,5	55	1,54	
1049	Hidrogén, sűrített	1F	lásd 4.3.3.2.1					
1050	Hidrogén-klorid, vízmentes	2TC	12	120	10 12 15 20	100 120 150 200	0,69 0,30 0,56 0,67 0,74	
1053	Hidrogén-szulfid	2TF	4,5	45	5	50	0,67	
1055	Izobutén	2F	1	10	1	10	0,52	
1056	Krypton, sűrített	1A	lásd 4.3.3.2.1					
1058	Cseppfolyósított gáz, nem gyúlékony, nitrogén, szén-dioxid vagy levegő alatt	2A	a töltőnyomás 1,5-szerese, lásd 4.3.3.2.2 vagy 4.3.3.2.3					
1060	Metil-acetilén és propadién keverék, stabilizált P1 keverék P2 keverék Propadién 1...4% metil- acetilénnel	2F	lásd 4.3.3.2.2 vagy 4.3.3.2.3					
			2,5	25	2,8	28	0,49	
			2,2	22	2,3	23	0,47	
			2,2	22	2,2	22	0,50	
1061	Metil-amin, vízmentes	2F	1	10	1,1	11	0,58	
1062	Metil-bromid legfeljebb 2% klórpikrin tartalommal	2T	1	10	1	10	1,51	
1063	Metil-klorid (R 40 hűtőgáz)	2F	1,3	13	1,5	15	0,81	
1064	Metil-merkaptán	2TF	1	10	1	10	0,78	
1065	Neon, sűrített	1A	lásd 4.3.3.2.1					



UN szám	Megnevezés	Oszta- lyozási kód	A tartány legkisebb próbanyomása				Engedélyezett legnagyobb töltési tömeg az ür- tartalom 1 literjére, kg
			hőszigeteléssel		hőszigetelés nélkül		
			MPa	bar	MPa	bar	
1066	Nitrogén, sűrített	1A	lásd 4.3.3.2.1				
1067	Dinitrogén-tetroxid (nitrogén-dioxid)	2TOC	csak tartályokból álló battériás kocsiban, ill. MEG- konténerben szállítható				
1070	Dinitrogén-oxid	2O	22,5	225	18 22,5 25	180 225 250	0,78 0,68 0,74 0,75
1071	Krakkgáz, sűrített	1TF	lásd 4.3.3.2.1				
1072	Oxigén, sűrített	1O	lásd 4.3.3.2.1				
1073	Oxigén, mélyhűtött, cseppfolyósított	3O	lásd 4.3.3.2.4				
1076	Foszgén (szén-oxi-klorid)	2TC	csak tartályokból álló battériás kocsiban, ill. MEG- konténerben szállítható				
1077	Propilén (propén)	2F	2,5	25	2,7	27	0,43
1078	Hűtőgáz, m.n.n., mint: F1 keverék F2 keverék F3 keverék egyéb keverékek	2A	1 1,5 2,4	10 15 24	1,1 1,6 2,7	11 16 27	1,23 1,15 1,03
			lásd 4.3.3.2.2 vagy 4.3.3.2.3				
1079	Kén-dioxid	2TC	1	10	1,2	12	1,23
1080	Kén-hexafluorid	2A	12	120	7 14 16	70 140 160	1,34 1,04 1,33 1,37
1082	Trifluor-klór-etilén, stabilizált	2TF	1,5	15	1,7	17	1,13
1083	Trimetil-amin, vízmentes	2F	1	10	1	10	0,56
1085	Vinil-bromid, stabilizált	2F	1	10	1	10	1,37
1086	Vinil-klorid, stabilizált	2F	1	10	1,1	11	0,81
1087	Vinil-metil-éter, stabilizált	2F	1	10	1	10	0,67
1581	Klórpikrin és metil-bromid keveréke 2%-nál több klórpikrin tartalommal	2T	1	10	1	10	1,51
1582	Klórpikrin és metil-klorid keveréke	2T	1,3	13	1,5	15	0,81
1612	Hexaetil-tetrafoszfát és sűrített gáz keveréke	1T	lásd 4.3.3.2.1				
1749	Klór-trifluorid	2TOC	3	30	3	30	1,40
1858	Hexafluor-propilén (R 1216 hűtőgáz)	2A	1,7	17	1,9	19	1,11
1859	Szilícium-tetrafluorid	2TC	20 30	200 300	20 30	200 300	0,74 1,10
1860	Vinil-fluorid, stabilizált	2F	12 22,5	120 225	25	250	0,58 0,65 0,64
1912	Metil-klorid és diklór-metán keverék	2F	1,3	13	1,5	15	0,81
1913	Neon, mélyhűtött, cseppfolyósított	3A	lásd 4.3.3.2.4				

UN szám	Megnevezés	Oszta- lyozási kód	A tartány legkisebb próbanyomása				Engedélyezett legnagyobb töltési tömeg az ür- tartalom 1 literjére, kg
			hőszigeteléssel		hőszigetelés nélkül		
			MPa	bar	MPa	bar	
1951	Argon, mélyhűtött, cseppfolyósított	3A	lásd 4.3.3.2.4				
1952	Etilén-oxid és szén-dioxid keveréke, legfeljebb 9% etilén- oxid tartalommal	2A	19 25	190 250	19 25	190 250	0,66 0,75
1953	Sűrített gáz, mérgező, gyúlékony, m.n.n. <sup>a)</sup>	1TF	lásd 4.3.3.2.1 vagy 4.3.3.2.2				
1954	Sűrített gáz, gyúlékony, m.n.n.	1F	lásd 4.3.3.2.1 vagy 4.3.3.2.2				
1955	Sűrített gáz, mérgező, m.n.n. <sup>a)</sup>	1T	lásd 4.3.3.2.1 vagy 4.3.3.2.2				
1956	Sűrített gáz, m.n.n.	1A	lásd 4.3.3.2.1 vagy 4.3.3.2.2				
1957	Deutérium, sűrített	1F	lásd 4.3.3.2.1				
1958	1,2-Diklór-1,1,2,2-tetrafluor- etán (R 114 hűtőgáz)	2A	1	10	1	10	1,30
1959	1,1-Difluor-etilén (R 1132a hűtőgáz)	2F	12 22,5	120 225	 25	 250	0,66 0,78 0,77
1961	Etán, mélyhűtött, cseppfolyósított	3F	lásd 4.3.3.2.4				
1962	Etilén	2F	12 22,5	120 225	 22,5 30	 225 300	0,25 0,36 0,34 0,37
1963	Hélium, mélyhűtött, cseppfolyósított	3A	lásd 4.3.3.2.4				
1964	Szénhidrogén-gáz keverék, sűrített, m.n.n.	1F	lásd 4.3.3.2.1 vagy 4.3.3.2.2				
1965	Szénhidrogén-gáz keverék, cseppfolyósított, m.n.n. A gázkeverék A01 gázkeverék A02 gázkeverék A0 gázkeverék A1 gázkeverék B1 gázkeverék B2 gázkeverék B gázkeverék C gázkeverék egyéb keverék	2F	1 1,2 1,2 1,2 1,6 2 2 2 2,5	10 12 12 12 16 20 20 20 25	1 1,4 1,4 1,4 1,8 2,3 2,3 2,3 2,7	10 14 14 14 18 23 23 23 27	0,50 0,49 0,48 0,47 0,46 0,45 0,44 0,43 0,42
			lásd 4.3.3.2.2 vagy 4.3.3.2.3				
1966	Hidrogén, mélyhűtött, cseppfolyósított	3F	lásd 4.3.3.2.4				
1967	Rovarirtó gáz, mérgező, m.n.n. <sup>a)</sup>	2T	lásd 4.3.3.2.2 vagy 4.3.3.2.3				
1968	Rovarirtó gáz, m.n.n.	2A	lásd 4.3.3.2.2 vagy 4.3.3.2.3				
1969	Izobután	2F	1	10	1	10	0,49
1970	Krypton, mélyhűtött, cseppfolyósított	3A	lásd 4.3.3.2.4				
1971	Metán, sűrített vagy földgáz, sűrített, magas	1F	lásd 4.3.3.2.1				

UN szám	Megnevezés	Oszta- lyozási kód	A tartány legkisebb próbanyomása				Engedélyezett legnagyobb töltési tömeg az ür- tartalom 1 literjére, kg
			hőszigeteléssel		hőszigetelés nélkül		
			MPa	bar	MPa	bar	
	metántartalommal						
1972	Metán, mélyhűtött, cseppfolyósított, vagy földgáz, mélyhűtött, cseppfolyósított, magas metántartalommal	3F	lásd 4.3.3.2.4				
1973	Klór-difluor-metán és klór- pentafluor-etán keveréke, állandó forrásponttal, kb. 49% klór-difluor-metán tartalommal (R 502 hűtőgáz)	2A	2,5	25	2,8	28	1,05
1974	Bróm-klór-difluor-metán (R 12B1 hűtőgáz)	2A	1	10	1	10	1,61
1976	Oktafluor-ciklobután (RC 318 hűtőgáz)	2A	1	10	1	10	1,34
1977	Nitrogén, mélyhűtött, cseppfolyósított	3A	lásd 4.3.3.2.4				
1978	Propán	2F	2,1	21	2,3	23	0,42
1982	Tetrafluor-metán (R 14 hűtőgáz)	2A	20 30	200 300	20 30	200 300	0,62 0,94
1983	1-Klór-2,2,2-trifluor-etán (R 133a hűtőgáz)	2A	1	10	1	10	1,18
1984	Trifluor-metán (R 23 hűtőgáz)	2A	19 25	190 250	19 25	190 250	0,92 0,99 0,87 0,95
2034	Hidrogén és metán keverék, sűrített	1F	lásd 4.3.3.2.1				
2035	1,1,1-Trifluor-etán (R 143a hűtőgáz)	2F	2,8	28	3,2	32	0,79
2036	Xenon	2A	12	120	13	130	1,30 1,24
2044	2,2-Dimetil-propán	2F	1	10	1	10	0,53
2073	Ammónia, vizes oldat, relatív sűrűség 15 °C-on kisebb, mint 0,880,	4A					
	35%-nál több, de legfeljebb 40% ammóniatartalommal		1	10	1	10	0,80
	40%-nál több, de legfeljebb 50% ammóniatartalommal		1,2	12	1,2	12	0,77
2187	Szén-dioxid, mélyhűtött, cseppfolyósított	3A	lásd 4.3.3.2.4				
2189	Diklór-szilán	2TFC	1	10	1	10	0,90
2191	Szulfuril-fluorid	2T	5	50	5	50	1,10
2193	Hexafluor-etán (R 116 hűtőgáz)	2A	16 20	160 200	20	200	1,28 1,34 1,10
2197	Hidrogén-jodid, vízmentes	2TC	1,9	19	2,1	21	2,25
2200	Propadién, stabilizált	2F	1,8	18	2,0	20	0,50

UN szám	Megnevezés	Oszta- lyozási kód	A tartány legkisebb próbanyomása				Engedélyezett legnagyobb töltési tömeg az ür- tartalom 1 literjére, kg
			hőszigeteléssel		hőszigetelés nélkül		
			MPa	bar	MPa	bar	
2201	Dinitrogén-oxid, mélyhűtött, cseppfolyósított	3O	lásd 4.3.3.2.4				
2203	Szilícium-hidrogén (szilán) <sup>b)</sup>	2F	22,5 25	225 250	22,5 25	225 250	0,32 0,36
2204	Karbonil-szulfid	2TF	2,7	27	3,0	30	0,84
2417	Karbonil-fluorid	2TC	20 30	200 300	20 30	200 300	0,47 0,70
2419	Bróm-trifluor-etilén	2F	1	10	1	10	1,19
2420	Hexafluor-aceton	2TC	1,6	16	1,8	18	1,08
2422	Oktafluor-2-butén (R 1318 hűtőgáz)	2A	1	10	1	10	1,34
2424	Oktafluor-propán (R 218 hűtőgáz)	2A	2,1	21	2,3	23	1,07
2451	Nitrogén-trifluorid	2O	20 30	200 300	20 30	200 300	0,50 0,75
2452	Etil-acetilén, stabilizált	2F	1	10	1	10	0,57
2453	Etil-fluorid (R 161 hűtőgáz)	2F	2,1	21	2,5	25	0,57
2454	Metil-fluorid (R 41 hűtőgáz)	2F	30	300	30	300	0,36
2517	1-Klór-1,1-difluor-etán (R 142b hűtőgáz)	2F	1	10	1	10	0,99
2591	Xenon, mélyhűtött, cseppfolyósított	3A	lásd 4.3.3.2.4				
2599	Klór-trifluor-metán és trifluor- metán azeotróp keveréke kb. 60% klór-trifluor-metán tartalommal (R 503 hűtőgáz)	2A	3,1 4,2 10	31 42 100	3,1  4,2 10	31  22 100	0,11 0,21 0,76 0,20 0,66
2601	Ciklobután	2F	1	10	1	10	0,63
2602	Diklór-difluor-metán és 1,1- difluor-etán azeotrop keveréke kb. 74% diklór-difluor-metán tartalommal (R 500 hűtőgáz)	2A	1,8	18	2	20	1,01
2901	Bróm-klorid	2TOC	1	10	1	10	1,50
3057	Trifluor-acetil-klorid	2TC	1,3	13	1,5	15	1,17
3070	Etilén-oxid és diklór-difluor- metán keveréke legfeljebb 12,5% etilén-oxiddal	2A	1,5	15	1,6	16	1,09
3083	Perkloril-fluorid	2TO	2,7	27	3,0	30	1,21
3136	Trifluor-metán, mélyhűtött, cseppfolyósított	3A	lásd 4.3.3.2.4				
3138	Etilén, acetilén és propilén keverék, mélyhűtött, cseppfolyósított, legalább 71,5% etilén, legfeljebb 22,5% acetilén és legfeljebb 6% propilén tartalommal	3F	lásd 4.3.3.2.4				

UN szám	Megnevezés	Oszta- lyozási kód	A tartány legkisebb próbanyomása				Engedélyezett legnagyobb töltési tömeg az ür- tartalom 1 literjére, kg
			hőszigeteléssel		hőszigetelés nélkül		
			MPa	bar	MPa	bar	
3153	Perfluor-(metil-vinil-éter)	2F	1,4	14	1,5	15	1,14
3154	Perfluor-(etil-vinil-éter)	2F	1	10	1	10	0,98
3156	Sűrített gáz, gyújtó hatású, m.n.n.	1O	lásd 4.3.3.2.1 vagy 4.3.3.2.2				
3157	Cseppfolyósított gáz, gyújtó hatású, m.n.n.	2O	lásd 4.3.3.2.2 vagy 4.3.3.2.3				
3158	Mélyhűtött, cseppfolyósított gáz, m.n.n.	3A	lásd 4.3.3.2.4				
3159	1,1,1,2-Tetrafluor-etán (R 134a hűtőgáz)	2A	1,6	16	1,8	18	1,04
3160	Cseppfolyósított gáz, mérgező, gyúlékony, m.n.n. <sup>a)</sup>	2TF	lásd 4.3.3.2.2 vagy 4.3.3.2.3				
3161	Cseppfolyósított gáz, gyúlékony, m.n.n.	2F	lásd 4.3.3.2.2 vagy 4.3.3.2.3				
3162	Cseppfolyósított gáz, mérgező, m.n.n. <sup>a)</sup>	2T	lásd 4.3.3.2.2 vagy 4.3.3.2.3				
3163	Cseppfolyósított gáz, m.n.n.	2A	lásd 4.3.3.2.2 vagy 4.3.3.2.3				
3220	Pentafluor-etán (R 125 hűtőgáz)	2A	4,1	41	4,9	49	0,95
3252	Difluor-metán (R 32 hűtőgáz)	2F	3,9	39	4,3	43	0,78
3296	Heptafluor-propán (R 227 hűtőgáz)	2A	1,4	14	1,6	16	1,20
3297	Etilén-oxid és klór-tetrafluor- etán keverék legfeljebb 8,8% etilén-oxid tartalommal	2A	1	10	1	10	1,16
3298	Etilén-oxid és pentafluor-etán keverék legfeljebb 7,9% etilén- oxid tartalommal	2A	2,4	24	2,6	26	1,02
3299	Etilén-oxid és tetrafluor-etán keverék legfeljebb 5,6% etilén- oxid tartalommal	2A	1,5	15	1,7	17	1,03
3300	Etilén-oxid és szén-dioxid keverék 87%-nál nagyobb etilén-oxid tartalommal	2TF	2,8	28	2,8	28	0,73
3303	Sűrített gáz, mérgező, gyújtó hatású, m.n.n. <sup>a)</sup>	1TO	lásd 4.3.3.2.1 vagy 4.3.3.2.2				
3304	Sűrített gáz, mérgező, maró, m.n.n. <sup>a)</sup>	1TC	lásd 4.3.3.2.1 vagy 4.3.3.2.2				
3305	Sűrített gáz, mérgező, gyúlékony, maró, m.n.n. <sup>a)</sup>	1TFC	lásd 4.3.3.2.1 vagy 4.3.3.2.2				
3306	Sűrített gáz, mérgező, gyújtó hatású, maró, m.n.n. <sup>a)</sup>	1TOC	lásd 4.3.3.2.1 vagy 4.3.3.2.2				
3307	Cseppfolyósított gáz, mérgező, gyújtó hatású, m.n.n. <sup>a)</sup>	2TO	lásd 4.3.3.2.2 vagy 4.3.3.2.3				
3308	Cseppfolyósított gáz, mérgező, maró, m.n.n. <sup>a)</sup>	2TC	lásd 4.3.3.2.2 vagy 4.3.3.2.3				
3309	Cseppfolyósított gáz, mérgező, gyúlékony, maró, m.n.n. <sup>a)</sup>	2TFC	lásd 4.3.3.2.2 vagy 4.3.3.2.3				

UN szám	Megnevezés	Oszta- lyozási kód	A tartány legkisebb próbanyomása				Engedélyezett legnagyobb töltési tömeg az ür- tartalom 1 literjére. kg
			hőszigeteléssel		hőszigetelés nélkül		
			MPa	bar	MPa	bar	
3310	Cseppfolyósított gáz, mérgező, gyújtó hatású, maró, m.n.n. <sup>a)</sup>	2TOC	lásd 4.3.3.2.2 vagy 4.3.3.2.3				
3311	Mélyhűtött, cseppfolyósított, gyújtó hatású gáz, m.n.n.	3O	lásd 4.3.3.2.4				
3312	Mélyhűtött, cseppfolyósított, gyúlékony gáz, m.n.n.	3F	lásd 4.3.3.2.4				
3318	Ammónia oldat, vizes, relatív sűrűség 15 °C-on kisebb, mint 0,880, 50%-nál több ammónia- tartalommal	4TC	lásd 4.3.3.2.2				
3337	R 404A hűtőgáz	2A	2,9	29	3,2	32	0,84
3338	R 407A hűtőgáz	2A	2,8	28	3,2	32	0,95
3339	R 407B hűtőgáz	2A	3,0	30	3,3	33	0,95
3340	R 407C hűtőgáz	2A	2,7	27	3,0	30	0,95
3354	Rovarirtó gáz, gyúlékony, m.n.n.	2F	lásd 4.3.3.2.2 vagy 4.3.3.2.3				
3355	Rovarirtó gáz, mérgező, gyúlékony, m.n.n. <sup>a)</sup>	2TF	lásd 4.3.3.2.2 vagy 4.3.3.2.3				

a) Akkor engedélyezett, ha  $LC_{50}$  értéke 200 ppm vagy annál nagyobb.

b) Piroforosnak tekintendő.

#### 4.3.3.3 Üzemeltetés

**4.3.3.3.1** Ha a tartányt, battériás kocsit, ill. MEG-konténert különböző gázokhoz engedélyezték, a gáztöltet megváltoztatása során a biztonságos üzemeltetéshez szükséges mértékben ki kell üríteni, tisztítani, ill. gáztalanítani.

**4.3.3.3.2** A tartányon, battériás jkocsin, ill. MEG-konténeren a szállításra való átadásakor csak a betöltött vagy az éppen lefejtett gázra vonatkozó, a 6.8.3.5.6 pont szerinti érvényes adatoknak szabad láthatóknak lenniük, a többi gázra vonatkozó minden adatot le kell takarni. [Lásd az UIC 573 sz. döntvényt<sup>8)</sup> (Tartálykocsik gyártásának műszaki követelményei)].

**4.3.3.3.3** Egy battériás kocsi, ill. MEG-konténer minden eleme csak ugyanazt a gázt tartalmazhatja.

8) Az UIC 573 Döntvény 2008. október 1-től érvényes 7. kiadása.

<b>4.3.3.4</b>	<b><i>A cseppfolyósított gázok tartálykocsiba való töltésének ellenőrzésére vonatkozó előírások</i></b>	(fenntartva)
<b>4.3.3.4.1</b>	<p><i>A töltés előtti ellenőrzés</i></p> <p>a) Ellenőrizni kell, hogy a tartánytáblán a szállítandó gázra vonatkozó adatok (lásd a 6.8.2.5.1 és a 6.8.3.5.1 – 6.8.3.5.5 pontot) megegyeznek-e a kocsitáblán levő adatokkal (lásd a 6.8.2.5.2, a 6.8.3.5.6 és a 6.8.3.5.7 pontot). Váltakozó felhasználású tartálykocsi esetén különösen azt kell ellenőrizni, hogy a forgatható táblán mindkét oldalon ugyanazok a megfelelő adatok látszanak és a táblák a 6.8.3.5.7 pontban leírt módon rögzítve vannak. A kocsitáblán feltüntetett terhelési határok semmiképpen sem lehetnek magasabbak, mint a tartánytáblán levő megengedett legnagyobb töltési tömeg.</p> <p>b) A fuvarokmány adatai vagy anyagvizsgálat alapján meg kell állapítani, hogy mi volt az utolsó rakomány. Szükség esetén a tartányt ki kell tisztítani.</p> <p>c) Meg kell állapítani a visszamaradt anyag mennyiségét (pl. mérlegeléssel) és a töltési mennyiség meghatározásakor figyelembe kell venni, nehogy a tartálykocsit túltöltsék vagy túlterheljék.</p> <p>d) Ellenőrizni kell a tartány és szerelvényei tömítettségét és működőképességét.</p>	(fenntartva)
<b>4.3.3.4.2</b>	<p><i>Töltés</i></p> <p>A tartálykocsi üzemeltetési utasításában foglaltakat be kell tartani.</p>	(fenntartva)
<b>4.3.3.4.3</b>	<p><i>A töltés utáni ellenőrzés</i></p> <p>a) Töltés után hitelesített ellenőrző berendezéssel (pl. hitelesített mérleggel) ellenőrizni kell, hogy a kocsi nincs-e túltöltve vagy túlterhelve. A túltöltött vagy túlterhelt tartálykocsit késedelem nélkül, biztonságos körülmények között, a megengedett töltetési határig le kell fejteni.</p> <p>b) Az inert gáz parciális nyomása a gázfázisban legfeljebb 0,2 MPa (2 bar) lehet, ill. a gázfázisban a túlnyomás legfeljebb 0,1 MPa-lal (1 bar-ral) lehet nagyobb, mint a cseppfolyósított gáz gőznyomása (abszolút nyomás) a folyadékfázis hőmérsékletén [az UN 1040 etilén-oxid nitrogénnel esetén a megengedett legnagyobb össznyomás 50 °C-on 1 MPa (10 bar)].</p> <p>c) A töltés után az alsó ürítésű kocsiknál ellenőrizni kell, hogy a belső zárósz-</p>	(fenntartva)

- kezet megfelelően zárva van.
- d) A vakkarimák, ill. az azonos hatékonyságú egyéb szerkezetek felhelyezése előtt a szelepek tömítettségét ellenőrizni kell, az esetleges tömítetlenségeket megfelelő intézkedésekkel meg kell szüntetni.
- e) A szelepek kifolyónyílására vakkarimát vagy azonos hatékonyságú egyéb szerkezetet kell felszerelni. Ezeket a zárószerkezeteket megfelelő tömítéssel kell ellátni. Ezeknek a zárószerkezeteknek a gyártási típusra előírt minden elem alkalmazása mellett is zárva kell lenniük.
- f) Végül a kocsit, a szerelvényeit és a jelöléseket szemrevételezéssel kell ellenőrizni, ill. azt is ellenőrizni kell, hogy nem szabadult-e ki a szállítandó anyag.

#### 4.3.4

#### A 3 – 9 osztályra vonatkozó előírások

##### 4.3.4.1

##### Kódok, a csoportos hozzárendelés és a tartány rangsor

###### A tartányok kódja

A 3.2 fejezet „A” táblázatának 12 oszlopában szereplő kódok (tartánykódok) négy részének jelentése a következő:

Rész	Leírás	Tartánykód
1	A tartány típusa	L = folyékony állapotban levő anyagok (folyékony anyagok vagy olvasztott állapotban szállításra átadott szilárd anyagok) szállítására szolgáló tartány; S = szilárd állapotban levő anyagok (porszerű vagy szemcsés anyagok) szállítására szolgáló tartány
2	Tervezési nyomás	G = a legkisebb tervezési nyomás a 6.8.2.1.14 pont általános követelményei szerint; vagy 1.5; 2.65; 4; 10; 15 vagy 21 = a legkisebb tervezési nyomás barban (lásd a 6.8.2.1.14 pontot)
3	Nyílások (lásd a 6.8.2.2.2 pontot)	A = kétszeres zárószerkezetű, alsó töltő-, ill. ürítőnyílással ellátott tartány B = háromszoros zárószerkezetű, alsó töltő-, ill. ürítőnyílással ellátott tartány C = felső töltő-, ill. ürítőnyílással ellátott tartány, amelynél a folyadékszint alatt csak tisztítónyílások vannak D = felső töltő-, ill. ürítőnyílással ellátott tartány, amelynél a folyadékszint alatt nincsenek nyílások
4	Biztonsági szelepek, ill. szerkezetek	V = a 6.8.2.2.6 pont szerinti szellőző-berendezéssel ellátott, de lángzár nélküli tartány; vagy nem robbanási nyomás álló tartány F = a 6.8.2.2.6 pont szerinti szellőző-berendezéssel ellátott tartány lángzárral; vagy robbanási nyomás álló tartány N = a 6.8.2.2.6 pont szerinti szellőző-berendezés nélküli tartány, amely nincs légmentesen zárva H = légmentesen zárt tartány (lásd az 1.2.1 szakaszt)



**4.3.4.1.2** A RID-tartányok kódjának anyagcsoportokhoz történő hozzárendelése és a tartányok rangsora

**Megjegyzés:** Bizonyos anyagok és anyag csoportok a csoportos hozzárendelésben nem szerepelnek, ezekre lásd a 4.3.4.1.3 pontot.

Csoportos hozzárendelés			
Tartánykód	Az engedélyezett anyagok csoportja		
	Osztály	Osztályozási kód	Csomagolási csoport
Folyékony anyagokhoz			
LGAV	3	F2	III
	9	M9	III
LGBV	4.1	F2	II, III
	5.1	O1	III
	9	M6	III
	9	M11	III
	és az LGAV tartánykódhoz engedélyezett anyagok csoportjai		
LGBF	3	F1	II gőznyomás 50 °C-on ≤ 1,1 bar
	3	F1	III
	3	D	II gőznyomás 50 °C-on ≤ 1,1 bar
	3	D	III
	és az LGAV és LGBV tartánykódhoz engedélyezett anyagok csoportjai		
L1.5BN	3	F1	II gőznyomás 50 °C-on > 1,1 bar
	3	F1	III lobbanáspont < 23 °C, viszkozus, gőznyomás 50 °C-on > 1,1 bar, forráspont > 35 °C
	3	D	II gőznyomás 50 °C-on > 1,1 bar
	és az LGAV, LGBV és LGBF tartánykódhoz engedélyezett anyagok csoportjai		
L4BN	3	F1	I III, forráspont ≤ 35 °C
	3	FC	III
	3	D	I
	5.1	OT1	I
	5.1	O1	I, II
	8	C1	II, III
	8	C3	II, III
	8	C4	II, III
	8	C5	II, III
	8	C7	II, III
	8	C8	II, III
	8	C9	II, III
	8	C10	II, III
	8	CF1	II
	8	CF2	II
	8	CS1	II
	8	CW1	II
	8	CW2	II
	8	CO1	II
	8	CO2	II

Tartánycód	Az engedélyezett anyagok csoportja		
	Osztály	Osztályozási kód	Csomagolási csoport
L4BN (folyt.)	8	CT1	II, III
	8	CT2	II, III
	8	CFT	II
	9	M11	III
	és az LGAV, LGBV, LGBF és L1.5BN tartánycódhoz engedélyezett anyagok csoportjai		
L4BH	3	FT1	II, III
	3	FT2	II
	3	FC	II
	3	FTC	II
	6.1	T1	II, III
	6.1	T2	II, III
	6.1	T3	II, III
	6.1	T4	II, III
	6.1	T5	II, III
	6.1	T6	II, III
	6.1	T7	II, III
	6.1	TF1	II
	6.1	TF2	II, III
	6.1	TF3	II
	6.1	TS	II
	6.1	TW1	II
	6.1	TW2	II
	6.1	TO1	II
	6.1	TO2	II
	6.1	TC1	II
	6.1	TC2	II
	6.1	TC3	II
	6.1	TC4	II
	6.1	TFC	II
	6.2	I4	
	9	M2	II
	és az LGAV, LGBV, LGBF, L1.5BN és L4BN tartánycódhoz engedélyezett anyagok csoportjai		
L4DH	4.2	S1	II, III
	4.2	S3	II, III
	4.2	ST1	II, III
	4.2	ST3	II, III
	4.2	SC1	II, III
	4.2	SC3	II, III
	4.3	W1	II, III
	4.3	WF1	II, III
	4.3	WT1	II, III
	4.3	WC1	II, III
	8	CT1	II, III
	és az LGAV, LGBV, LGBF, L1.5BN, L4BN és L4BH tartánycódhoz engedélyezett anyagok csoportjai		
L10BH	8	C1	I
	8	C3	I
	8	C4	I
	8	C5	I
	8	C7	I
	8	C8	I

Tartánýkód	Az engedélyezett anyagok csoportja		
	Osztály	Osztályozási kód	Csomagolási csoport
L10BH (folyt.)	8	C9	I
	8	C10	I
	8	CF1	I
	8	CF2	I
	8	CS1	I
	8	CW1	I
	8	CW2	I
	8	CO1	I
	8	CO2	I
	8	CT1	I
	8	CT2	I
	8	COT	I
	és az LGAV, LGBV, LGBF, L1.5BN, L4BN és L4BH tartánýkódhoz engedélyezett anyagok csoportjai		
L10CH	3	FT1	I
	3	FT2	I
	3	FC	I
	3	FTC	I
	6.1	T1	I
	6.1	T2	I
	6.1	T3	I
	6.1	T4	I
	6.1	T5	I
	6.1	T6	I
	6.1	T7	I
	6.1	TF1	I
	6.1	TF2	I
	6.1	TF3	I
	6.1	TS	I
	6.1	TW1	I
	6.1	TO1	I
	6.1	TC1	I
	6.1	TC2	I
	6.1	TC3	I
	6.1	TC4	I
	6.1	TFC	I
	és az LGAV, LGBV, LGBF, L1.5BN, L4BN, L4BH és L10BH tartánýkódhoz engedélyezett anyagok csoportjai		
L10DH	4.3	W1	I
	4.3	WF1	I
	4.3	WT1	I
	4.3	WC1	I
	4.3	WFC	I
	5.1	OTC	I
	8	CT1	I
	és az LGAV, LGBV, LGBF, L1.5BN, L4BN, L4BH, L4DH, L10BH és L10CH tartánýkódhoz engedélyezett anyagok csoportjai		
L15CH	3	FT1	I
	6.1	TF1	I
	és az LGAV, LGBV, LGBF, L1.5BN, L4BN, L4BH, L10BH és L10CH tartánýkódhoz engedélyezett anyagok csoportjai		
L21DH	4.2	S1	I
	4.2	S3	I

Tartánycód	Az engedélyezett anyagok csoportja		
	Osztály	Osztályozási kód	Csomagolási csoport
L21DH (folyt.)	4.2	SW	I
	4.2	ST3	I
és az LGAV, LGBV, LGBF, L1.5BN, L4BN, L4BH, L4DH, L10BH, L10CH, L10DH és L15CH tartánycódhoz engedélyezett anyagok csoportjai			
Szilárd anyagokhoz			
SGAV	4.1	F1	III
	4.1	F3	III
	4.2	S2	II, III
	4.2	S4	III
	5.1	O2	II, III
	8	C2	II, III
	8	C4	III
	8	C6	III
	8	C8	III
	8	C10	II, III
	8	CT2	III
	9	M7	III
	9	M11	II, III
SGAN	4.1	F1	II
	4.1	F3	II
	4.1	FT1	II, III
	4.1	FT2	II, III
	4.1	FC1	II, III
	4.1	FC2	II, III
	4.2	S2	II
	4.2	S4	II, III
	4.2	ST2	II, III
	4.2	ST4	II, III
	4.2	SC2	II, III
	4.2	SC4	II, III
	4.3	W2	II, III
	4.3	WF2	II
	4.3	WS	II, III
	4.3	WT2	II, III
	4.3	WC2	II, III
	5.1	O2	II, III
	5.1	OT2	II, III
	5.1	OC2	II, III
	8	C2	II
	8	C4	II
	8	C6	II
	8	C8	II
	8	C10	II
	8	CF2	II
	8	CS2	II
	8	CW2	II
	8	CO2	II
	8	CT2	II
	9	M3	III
és az SGAV tartánycódhoz engedélyezett anyagok csoportjai			
SGAH	6.1	T2	II, III
	6.1	T3	II, III
	6.1	T5	II, III

Tartánycód	Az engedélyezett anyagok csoportja		
	Osztály	Osztályozási kód	Csomagolási csoport
SGAH (folyt.)	6.1	T7	II, III
	6.1	T9	II
	6.1	TF3	II
	6.1	TS	II
	6.1	TW2	II
	6.1	TO2	II
	6.1	TC2	II
	6.1	TC4	II
	9	M1	II, III
és az SGAV és SGAN tartánycódhoz engedélyezett anyagok csoportjai			
S4AH	9	M2	II
	és az SGAV, SGAN és SGAH tartánycódhoz engedélyezett anyagok csoportjai		
S10AN	8	C2	I
	8	C4	I
	8	C6	I
	8	C8	I
	8	C10	I
	8	CF2	I
	8	CS2	I
	8	CW2	I
	8	CO2	I
	8	CT2	I
és az SGAV és SGAN tartánycódhoz engedélyezett anyagok csoportjai			
S10AH	6.1	T2	I
	6.1	T3	I
	6.1	T5	I
	6.1	T7	I
	6.1	TS	I
	6.1	TW2	I
	6.1	TO2	I
	6.1	TC2	I
	6.1	TC4	I
és az SGAV, SGAN, SGAH és S10AN tartánycódhoz engedélyezett anyagok csoportjai			

### Tartányrangsor

Olyan tartányok is használhatók, amelyeknek tartánycódja sem ebben a táblázatban, sem a 3.2 fejezet „A” táblázatában nincsen feltüntetve, azzal a feltétellel, hogy a kód minden eleme, az 1 – 4 részben található betűk, ill. számok legalább azonos biztonsági szintnek felelnek meg, mint a 3.2 fejezet „A” táblázatában feltüntetett kód megfelelő elemei. A biztonsági szintek növekvő sorrendben a következők:

#### 1 rész: Tartány típus

S → L

#### 2 rész: Tervezési nyomás

G → 1.5 → 2.65 → 4 → 10 → 15 → 21 bar

*3. rész: Nyílások* $A \rightarrow B \rightarrow C \rightarrow D$ *4 rész: Biztonsági szelepek, ill. szerkezetek* $V \rightarrow F \rightarrow N \rightarrow H$ 

Például:

- az L10CN kóddal ellátott tartány használható olyan anyagokhoz is, amelyekhez az L4BN kód van hozzárendelve;
- az L4BN kóddal ellátott tartány használható olyan anyagokhoz is, amelyekhez az SGAN kód van hozzárendelve.

**Megjegyzés:** A rangsor nem veszi figyelembe az egyes tételekre vonatkozó esetleges különleges előírásokat (lásd a 4.3.5 és a 6.8.4 szakaszt).

**4.3.4.1.3**

A következő anyagokra és anyagcsoportokra, amelyeknél a 3.2 fejezet „A” táblázat 12 oszlopában a tartánycód után (+) jel látható, különleges előírások vonatkoznak. Ebben az esetben a tartányok alternatív használata más anyagokhoz és anyagcsoportokhoz csak akkor engedélyezett, ha az a típusjóváhagyási bizonyítványban szerepel. Figyelembe véve a 3.2 fejezet „A” táblázat 13 oszlopában található különleges előírásokat, a 4.3.4.1.2 pont végén található előírások szerinti, magasabb értékű tartányok alkalmazhatók.

Ezekre a tartányokra a követelményeket a következő tartánycódok adják meg, kiegészítve a vonatkozó különleges előírásokkal, amelyeket a 3.2 fejezet „A” táblázat 13 oszlopa tartalmaz.

- a) 4.1 osztály:  
UN 2448 olvasztott kén: LGBV kód;
- b) 4.2 osztály:  
UN 1381 fehér- vagy sárgafoszfór szárazon vagy víz alatt vagy oldatban és UN 2447 olvasztott fehér- vagy sárgafoszfór: L10DH kód;
- c) 4.3 osztály:  
UN 1389 folyékony alkálifém amalgám, UN 1391 alkálifém diszperzió vagy UN 1391 alkáliföldfém diszperzió, UN 1392 folyékony alkáliföldfém-amalgám, UN 1415 lítium, UN 1420 folyékony káliumfém-ötvözetek, UN 1421 folyékony alkálifém-ötvözetek, m.n.n., UN 1422 folyékony kálium-nátrium-ötvözetek, UN 1428 nátrium, UN 2257 kálium, UN 3401 szilárd alkálifém-amalgám, UN 3402 szilárd alkáliföldfém-amalgám, UN 3403 szilárd káliumfém-ötvözetek és UN 3404 szilárd kálium-nátrium-ötvözetek: L10BN kód;  
UN 1407 cézium és UN 1423 rubídium: L10CH kód;
- d) 5.1 osztály:  
UN 1873 perklórsav 50 tömeg%-nál több, de legfeljebb 72 tömeg% savtartalommal: L4DN kód;  
UN 2015 hidrogén-peroxid vizes oldat, stabilizált, 70%-nál több hidrogén-peroxid tartalommal: L4DV kód;  
UN 2015 hidrogén-peroxid vizes oldat, stabilizált, 60%-nál több, de legfeljebb 70% hidrogén-peroxid tartalommal: L4BV kód;  
UN 2014 hidrogén-peroxid vizes oldat 20%-nál több, de legfeljebb 60% hidrogén-peroxid tartalommal és UN 3149 hidrogén-peroxid és peroxi-ecetsav keverék, stabilizált: L4BV kód;

UN 2426 folyékony ammónium-nitrát, forró, tömény oldat, 80%-nál több, de legfeljebb 93% koncentrációval: L4BV kód;

UN 3375 ammónium-nitrát emulzió, szuszpenzió vagy gél, folyékony: LGAV kód;

UN 3375 ammónium-nitrát emulzió, szuszpenzió vagy gél, szilárd: SGAV kód;

e) 5.2 osztály:

UN 3109 F típusú, folyékony szerves peroxid: L4BN kód;

UN 3110 F típusú, szilárd szerves peroxid: S4AN kód;

f) 6.1 osztály:

UN 1613 hidrogén-cianid vizes oldat (cián-hidrogénsav vizes oldat) és UN 3294 hidrogén-cianid alkoholos oldat: L15DH kód;

g) 7 osztály:

minden anyagra: különleges tartány;

Minimális követelmény

folyékony anyagokra: L2.65CN kód;

szilárd anyagokra: S2.65AN kód.

E bekezdés általános előírásaitól függetlenül a radioaktív anyagokhoz használt tartányok más áruk szállítására is használhatók, ha az 5.1.3.2 bekezdés előírásait betartják.

h) 8 osztály:

UN 1052 hidrogén-fluorid, vízmentes és UN 1790 fluor-hidrogénsav, 85%-nál több hidrogén-fluorid tartalommal: L21DH kód;

UN 1744 bróm vagy UN 1744 bróm oldat: L21DH kód ;

UN 1791 hipoklorit oldat és UN 1908 klorit oldat: L4BV kód.

#### 4.3.4.1.4

Azokat a folyékony hulladékok szállítására szolgáló, a 6.10 fejezet követelményeinek megfelelő tankkonténereket és tartányos cserefelépítményeket, amelyek a 6.10.3.2 bekezdés szerint két zárószerkezettel rendelkeznek, az L4AH tartánycódhoz kell rendelni. Ha a tartány szerelvényezése olyan, hogy váltakozva lehet benne folyékony és szilárd anyagot szállítani, akkor az L4AH + S4AH kódkombinációhoz kell rendelni.

#### 4.3.4.2 *Általános előírások*

4.3.4.2.1 Forró anyag betöltése esetén a tartány külső falának vagy hőszigetelésének hőmérséklete a szállítás során nem emelkedhet 70 °C fölé.

4.3.4.2.2 Az összekapcsolt tartálykocsik (pl. teljes vonat) független tartányait összekötő csöveinek a szállítás alatt üresnek kell lenniük. (fenntartva)

4.3.4.2.3 Ha egy olyan tartálykocsit, ami a 2 osztályba tartozó cseppfolyósított gázok szállítására van jóváhagyva, más osztály(ok)ba tartozó folyadékok szállítására is jóváhagynak, akkor ezen folyadékok szállítása során az 5.3.5 szakaszban előírt narancssárga csíkot le kell fed- (fenntartva)

ni vagy más módon felismerhetetlenné kell tenni, hogy ne látszódjon. A tartálykocsi oldalain, ill. a táblán levő, a 6.8.3.5.6 b) vagy c) pont szerinti adatoknak sem szabad látszani a folyadékok szállítása során.

#### 4.3.5

##### Különleges előírások

Ha a 3.2 fejezet „A” táblázat 13 oszlopában erre vonatkozó bejegyzés található, a következő különleges előírásokat kell alkalmazni:

- TU1** A tartányt tilos addig szállításra átadni, amíg az anyag nem szilárdult meg teljesen és nincs inert gázzal fedve. Az üres, tisztítatlan tartányt, amely ezt az anyagot tartalmazta, inert gázzal kell megtölteni.
- TU2** Az anyagot inert gázzal kell fedni. Az üres, tisztítatlan tartányt, amely ezt az anyagot tartalmazta, inert gázzal kell megtölteni.
- TU3** A tartány belsejét és az anyagokkal érintkezésbe kerülő minden alkatrészét tisztán kell tartani. A szivattyúkhöz, szelepekhez és egyéb készülékekhez a betöltött termékkel veszélyesen reagáló kenőanyag nem használható.
- TU4** A szállítás alatt az anyagnak inert gázréteg alatt kell lennie, amelynek túlnyomása nem lehet 50 kPa-nál (0,5 bar-nál) kevesebb.
- Az üres, tisztítatlan tartányt, amely ezt az anyagot tartalmazta, szállításra történő átadáskor legalább 50 kPa (0,5 bar) túlnyomáson inert gázzal kell megtölteni.
- TU5** (fenntartva)
- TU6** Nem engedélyezett a szállítás tartányban, battériás kocsiban és MEG-konténerben, ha  $LC_{50} < 200$  ppm.
- TU7** Az illesztések tömítéséhez vagy a zárószerkezetek karbantartásához használt anyagoknak a tartalommal összeférhetőnek kell lenniük.
- TU8** Alumíniumötvözet tartány csak akkor használható a szállításhoz, ha a tartányt kizárólag erre használják, és az acetaldehid savmentes.
- TU9** Az UN 1203 motorbenzin vagy benzin vagy gázolin 50 °C-on 110 kPa-nál (1,1 bar-nál) nagyobb, de legfeljebb 150 kPa (1,5 bar) gőznyomással a 6.8.2.1.14 a) pont szerint tervezett és a 6.8.2.2.6 pont szerinti szerelvényekkel ellátott tartányban is szállítható.
- TU10** (fenntartva)
- TU11** Töltés alatt ezen anyag hőmérséklete nem haladhatja meg a 60 °C-ot. A töltési hőmérséklet legfeljebb 80 °C is lehet akkor, ha a töltés során nem képződnek izzó részek és a következő feltételeket teljesítik. Töltés után a tartányt a tömörség ellenőrzésére nyomás alá kell helyezni (pl. sűrített levegővel). Biztosítani kell, hogy a szállítás alatt a túlnyomás fennmaradjon. Ürítés előtt ellenőrizni kell, hogy a belső nyomás meghaladja-e az atmoszférikus nyomást. Ellenkező esetben ürítés előtt a tartányba inert gázt kell vezetni.
- TU12** A betöltendő anyag változása esetén ezen anyag szállítása előtt és után a tartányt és szerelvényeit minden maradéktól gondosan meg kell tisztítani.



- TU13** A tartánynak a töltéskor szennyeződésektől mentesnek kell lennie. Az üzemi szerelvényeit, pl. szelepeket és külső csővezetéseket, töltés és ürítés után ki kell üríteni.
- TU14** A tartány zárószervezeteinek védősapkáját a szállítás alatt rögzíteni kell.
- TU15** A tartányt nem szabad élelmiszerek, fogyasztási cikkek vagy takarmány szállítására használni.
- TU16** Az üres, tisztítatlan tartányt úgy szabad a szállításra átadni, ha vagy
- nitrogénnel van megtöltve; vagy
  - befogadóképességének legalább 96%-áig, de legfeljebb 98%-áig vízzel van megtöltve. Október 1-je és március 31-e között a víznek elegendő mennyiségű fagyásgátló szert kell tartalmaznia, ami megakadályozza a víz megfagyását a szállítás során. A fagyásgátló anyag nem fejthet ki korróziós hatást és nem lehet hajlamos a foszforral való reakcióra.
- TU17** Csak olyan battériás kocsiban vagy MEG-konténerben szállítható, amelynek elemei tartályok.
- TU18** A töltési fokot úgy kell meghatározni, hogy azon a hőmérsékleten, amelyen az anyag gőznyomása megegyezik a biztonsági szelep nyitónyomásával, a folyadék térfogata ne haladja meg a tartány befogadóképességének 95%-át. A 4.3.2.3.4 pont előírásait nem kell alkalmazni.
- TU19** A tartány a töltési hőmérsékleten és a töltési nyomáson 98%-ig tölthető meg. A 4.3.2.3.4 pont előírásait nem kell alkalmazni.
- TU20** (fenntartva)
- TU21** Az anyagot, ha védőközegként víz használatos, a töltés időpontjában legalább 12 cm víréteggel kell fedni, a töltési fok 60 °C-on nem haladhatja meg a 98%-ot. Ha védőközegként nitrogén használatos, a töltési fok 60 °C-on nem haladhatja meg a 96%-ot. A fennmaradó teret nitrogénnel kell megtölteni oly módon, hogy még lehűlés után se csökkenjen a nyomás az atmoszférikus nyomás alá. A tartányt légmentesen kell lezárni, hogy gázszivárgás ne következzen be.
- TU22** A tartányt legfeljebb befogadóképességének 90%-áig szabad megtölteni; a folyadék átlagos 50 °C hőmérsékletén azonban 5% szabad térnek kell maradnia.
- TU23** A töltési fok nem haladhatja meg űrtartalom-literenként a 0,93 kg-ot, ha a töltés tömegre történik. Ha a töltés térfogatra történik, a töltési fok nem haladhatja meg a tartány befogadóképességének 85%-át.
- TU24** A töltési fok nem haladhatja meg űrtartalom-literenként a 0,95 kg-ot, ha a töltés tömegre történik. Ha a töltés térfogatra történik, a töltési fok nem haladhatja meg a tartány befogadóképességének 85%-át.
- TU25** A töltési fok nem haladhatja meg űrtartalom-literenként az 1,14 kg-ot, ha a töltés tömegre történik. Ha a töltés térfogatra történik, a töltési fok nem haladhatja meg a tartány befogadóképességének 85%-át.
- TU26** A töltési fok nem haladhatja meg a tartány befogadóképességének 85%-át.
- TU27** A tartányt legfeljebb befogadóképességének 98%-áig szabad megtölteni.

- TU28** A tartányt 15 °C hivatkozási hőmérsékleten legfeljebb a befogadóképességének 95%-áig szabad megtölteni.
- TU29** A tartányt legfeljebb befogadóképességének 97%-áig szabad megtölteni, és a legnagyobb hőmérséklet a töltés után nem haladhatja meg a 140 °C-ot.
- TU30** A tartányt a tartány típusjövahagyására vonatkozó vizsgálati jegyzőkönyvben meghatározott mértékig, de legfeljebb befogadóképességének 90%-áig szabad megtölteni.
- TU31** A tartányt nem szabad ürtartalom-literenként 1 kg-nál nagyobb mértékben megtölteni.
- TU32** A tartányt legfeljebb befogadóképességének 88%-áig szabad megtölteni.
- TU33** A tartányt legalább befogadóképességének 88%-áig, de legfeljebb 92%-áig vagy ürtartalom-literenként 2,86 kg-mal szabad megtölteni.
- TU34** A tartányt ürtartalom-literenként legfeljebb 0,84 kg anyaggal szabad megtölteni.
- TU35** Az üres, tisztítatlan tartálykocsi, üres, tisztítatlan leszerelhető tartány és üres, tisztítatlan tankkonténer, amelyben ez az anyag volt, nem esik a RID előírásainak hatálya alá, ha a veszélyek elhárítására megfelelő intézkedéseket tettek.
- TU36** A 4.3.2.2 bekezdés szerinti töltési fok 15 °C hivatkozási hőmérsékleten nem haladhatja meg a tartány befogadóképességének 93%-át.
- TU37** Tartányokban csak olyan kórokozókat tartalmazó anyagok szállíthatók, amelyek általában nem képviselnek jelentős veszélyt, és bár kitétel esetén súlyos fertőzést okozhatnak, erre hatékony megelőzési és kezelési módszer áll rendelkezésre, és a fertőzés továbbterjedésének veszélye korlátozott (azaz mérsékelt egyéni és csekély közösségi veszélyt jelentenek).
- TU38** **Az energia-elnyelő elemek működése után követendő eljárás** (fenntartva)
- Ha egy tartálykocsin vagy battériás kocsin a 6.8.4 szakasz TE22 különleges előírása szerinti energia-elnyelő elemek maradó alakváltozást szenvedtek, a kocsit meg kell vizsgálni és haladéktalanul javítóműhelybe kell vinni.
- Ha a tartálykocsi, ill. a battériás kocsi megtöltött állapotban még képes elviselni akkora ütközést, amely normális vasútiüzemi körülmények között előfordulhat, (pl. azáltal, hogy az energia-elnyelő ütközőt kicserélik normál ütközőre, vagy a sérült energia-elnyelő elemeket átmenetileg rögzítik), akkor lefejtés céljából, ill. végül a javítóműhelybe továbbítható a kocsi.
- Ilyenkor a tartálykocsin, ill. battériás kocsin fel kell tüntetni, hogy az energia-elnyelő elemek működésképtelenek.

**TU39** Az anyag tartányban történő szállításra való alkalmasságát bizonyítani kell. Az alkalmasság értékelési módszert az illetékes hatóságnak jóvá kell hagynia. Ilyen módszer pl. a 8 vizsgálati sorozatban a 8.d) próba (lásd „Vizsgálatok és kritériumok kézikönyv”, I. rész, 18.7 fejezet).

Az anyag nem hagyható a tartányban olyan hosszú ideig, ami károsodást okozhat. Megfelelő intézkedéseket kell tenni, hogy az anyag a tartányban ne tömörödjön össze és ne ülepedjen le (pl. tisztítás stb.).

## 4.4 fejezet

### A szálvázaz műanyag tankkonténerek és tartányos cserefelépítmények használata

**Megjegyzés:** A mobil tartányok és az UN többbelemes gázkonténerek (UN MEG-konténerek) használatára lásd a 4.2 fejezetet; a fémből gyártott tartálykocsik, leszerelhető tartányok, tankkonténerek és tartányos cserefelépítmények, továbbá battériás kocsik és többbelemes gázkonténerek (MEG-konténerek) – az UN MEG-konténerek kivételével – használatára lásd a 4.3 fejezetet; a hulladékok szállítására szolgáló, vákuummal üzemelő tartányok használatára lásd a 4.5 fejezetet.

#### 4.4.1 Általános előírások

Veszélyes anyagok csak akkor szállíthatók olyan tankkonténerben, ill. tartányos cserefelépítményben, amelynek tartánya szálvázaz műanyag, ha kielégítik a következő feltételeket:

- a) az anyag a 3, 5.1, 6.1, 6.2, 8 vagy 9 osztályba tartozik;
- b) az anyag gőznyomása (abszolút nyomás) 50 °C-on nem haladja meg a 110 kPa-t (1,1 bar-t);
- c) az anyag szállítása fémből készült tartányban a 4.3.2.1.1 pont szerint engedélyezett;
- d) az erre az anyagra a 3.2 fejezet „A” táblázat 12 oszlopában található tartánykód második részében meghatározott tervezési nyomás nem haladja meg a 400 kPa-t (4 bar-t) (lásd még a 4.3.4.1.1 pontot is); és
- e) a tartány kielégíti a 6.9 fejezetnek az adott anyag szállítására vonatkozó előírásait.

#### 4.4.2 Üzemeltetés

**4.4.2.1** A 4.3.2.1.5 – 4.3.2.2.4, a 4.3.2.3.3 – 4.3.2.3.6, a 4.3.2.4.1, a 4.3.2.4.2 pont, a 4.3.4.1 és a 4.3.4.2 bekezdés előírásait kell alkalmazni.

**4.4.2.2** A szállított anyag hőmérséklete nem haladhatja meg töltéskor a tartány üzemi hőmérsékletét, ami a 6.9.6 szakaszban hivatkozott tartány táblán van feltüntetve.

**4.4.2.3** A 3.2 fejezet „A” táblázat 13 oszlopában a fémből készült tartányban történő szállításra vonatkozó, a 4.3.5 szakaszban található különleges (TU) előírásokat a szálvázaz műanyag tankkonténerben, ill. tartányos cserefelépítményben történő szállításra is alkalmazni kell.

## 4.5 fejezet

### A hulladékok szállítására szolgáló, vákuummal üzemelő tartányok használata

**Megjegyzés:** A mobil tartányok és az UN többeleemes gázkonténerek (UN MEG-konténerek) használatára lásd a 4.2 fejezetet; a fémből gyártott tartálykocsik, leszerelhető tartányok, tankkonténerek és tartányos cserefelépítmények, továbbá battériás kocsik és többeleemes gázkonténerek (MEG-konténerek) – az UN MEG-konténerek kivételével – használatára lásd a 4.3 fejezetet; a szálvázaz műanyag tankkonténerek használatára lásd a 4.4 fejezetet.

#### 4.5.1 Használat

**4.5.1.1** A 3, 4.1, 5.1, 6.1, 6.2, 8 és 9 osztály anyagait tartalmazó hulladékok a 6.10 fejezet szerinti, hulladékok szállítására szolgáló, vákuummal üzemelő tartányban is szállíthatók, ha tankkonténerben vagy tartányos cserefelépítményben való szállításuk a 4.3 fejezet szerint engedélyezett.

Azok az anyagok, amelyeknél a 3.2 fejezet „A” táblázat 12 oszlopában az L4BH tartánykód található, ill. amelyekhez 4.3.4.1.2 pont tartány rangsora szerint L4BH kóddal rendelkező tartányok is használhatók, hulladékok szállítására szolgáló, vákuummal üzemelő olyan tartányokban is szállíthatók, amelyek tartánykódjának harmadik részében „A” vagy „B” betű szerepel.

#### 4.5.2 Üzemeltetés

**4.5.2.1** A hulladékok szállítására szolgáló, vákuummal üzemelő tartányokra – a 4.3.2.2.4 és a 4.3.2.3.3 pont kivételével – a 4.3 fejezet előírásait kell alkalmazni, kiegészítve a 4.5.2.2 – 4.5.2.4 bekezdés előírásaival.

**4.5.2.2** A gyúlékony folyékony anyagokat olyan töltőcsövön kell a hulladékok szállítására szolgáló, vákuummal üzemelő tartányba tölteni, hogy a beömlés a tartány alsó részén történjen. Gondoskodni kell arról, hogy a porlasztás a legkisebb legyen.

**4.5.2.3** A 23 °C-nál alacsonyabb lobbanáspontú gyúlékony folyadékok levegőnyomással történő ürítésénél a legnagyobb megengedett nyomás 100 kPa (1 bar).

**4.5.2.4** Ha a hulladékok szállítására szolgáló, vákuummal üzemelő tartányban dugattyú van, az csak akkor szolgálhat válaszfalként is, ha a válaszfal (dugattyú) két oldalán olyan anyagok vannak, amelyek nem lépnek egymással veszélyes reakcióba (lásd a 4.3.2.3.6 pontot).

**4.5.2.5** Biztosítani kell, hogy normális szállítási körülmények között a szívófej nyugalmi helyzetében rögzítve maradjon.

## **5. rész**

### **Feladási eljárások**

## 5.1 fejezet

### Általános előírások

#### 5.1.1 Alkalmazási terület és általános előírások

Ez a fejezet a veszélyes áru küldemények jelölésére, bárcázására és okmányolására, valamint ahol szükséges, a küldemény engedélyezésére és az előzetes értesítésre vonatkozik.

#### 5.1.2 Az egyesítőcsomagolások használata

##### 5.1.2.1 a) Az egyesítőcsomagoláson fel kell tüntetni

- i) az „EGYESÍTŐCSOMAGOLÁS” feliratot, és
- ii) a benne levő minden veszélyes áru UN számát, amely elé az „UN” rövidítést kell írni és el kell helyezni rajta a benne levő küldeménydarabokra az 5.2.2 szakaszban előírt bárcákat,

kivéve, ha az egyesítőcsomagolásban levő minden veszélyes árufajta UN száma és bárcája látható, hacsak az 5.2.2.1.11 pont mást nem ír elő. Ha különböző küldeménydarabokra ugyanolyan UN szám, ill. bárca szükséges, akkor azt az egyesítőcsomagoláson csak egyszer kell feltüntetni, ill. elhelyezni.

Az „EGYESÍTŐCSOMAGOLÁS” feliratot jól láthatóan és olvashatóan, a feladási ország valamelyik hivatalos nyelvén kell feltüntetni, és ezenkívül, ha ez a nyelv nem az angol, a francia vagy a német, akkor angol, francia vagy német nyelven is fel kell tüntetni, kivéve, ha a fuvarozásban érintett országok közötti megállapodások, ha ilyenek vannak, másként rendelkeznek.

##### b) A következő esetekben az egyesítőcsomagolások két, egymással szemben levő oldalára az 5.2.1.9 bekezdésben ábrázolt, az álló helyzetet jelző nyilakat is el kell helyezni:

- i) azokra az egyesítőcsomagolásokra, amelyekben olyan küldeménydarabok vannak, amelyeket az 5.2.1.9.1 pont szerinti jelöléssel el kell ellátni, kivéve, ha a jelölés kívülről látható; és
- ii) azokra az egyesítőcsomagolásokra, amelyekben folyékony anyagot tartalmazó olyan küldeménydarabok vannak, amelyeket az 5.2.1.9.2 pont szerinti jelöléssel nem kell ellátni, kivéve, ha a csomagolóeszközök zárószerkezete az egyesítőcsomagoláson keresztül látható.

##### 5.1.2.2 Minden veszélyes árut tartalmazó küldeménydarabnak, amely az egyesítőcsomagolásban van, meg kell felelnie az RID összes vonatkozó előírásának. Az egyes csomagolások funkcióját az egyesítőcsomagolás nem befolyásolhatja.

##### 5.1.2.3 Az olyan küldeménydarabot, amelyen az 5.2.1.9 bekezdés szerinti, álló helyzetet jelző nyilak vannak, a jelölésnek megfelelő helyzetben kell egyesítőcsomagolásba, ill. nagycsomagolásba helyezni.

##### 5.1.2.4 Az együvé rakási tilalmak az egyesítőcsomagolásokra is vonatkoznak.

**5.1.3 Üres, tisztítatlan csomagolóeszközök (beleértve az IBC-ket és a nagycsomagolásokat), tartányok, ömlesztett árut fuvarozó kocsik és konténerek**

**5.1.3.1** Az üres, tisztítatlan csomagolóeszközöket (beleértve az IBC-ket és a nagycsomagolásokat), tartányokat (beleértve a tartálykocsikat, battériás kocsikat, leszerelhető tartányokat, mobil tartányokat, tankkonténereket és MEG-konténereket), az ömlesztett áru fuvarozáshoz használt kocsikat és konténereket, amelyek a 7 osztály kivételével a többi osztály veszélyes áruit tartalmazták, ugyanúgy kell jelölni és bárcával, ill. nagybárcával ellátni, mint töltött állapotban.

*Megjegyzés: Az okmányokra lásd az 5.4 fejezetet.*

**5.1.3.2** A radioaktív anyagok szállítására használt csomagolóeszközöket, IBC-ket és tartányokat és IBC-ket nem szabad más áruk tárolására vagy szállítására használni, kivéve, ha annyira vannak sugárzásmentesítve, hogy a sugárzási szint béta-, gamma-sugárzók és csekély toxicitású alfa-sugárzók esetén legfeljebb  $0,4 \text{ Bq/cm}^2$ , ill. minden más alfa-sugárzó esetén legfeljebb  $0,04 \text{ Bq/cm}^2$ .

**5.1.4 Egybecsomagolás**

Amennyiben két vagy több veszélyes árut ugyanazon külső csomagolásba egybecsomagolnak, a küldeménydarabot el kell látni minden egyes árura a megfelelő jelöléssel és veszélyességi bárcákkal. Ha a különböző árukra ugyanolyan veszélyességi bárca szükséges, akkor abból csak egyet kell elhelyezni.

**5.1.5 Általános előírások a 7 osztályra**

**5.1.5.1 Szállítási engedély és értesítés**

**5.1.5.1.1 Általános előírás**

A 6.4 fejezetben leírt küldeménydarab-minta engedélyen kívül meghatározott körülmények között többoldalú szállítási engedélyre is szükség van (lásd az 5.1.5.1.2 és 5.1.5.1.3 pontot), ill. az illetékes hatóságok értesítése is szükséges (lásd az 5.1.5.1.4 pontot).

**5.1.5.1.2 Szállítási engedély**

Többoldalú engedély szükséges:

- a 6.4.7.5 bekezdés előírásainak nem megfelelő vagy ellenőrzött időszakos szellőztetésre kialakított  $B(M)$  típusú küldeménydarabok szállításához;
- az olyan  $B(M)$  típusú küldeménydarabok szállításához, amelyek radioaktív tartalmának aktivitása nagyobb, mint a  $3000A_1$ , ill. a  $3000A_2$  és az  $1000 \text{ TBq}$  közül a kisebb érték;
- olyan küldeménydarabok szállításához, amelyek hasadóanyagot tartalmaznak, ha az egyes küldeménydarabok kritikussági biztonsági mutatószámának összege egy járművön vagy egy konténerben meghaladja az 50-et;

azzal a kivétellel, hogy az illetékes hatóság engedélyezheti a szállítást saját országának területén keresztül vagy területére szállítási engedély nélkül is a minta általa kiadott engedélyében (lásd az 5.1.5.2.1 pontot) szereplő különleges előírással.

**5.1.5.1.3 Szállítási engedély külön megegyezés alapján**

Az illetékes hatóság jóváhagyhat olyan előírásokat, amelyek szerint az ADR vonatkozó követelményeinek nem mindenben megfelelő küldeményt külön megegyezéssel szállíthatnak



(lásd az 1.7.4 szakaszt).

#### 5.1.5.1.4 *Értesítések*

Az illetékes hatóságokat a következő esetekben kell értesíteni:

- a) Az olyan küldeménydarab első szállítása előtt, amelyhez az illetékes hatóság engedélye szükséges, a feladónak biztosítani kell, hogy a küldeménydarab gyártási típusához szükséges minden vonatkozó engedélyezési okirat egy példánya mindazon országok illetékes hatóságai számára rendelkezésre álljon, amelyeken keresztül vagy amelybe a küldeményt szállítják. A feladónak nem szükséges ezen illetékes hatóságok elismerésére várakozni, és az illetékes hatóságok sem kötelesek az engedélyezési okiratok átvételét elismerni.
- b) Minden
  - i)  $C$  típusú küldeménydarab szállításánál olyan radioaktív anyag tartalommal, amelynek aktivitása a  $3000A_1$ , ill. a  $3000A_2$  és az  $1000\text{ TBq}$  értékek közül a kisebbiknél nagyobb;
  - ii)  $B(U)$  típusú küldeménydarab szállításánál olyan radioaktív anyag tartalommal, amelynek aktivitása a  $3000A_1$ , ill. a  $3000A_2$  és az  $1000\text{ TBq}$  értékek közül a kisebbiknél nagyobb;
  - iii)  $B(M)$  típusú küldeménydarab szállításánál;
  - iv) külön megegyezés alapján végzett szállításánál;a feladónak mindazon országok illetékes hatóságait értesíteni kell, amelyeken keresztül vagy amelybe a küldeményt szállítják. Ennek az értesítésnek a szállítást megelőzően minden illetékes hatóság birtokában kell lenni, lehetőleg legalább hét nappal a szállítás megkezdése előtt.
- c) A feladónak nem kell külön értesítést feladni, ha a szükséges információkat a szállítási engedély iránti kérelem tartalmazza.
- d) A feladási értesítésnek a következőket kell tartalmaznia:
  - i) elegendő adatot, amely lehetővé teszi a küldeménydarab vagy küldeménydarabok azonosítását, beleértve minden vonatkozó engedélyezési okirat számot és azonosító jelzést;
  - ii) a feladási időpontra, a várható megérkezési időpontra és a tervezett szállítási útvonalra vonatkozó adatokat;
  - iii) a radioaktív anyag(ok) vagy nuklid(ok) nevét;
  - iv) a radioaktív anyag fizikai és kémiai állapotának leírását, vagy annak közlését, hogy különleges formájú vagy kis mértékben diszpergálódó radioaktív anyagról van-e szó; és
  - v) a radioaktív tartalom szállítás alatti legnagyobb aktivitását becquerelben (Bq) a hozzátartozó SI-prefixum jelével együtt (lásd az 1.2.2.1 bekezdést). Hasadóanyagoknál az aktivitás helyett a hasadóanyag összes mennyisége is megadható grammban (g) vagy annak többszörösében.

#### 5.1.5.2 *Az illetékes hatóságok engedélye*

##### 5.1.5.2.1 Az illetékes hatóságok engedélye szükséges a következőkre:

- a) a gyártási mintára;
  - i) különleges formájú radioaktív anyagokra;

- ii) kis mértékben diszpergálódó radioaktív anyagokra;
  - iii) 0,1 kg vagy annál több urán-hexafluoridot tartalmazó küldeménydarabokra;
  - iv) hasadó anyagot tartalmazó minden küldeménydarabra, kivéve, ha a 6.4.11.2 bekezdés alapján mentesítve vannak;
  - v)  $B(U)$  típusú és  $B(M)$  típusú küldeménydarabokra;
  - vi)  $C$  típusú küldeménydarabokra;
- b) a külön megegyezésre;
- c) bizonyos szállításokra (lásd az 5.1.5.1.2 pontot).

Az engedélyokirat tanúsítja, hogy a vonatkozó követelményeket betartották; a küldeménydarab-minta engedélyben a mintához azonosító számot kell rendelni.

A küldeménydarab-mintára és a szállításra vonatkozó engedélyek közös engedélyokiratba foglalhatók egybe.

Az engedélyokiratoknak és az engedély iránti kérelmeknek meg kell felelniük a 6.4.23 szakasz előírásainak.

**5.1.5.2.2** A feladónak rendelkeznie kell minden szükséges engedélyokirat egy példányával.

**5.1.5.2.3** Olyan küldeménydarab-minták esetében, amelyekhez nem szükséges az illetékes hatóság engedélye, a feladónak az illetékes hatóság általi ellenőrzéshez – kérésre – rendelkezésre kell bocsátania azokat a dokumentumokat, amelyek bizonyítják, hogy a küldeménydarab-minta minden rá vonatkozó előírásnak megfelel.

### **5.1.5.3** *A szállítási mutatószám (TI) és a kritikussági biztonsági mutatószám (CSI) meghatározása*

**5.1.5.3.1** A szállítási mutatószám (TI) egy küldeménydarabra, egyesítőcsomagolásra, konténerre, csomagolatlan LSA-I anyagra vagy csomagolatlan SCO-I tárgyra a következő eljárás alapján meghatározott szám:

- a) Meg kell határozni a legnagyobb sugárzási szintet millisievert per órában (mSv/h) a küldeménydarab, egyesítőcsomagolás, konténer, csomagolatlan LSA-I anyag vagy csomagolatlan SCO-I tárgy külső felületétől 1 m távolságban. Az így kapott értéket meg kell szorozni 100-zal, a kapott érték a szállítási mutatószám. Urán- és tórium-érceknél és ezek koncentrációjainál legnagyobb sugárzási szintként a külső felületről 1 m távolságban bármely ponton a következő értékek vehetők:
- |   |             |
|---|-------------|
| urán- és tóriumércekre és fizikai koncentrációikra        | 0,4 mSv/h;  |
| kémiai tóriumkoncentrációk                                | 0,3 mSv/h;  |
| kémiai uránkoncentrációk, az urán-hexafluorid kivételével | 0,02 mSv/h. |
- b) A tartányokra, konténerekre, csomagolatlan LSA-I anyagokra és csomagolatlan SCO-I tárgyakra az a) pont szerint kapott értéket a 5.1.5.3.1 táblázatban található megfelelő tényezővel meg kell szorozni.
- c) Az a) és b) pontok szerint kapott értékeket egy tizedesjegyre fel kell kerekíteni (pl.: 1,13-ot 1,2-re), kivétel a 0,05 vagy ennél kisebb érték, ami nullának vehető.

**5.1.5.3.1 táblázat – Szorzótényezők a tartányokhoz, a konténerekhez, a csomagolatlan LSA-I anyagokhoz és SCO-I tárgyakhoz**

A rakomány mérete <sup>a)</sup>	Szorótényező
rakomány méret $\leq 1 \text{ m}^2$	1
$1 \text{ m}^2 < \text{rakomány méret} \leq 5 \text{ m}^2$	2
$5 \text{ m}^2 < \text{rakomány méret} \leq 20 \text{ m}^2$	3
$20 < \text{m}^2 \text{ rakomány méret}$	10

a) A rakomány legnagyobb keresztmetszeti területe.

**5.1.5.3.2** A szállítási mutatószámot az egyes egyesítőcsomagolásokra, konténerekre és kocsikra vagy a bennük levő küldeménydarabok *TI* értékének összegzésével vagy a sugárzási szint közvetlen mérésével kell meghatározni, kivéve a nem alaktartó egyesítőcsomagolásokat, amelyekre a szállítási mutatószám csak az összes küldeménydarab *TI* értékének összegezésével határozható meg.

**5.1.5.3.3** A kritikussági biztonsági mutatószámot minden egyesítőcsomagolásra, ill. konténerre a benne levő küldeménydarabok *CSI* értékének összegzésével kell meghatározni. Ugyanígy kell meghatározni egy küldemény vagy egy koci összegzett *CSI* értékét.

**5.1.5.3.4** A küldeménydarabokat és az egyesítőcsomagolásokat a 5.1.5.3.4 táblázatban meghatározott feltételek és a következő előírások szerint az I-FEHÉR, a II-SÁRGA vagy a III-SÁRGA kategóriába kell besorolni:

- A küldeménydaraboknál és egyesítőcsomagolásoknál a megfelelő kategória meghatározásánál figyelembe kell venni a szállítási mutatószámot (*TI*) és a felületen mért sugárzási szintet. Amennyiben a szállítási mutatószám (*TI*) kielégíti valamelyik kategória feltételeit, de a felületen mért sugárzási szint egy másik kategóriának felel meg, a küldeménydarabot, ill. egyesítőcsomagolást a két kategória közül a magasabba kell besorolni. Ebben az összefüggésben a I-FEHÉR kategória tekintendő legalacsonyabbnak.
- A szállítási mutatószámot (*TI*) a 5.1.5.3.1 és a 5.1.5.3.2 pont szerint kell meghatározni.
- Amennyiben a felületen mért sugárzási szint nagyobb, mint  $2 \text{ mSv/h}$ , a küldeménydarabot, ill. egyesítőcsomagolást kizárólagos használat mellett és a 7.5.11 szakasz, CW33 előírás 3.5) a) pontja szerinti előírásoknak megfelelően kell szállítani.
- Azt a küldeménydarabot, amelyet külön megegyezés alapján szállítanak, a III-SÁRGA kategóriába kell besorolni, kivéve, ha a küldeménydarab-minta származási országának illetékes hatósága másként állapítja meg az engedélyben (lásd a 2.2.7.2.4.6 pontot).
- Azt az egyesítőcsomagolást, amely külön megegyezés alapján szállított küldeménydarabokat tartalmaz, a III-SÁRGA kategóriába kell besorolni, kivéve, ha a küldeménydarab-minta származási országának illetékes hatósága másként állapítja meg az engedélyben (lásd a 2.2.7.2.4.6 pontot).

## 5.1.5.3.4 táblázat – A küldeménydarabok és egyesítőcsomagolások kategóriái

Feltételek		
Szállítási mutatószám (TI)	A felületen mért legnagyobb sugárzási szint a küldeménydarabokon	Kategória
0 <sup>a)</sup>	Legfeljebb 0,005 mSv/h	I-FEHÉR
Nagyobb, mint 0, de legfeljebb 1 <sup>a)</sup>	Nagyobb, mint 0,005 mSv/h, de legfeljebb 0,5 mSv/h	II-SÁRGA
Nagyobb, mint 1, de legfeljebb 10	Nagyobb, mint 0,5 mSv/h, de legfeljebb 2 mSv/h	III-SÁRGA
Nagyobb, mint 10	Nagyobb, mint 2 mSv/h, de legfeljebb 10 mSv/h	III-SÁRGA <sup>b)</sup>

a) Amennyiben a mért szállítási mutatószám (TI) nem nagyobb, mint 0,05, a szállítási mutatószám (TI) a 5.1.5.3.1 c) pont alapján nullának vehető.

b) Kizárólagos használat mellett kell szállítani.

## 5.1.5.4

## Az engedélyekre és előzetes értesítésre vonatkozó előírások összefoglalása

**Megjegyzés:** 1. Az olyan küldeménydarab első szállítása előtt, amelyhez az illetékes hatóság küldeménydarab-minta engedélye szükséges, a feladónak biztosítania kell, hogy a küldeménydarab-minta engedélynek egy példánya minden érintett ország illetékes hatóságának rendelkezésre álljon [lásd az 5.1.5.1.4 a) pontot].

2. Értesítés akkor szükséges, ha a tartalom meghaladja a 3000A<sub>1</sub>, ill. a 3000A<sub>2</sub> vagy az 1000 TBq értéket [lásd az 5.1.5.1.4 b) pontot].

3. A szállításhoz többoldalú engedély szükséges, ha a tartalom meghaladja a 3000A<sub>1</sub>, ill. a 3000A<sub>2</sub> vagy az 1000 TBq értéket, vagy ha ellenőrzött időszakos szellőztetés szükséges (lásd az 5.1.5.1 bekezdést).

4. Az engedélyezésére és az előzetes értesítésre lásd az anyag szállítására alkalmazott küldeménydarabra vonatkozó előírásokat.

Tárgy	UN szám	Az illetékes hatóságok engedélye szükséges-e		A származási ország és az érintett országok <sup>a)</sup> illetékes hatóságainak értesítése szükséges-e a feladó által minden szállítás előtt	Hivatkozás
		származási ország	érintett országok <sup>a)</sup>		
Nem felsorolt A <sub>1</sub> és A <sub>2</sub> érték számítása	–	Igen	Igen	Nem	–
Engedményes küldeménydarabok – küldeménydarab-minta – szállítás	2908, 2909, 2910, 2911	Nem Nem	Nem Nem	Nem Nem	–
LSA anyagok <sup>b)</sup> , SCO-tárgyak <sup>b)</sup> , IP-I, IP-2 és IP-3 típusú küldeménydarabok, nem hasadó és hasadó-engedményes – küldeménydarab-minta – szállítás	2912, 2913, 3321, 3322	Nem Nem	Nem Nem	Nem Nem	–
A típusú küldeménydarabok <sup>b)</sup> , nem hasadó és hasadó-engedményes – küldeménydarab-minta – szállítás	2915, 3332	Nem Nem	Nem Nem	Nem Nem	–

Tárgy	UN szám	Az illetékes hatóságok engedélye szükséges-e		A származási ország és az érintett országok <sup>a)</sup> illetékes hatóságainak értesítése szükséges-e a feladó által minden szállítás előtt	Hivatkozás
		származási ország	érintett országok <sup>a)</sup>		
<i>B(U)</i> típusú küldeménydarabok <sup>b)</sup> , nem hasadó és hasadó-engedményes – küldeménydarab-minta – szállítás	2916	Igen Nem	Nem Nem	lásd az 1 megj. lásd a 2 megj.	5.1.5.1.4 b), 5.1.5.2.1 a), 6.4.22.2
<i>B(M)</i> típusú küldeménydarabok <sup>b)</sup> , nem hasadó és hasadó-engedményes – küldeménydarab-minta – szállítás	2917	Igen lásd a 3 megj.	Igen lásd a 3 megj.	Nem Igen	5.1.5.1.4 b), 5.1.5.2.1 a), 5.1.5.1.2, 6.4.22.3
<i>C</i> típusú küldeménydarabok <sup>b)</sup> , nem hasadó és hasadó-engedményes – küldeménydarab-minta – szállítás	3323	Igen Nem	Nem Nem	lásd az 1 megj. lásd a 2 megj.	5.1.5.1.4 b), 5.1.5.2.1 a), 6.4.22.2
Hasadóanyag-tartalmú küldeménydarabok – küldeménydarab-minta – szállítás – ha a kritikussági biztonsági mutatószámok összege legfeljebb 50 – ha a kritikussági biztonsági mutatószámok összege nagyobb 50-nél	2977, 3324, 3325, 3326, 3327, 3328, 3329, 3330, 3331, 3333	Igen <sup>c)</sup> Nem <sup>d)</sup> Igen	Igen <sup>c)</sup> Nem <sup>d)</sup> Igen	Nem lásd a 2 megj. lásd a 2 megj.	5.1.5.2.1 a), 5.1.5.1.2, 6.4.22.2, 6.4.22.4, 6.4.22.5
Különleges formájú radioaktív anyagok – gyártási minta – szállítás	– lásd a 4 megj.	Igen lásd a 4 megj.	Nem lásd a 4 megj.	Nem lásd a 4 megj.	1.6.6.3, 5.1.5.2.1 a), 6.4.22.5
Kis mértékben diszpergálódó radioaktív anyagok – gyártási minta – szállítás	– lásd a 4 megj.	Igen lásd a 4 megj.	Nem lásd a 4 megj.	Nem lásd a 4 megj.	5.1.5.2.1 a), 6.4.22.2 6.4.22.3
Küldeménydarabok, amelyek legalább 0,1 kg urán-hexafluoridot tartalmaznak – küldeménydarab-minta – szállítás	– lásd a 4 megj.	Igen lásd a 4 megj.	Nem lásd a 4 megj.	Nem lásd a 4 megj.	5.1.5.2.1 a), 6.4.22.1
Külön megegyezés – szállítás	2919, 3331	Igen	Igen	Igen	1.7.4.2, 5.1.5.2.1 b), 5.1.5.1.4 b)
Engedélyezett küldeménydarab- minták, amelyekre átmeneti előírások vonatkoznak		lásd az 1.6.6 szakaszt	lásd az 1.6.6 szakaszt	lásd az 1 megj.	1.6.6.1, 1.6.6.2, 5.1.5.1.2, 5.1.5.1.4 b), 5.1.5.2.1 a)

- a) Azon országok, amelyekből a küldemény szállítása indul, amelyeken át történik, vagy amelyekbe irányul.
- b) Amennyiben a radioaktív tartalom olyan hasadóanyagokból áll, amelyek a hasadóanyagokat tartalmazó küldeménydarabokra vonatkozó előírások alól nem mentesülnek, akkor a hasadóanyagokat tartalmazó küldeménydarabokra vonatkozó előírások érvényesek (lásd a 6.4.11 szakaszt).
- c) A hasadóanyagokra vonatkozó küldeménydarab-minták esetén a táblázat valamely más pontja szerint is szükség lehet engedélyre.
- d) Szállítási engedélyre azonban a táblázat valamely más pontja szerint is szükség lehet.

## 5.2 fejezet

### Jelölés és bárcázás

#### 5.2.1 A küldeménydarabok jelölése

*Megjegyzés: A csomagolóeszközök, nagycsomagolások, gáztartályok és IBC-k gyártásával, vizsgálatával és engedélyezésével kapcsolatos jelölésekre lásd a 6. részt.*

**5.2.1.1** Hacsak a RID-ben nincs másként előírva, minden küldeménydarabon jól látható módon és tartósan fel kell tüntetni a benne levő veszélyes áru UN számát, amely elé az „UN” rövidítést kell írni. Csomagolatlan tárgyak esetén a feliratot magán a tárgyon, vagy a kereten, a kezelő-, tárolóeszközön vagy indítóállványon kell feltüntetni.

**5.2.1.2** Minden e fejezetben előírt jelölésnek

- a) jól láthatónak és olvashatónak kell lennie; és
- b) jól láthatósága az időjárás hatására lényegesen nem csökkenhet.

**5.2.1.3** A kármentő csomagolásokat kiegészítésként a „KÁRMENTŐ CSOMAGOLÁS” felirattal kell ellátni.

**5.2.1.4** A 450 liternél nagyobb űrtartalmú IBC-eket és a nagycsomagolásokat két, egymással szemben levő oldalukon kell megjelölni.

#### **5.2.1.5** *Kiegészítő előírások az 1 osztály áruira*

Az 1 osztály áruit tartalmazó küldeménydarabokon kiegészítésként fel kell tüntetni a 3.1.2 szakasz szerinti helyes szállítási megnevezést. Ezt a jelölést jól olvasható módon és maradandóan a kiindulási ország valamely hivatalos nyelvén kell feltüntetni, és ha ez a nyelv nem az angol, a francia, a német vagy az olasz, akkor vagy angolul, vagy franciául, vagy németül, vagy olaszul is fel kell tüntetni, kivéve, ha a fuvarozásban érintett országok közötti megállapodások, ha ilyenek vannak, másként rendelkeznek.

Az 1.5.2 szakasz szerinti katonai küldeményeknél, amelyeket kocsirakományként vagy teljes rakományként fuvaroznak, a küldeménydarabon a helyes szállítási megnevezés helyett az illetékes katonai hatóság által előírt megnevezés is feltüntethető.

#### **5.2.1.6** *Kiegészítő előírások a 2 osztály gázaira*

Az újratölthető tartályokon jól olvashatóan és tartósan fel kell írni a következőket:

- a) a gáz vagy gázkeverék UN számát és a 3.1.2 szakasz szerinti helyes szállítási megnevezését;

Az m.n.n. tételek alá sorolt gázok esetében csak az UN számot és a gáz műszaki megnevezését<sup>1)</sup> kell megadni;

- 
- 1) A műszaki megnevezés helyett a következő megnevezések is engedélyezettek:
- az UN 1078 hűtőgáz, m.n.n. esetében: F1 keverék, F2 keverék, F3 keverék;
  - az UN 1060 metil-acetilén és propadién keverék, stabilizált esetén: P1 keverék, P2 keverék;
  - az UN 1965 szénhidrogén-gáz keverék, cseppfolyósított, m.n.n. esetén: A keverék vagy bután, A01 keverék vagy bután, A02 keverék vagy bután, A0 keverék vagy bután, A1 keverék, B1 keverék, B2 keverék, B keverék, C keverék vagy propán;
  - az UN 1010 butadién, stabilizált esetén: 1,2-butadién, stabilizált, 1,3-butadién, stabilizált.

Gázkeverékek esetében nem szükséges két olyan alkotórésznel többet megnevezni, amely a keverék veszélyessége tekintetében mértékadó;

- b) az olyan sűrített gázoknál, amelyeket tömegre töltenek, és a cseppfolyósított gázoknál: vagy a töltet engedélyezett legnagyobb tömegét és a tartály saját tömegét, beleértve a szerelvényeket és tartozékokat is, amelyek a töltés alatt a tartályon vannak, vagy a bruttó tömeget;
- c) a következő időszakos vizsgálat időpontját (év).

Ezeket az adatokat vagy a tartályra erősített tartós adattáblára vagy címkére kell beütni vagy felírni, vagy jól tapadó és jól olvasható módon, pl. festéssel vagy más azonos értékű eljárással magára a tartályra kell felírni.

**Megjegyzés:** 1. Lásd még a 6.2.2.7 bekezdést.

2. A nem utántölthető tartályokra lásd a 6.2.2.8 bekezdést.

#### **5.2.1.7 Különleges előírások a 7 osztály radioaktív anyagainak jelölésére**

**5.2.1.7.1** Minden küldeménydarabon a csomagolás külső oldalán olvashatóan és tartósan fel kell tüntetni a feladó vagy a címzett, vagy mindkettő azonosító adatait.

**5.2.1.7.2** Minden küldeménydarabon, az engedményes küldeménydarabok kivételével, a csomagolás külső oldalára jól olvashatóan és tartós módon rá kell írni az áru UN számát, amely elé az „UN” rövidítést kell írni és helyes szállítási megnevezését. Az engedményes küldeménydarabok esetén csak az UN számot kell feltüntetni, amely elé az „UN” rövidítést kell írni.

**5.2.1.7.3** Az 50 kg bruttó tömegnél nehezebb küldeménydarabokon a csomagolás külső oldalán jól olvashatóan és tartósan fel kell tüntetni az engedélyezett bruttó tömeget.

**5.2.1.7.4** Minden küldeménydarabon, amely:

- a) valamely *IP-1* típusú, *IP-2* típusú vagy *IP-3* típusú küldeménydarab-mintának felel meg, a csomagolás külső oldalán jól olvashatóan és tartósan fel kell tüntetni az „IP-1 TÍPUS”, „IP-2 TÍPUS”, ill. „IP-3 TÍPUS” feliratot;
- b) valamely *A* típusú küldeménydarab-mintának felel meg, a csomagolás külső oldalán jól olvashatóan és tartósan fel kell tüntetni az „A TÍPUS” feliratot;
- c) valamely *IP-2* típusú, *IP-3* típusú, illetve *A* típusú küldeménydarab-mintának felel meg, a csomagolás külső oldalán jól olvashatóan és tartósan fel kell tüntetni a minta származási országának államjelzését<sup>2)</sup> és vagy a gyártó nevét vagy a küldeménydarab egyéb azonosítóját, melyet a minta származási országának illetékes hatósága határozott meg.

**5.2.1.7.5** Minden küldeménydarabon, amely megfelel az illetékes hatóság által jóváhagyott valamely mintának, a csomagolás külső oldalán jól olvashatóan és tartósan fel kell tüntetni a következőket:

- a) az erre a mintára az illetékes hatóság által kiadott azonosító jelet;
- b) a sorozatszámot, amely lehetővé teszi minden egyes, a mintának megfelelő csomagolás egyértelmű azonosítását;
- c) *B(U)* vagy *B(M)* típusú küldeménydarab-minta esetén a „B(U) TÍPUS” vagy „B(M) TÍPUS” feliratot; és

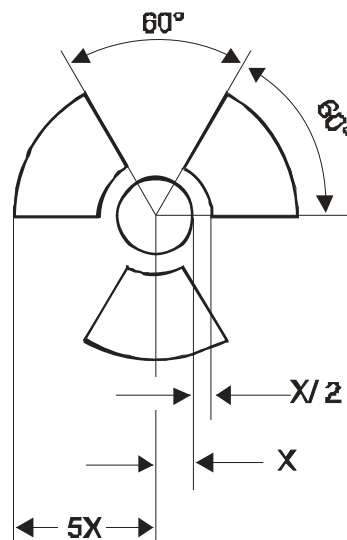
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2) A Közúti Közlekedésről szóló Bécsi Egyezmény (1968) által előírt, a nemzetközi forgalomban résztvevő gépjárművek államjelzése.



d) *C* típusú küldeménydarab-minta esetén a „C TÍPUS” feliratot.

**5.2.1.7.6** Minden *B(U)*, *B(M)* vagy *C* típusú mintának megfelelő küldeménydarabot el kell látni a legkülső tűz- és vízálló tartály külső oldalán beütéssel, domborítással vagy más eljárással tűz- és vízálló módon felvitt következő sugárveszély szimbólummal:



Sugárveszély szimbólum  
X sugarú belső körre vonatkozó arányokkal.  
Az X megengedett legkisebb mérete 4 mm.

**5.2.1.7.7** Ha az *LSA-I* anyag vagy *SCO-I* tárgy tartályban, ill. burkolóanyagban van és a 4.1.9.2.3 pont szerint kizárólagos használat mellett szállítják, a tartály, ill. a burkolóanyag külső felületére felírható a „RADIOACTIVE LSA-I”, ill. a „RADIOACTIVE SCO-I” felirat.

**5.2.1.7.8** Az illetékes hatóság gyártási minta engedélyéhez, ill. szállítási engedélyéhez kötött küldeménydarabok nemzetközi szállítása esetén, ha az érintett országokban különböző engedélytípusok szükségesek, a jelölést a gyártási minta származási országában kiadott engedélynek megfelelően kell éghajtani.

#### **5.2.1.8** *A környezetre veszélyes anyagok különleges jelölése*

**5.2.1.8.1** Azokon a küldeménydarabokon, amelyek a 2.2.9.1.10 pont kritériumai szerint környezetre veszélyes anyagot tartalmaznak, tartósan fel kell tüntetni az 5.2.1.8.3 pont szerinti, „környezetre veszélyes anyag” jelölést, kivéve azokat, amelyeknek tartalma egy önálló csomagolóeszközben, vagy kombinált csomagolás esetén belső csomagolóeszközként

- legfeljebb 5 liter folyékony anyag; vagy
- legfeljebb 5 kg szilárd anyag.

**5.2.1.8.2** A „környezetre veszélyes anyag” jelölést az 5.2.1.1 bekezdésben előírt jelölés közelében kell elhelyezni. Az 5.2.1.2 és az 5.2.1.4 bekezdés előírásait is be kell tartani.

**5.2.1.8.3** A „környezetre veszélyes anyag” jelölés a következő ábrán látható. A jelölésnek 100 x 100 mm nagyságúnak kell lennie, kivéve, ha a küldeménydarab méretei miatt csak kisebb jelölés fér el.





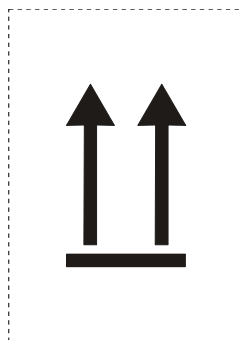
Jelkép (hal és fa): fekete; fehér vagy más, kellően elütő színű alapon.

#### 5.2.1.9 Az álló helyzetet jelző nyilak

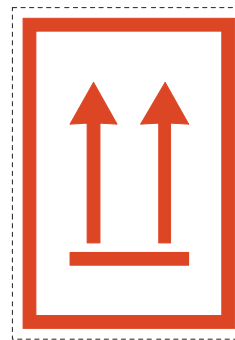
##### 5.2.1.9.1 Az 5.2.1.9.2 pontban említett esetek kivételével

- azokat a kombinált csomagolásokat, amelyekben a belső csomagolásban folyékony anyag van;
- a szellőző szerkezettel ellátott önálló csomagolóeszközöket, és
- a mélyhűtött, cseppfolyósított gázok szállítására szolgáló mélyhűtő tartályokat

a következő ábrához hasonló vagy az ISO 780:1985 szabványban szereplő leírásának megfelelő, a küldeménydarab álló helyzetét jelző nyilakkal jól látható módon meg kell jelölni. Az álló helyzetet jelző nyilakat a küldeménydarab két, egymással szemben lévő függőleges oldalára kell feltenni úgy, hogy a nyilak függőlegesen a helyes irányba mutassanak. A jelölésnek négyszögletes alakúnak és a küldeménydarab méretéhez képest jól látható nagyságúnak kell lennie. A nyilak körüli négyszögletes keret feltüntetése tetszőleges.



vagy



Két, felfelé mutató fekete vagy vörös nyíl fehér vagy más, kellően elütő színű alapon.

A négyszögletes keret feltüntetése tetszőleges.

##### 5.2.1.9.2 Az álló helyzetet jelző nyilakat nem szükséges feltenni

- a nyomástartó tartályokra, kivéve a mélyhűtő tartályokat;
- azokra a küldeménydarabokra, amelyekben legfeljebb 120 ml-es belső csomagolás(ok)ban van a veszélyes áru, és a belső és a külső csomagolóeszköz között a teljes folyékony anyag mennyiség felszívására elegendő felszívóképes anyag van;
- azokra a küldeménydarabokra, amelyekben a 6.2 osztályba tartozó fertőző anyag van legfeljebb 50 ml-es elsődleges tartály(ok)ban;
- a 7 osztályba tartozó radioaktív anyagot tartalmazó IP-2, IP-3, A, B(U), B(M) és C típusú küldeménydarabokra; és
- azokra a küldeménydarabokra, amelyekben olyan tárgyak vannak, amelyek bármely

irányban elhelyezve szivárgásmentesek (pl. alkoholos vagy higanyos hőmérő, aeroszol stb.).

**5.2.1.9.3** Az e bekezdés szerint megjelölt küldeménydarabokon nyilak csak a küldeménydarab helyzetének jelzése céljából alkalmazhatók.

## **5.2.2 A küldeménydarabok bárcázása**

*Megjegyzés: A bárcázás tekintetében a kiskonténerek küldeménydarabnak minősülnek.*

### **5.2.2.1 Bárcázási előírások**

**5.2.2.1.1** A 3.2 fejezet „A” táblázatában felsorolt minden anyagnál vagy tárgynál az 5 oszlopban megadott bárcá(ka)t kell elhelyezni, kivéve, ha a 6 oszlopban valamely különleges előírás másként rendelkezik.

**5.2.2.1.2** Az előírt mintáknak pontosan megfelelő, letörölhetetlen veszélyességi jelölések is alkalmazhatók a veszélyességi bárcák helyett.

**5.2.2.1.3 –  
5.2.2.1.5**

(fenntartva)

**5.2.2.1.6** Az 5.2.2.2.1.2 pontban előírtak kivételével minden bárcát

- a) a küldeménydarab egyazon felületére kell elhelyezni, ha ezt a küldeménydarab méretei lehetővé teszik; az 1 és a 7 osztály anyagait tartalmazó küldeménydaraboknál a helyes szállítási megnevezés közelében;
- b) úgy kell a küldeménydarabra elhelyezni, hogy sem a csomagolás valamely része, vagy tartozéka, sem másik bárca vagy jelölés ne takarja vagy ne fedje el;
- c) egymás mellé kell elhelyezni, ha egynél több bárca van előírva.

Ha a küldeménydarab alakja szabálytalan vagy a küldeménydarab túl kicsi ahhoz, hogy a bárca megfelelően elhelyezhető legyen, a bárca egy biztonságosan rögzített függőcímkére is ragasztható, vagy más alkalmas módon a küldeménydarabhoz erősíthető.

**5.2.2.1.7** A 450 liternél nagyobb űrtartalmú IBC-eket és a nagycsomagolásokat két, egymással szemben levő oldalukon kell bárcával ellátni.

**5.2.2.1.8** *Különleges előírások a robbanóanyagokat és robbanóanyaggal töltött tárgyakat tartalmazó küldeménydarabok bárcázására katonai küldeményként történő fuvarozás esetében*

Az 1.5.2 szakasz szerinti katonai küldemények kocsirakományú vagy teljes rakományként történő fuvarozásánál a küldeménydarabokat nem kell ellátni a 3.2 fejezet „A” táblázat 5 oszlopában előírt veszélyességi bárcákkal, amennyiben a 7.5.2 szakaszban előírt együvé rakási tilalmakat a fuvarokmányban az 5.4.1.2.1 f) pont szerinti adatok alapján figyelembe vették.

**5.2.2.1.9** *Különleges előírások az önreaktív anyagok és a szerves peroxidok bárcázására*

- a) Mivel a 4.1 számú bárca arra is utal, hogy a termék gyúlékony lehet, ezért 3 számú bárca nem szükséges. A B típusú önreaktív anyagok esetében kiegészítésként 1 számú bárcát is el kell helyezni, kivéve, ha az illetékes hatóság engedélyezte ezen bárca elhagyását kifejezetten az alkalmazott csomagolásra, mivel a vizsgálatok eredményei bizonyították, hogy az önreaktív anyag ebben a csomagolásban nem robbanásveszélyes;

- b) Mivel az 5.2 számú bárca arra is utal, hogy a termék gyúlékony lehet, ezért 3 számú bárca nem szükséges. Kiegészítésképpen a következő bárcákat kell elhelyezni:
- i) a B típusú szerves peroxidok esetében kiegészítésképpen 1 számú bárcát is el kell helyezni, kivéve, ha az illetékes hatóság engedélyezte ezen bárca elhagyását kifejezetten az alkalmazott csomagolásra, mivel a vizsgálatok eredményei bizonyították, hogy a szerves peroxid ebben a csomagolásban nem robbanásveszélyes;
  - ii) 8 számú veszélyességi bárcát, ha a szerves peroxid a 8 osztály I vagy II csomagolási csoportja kritériumainak megfelel.

A név szerint említett önreaktív anyagokhoz és szerves peroxidokhoz az elhelyezendő bárcákat a 2.2.41.4 illetve a 2.2.52.4 bekezdés felsorolása tartalmazza.

**5.2.2.1.10** *Különleges előírások a fertőző anyagokat tartalmazó küldeménydarabok bárcázására*

A fertőző anyagokat tartalmazó küldeménydarabokon a 6.2 számú bárcán kívül mindazon veszélyességi bárcákat el kell helyezni, amelyek a tartalom tulajdonságai miatt szükségesek.

**5.2.2.1.11** *Különleges előírások a radioaktív anyagok bárcázására*

**5.2.2.1.11.1** Kivéve, ha az 5.3.1.1.3 pontban előírtak szerint felnagyított bárcákat alkalmaznak, minden radioaktív anyagot tartalmazó küldeménydarabra, konténerre és egyesítőcsomagolásra legalább két, a kategóriájának megfelelő (lásd az 5.1.5.3.4 pontot) 7A, 7B vagy 7C számú bárcát kell elhelyezni. A bárcákat a küldeménydarabok külsejének két, egymással szemben levő oldalára, ill. a nagykonténer mind a négy oldalára kell elhelyezni. Minden, radioaktív anyagot tartalmazó egyesítőcsomagolást legalább két, egymással szemben levő külső oldalán kell bárcával megjelölni. Ezenkívül minden hasadóanyagot tartalmazó küldeménydarabra, egyesítőcsomagolásra és konténerre, kivéve a 6.4.11.2 bekezdés szerinti mentesített hasadóanyagokat tartalmazókat, a 7E számú bárcákat is el kell helyezni; ezeket a bárcákat közvetlenül a radioaktív anyagra utaló bárcák mellé kell helyezni. A bárcák nem takarhatják az 5.2.1 szakaszban meghatározott jelöléseket. Azokat a bárcákat, amelyek nem felelnek meg a tartalomnak, el kell távolítani vagy le kell takarni.

**5.2.2.1.11.2** A 7A, 7B és 7C számú minta szerinti bárcákon a következő információkat kell feltüntetni:

- a) Tartalom:
- i) Az *LSA-I* anyagokat kivéve a radionuklidok nevét a 2.2.7.2.2.1 pont táblázata szerint, az ott található jellel. A radionuklid keverékekre a sugárzás szempontjából meghatározó nuklidokat kell megnevezni, amennyire a rovatban rendelkezésre álló hely ezt megengedi. Az *LSA-* vagy *SCO-*csoportot a radionuklid neve után kell írni. Ehhez az „*LSA-II*”, „*LSA-III*”, „*SCO-I*” és „*SCO-II*” kifejezéseket kell használni.
  - ii) *LSA-I* anyagokhoz elegendő az „*LSA-I*” megjelölés, a radionuklid nevét nem kötelező feltüntetni.
- b) Aktivitás:
- A radioaktív tartalom szállítás alatti legnagyobb aktivitását becquerelben (Bq) kell megadni a hozzátartozó SI-prefixum jelével együtt (lásd az 1.2.2.1 bekezdést). Hasadóanyagoknál az aktivitás helyett a hasadóanyag összes mennyisége is megadható grammban (g) vagy annak többszörösében.
- c) Egyesítőcsomagolásoknál és konténereknél a „tartalom”-ra és az „aktivitás”-ra vonatkozó beírás a bárcákon az előző a) és b) pont alatt előírt adatoknak megfelelően történjen, az egyesítőcsomagolások vagy konténerek teljes tartalmára vonatkoztatva. Ez nem vonatkozik azon egyesítőcsomagolások vagy konténerek bárcáira, amelyek különböző radionuklidokat tartalmazó küldeménydarabokat tartalmaznak együtvé rakva; ilyen esetekben a „**Lásd a fuvarokmányt**” beírást lehet alkalmazni.

d) Szállítási mutatószám:

Az 5.1.5.3.1 és az 5.1.5.3.2 pont alapján meghatározott számot (az I-FEHÉR kategóriára nézve a szállítási mutatószám feltüntetése nem szükséges).

**5.2.2.1.11.3** Minden 7E számú bárcán fel kell tüntetni a kritikussági biztonsági mutatószámot (CSI-t), amint az a külön megegyezés vagy a küldeménydarab-minta engedély okiratában szerepel, amelyet az illetékes hatóság adott ki.

**5.2.2.1.11.4** Egyesítőcsomagolások és konténerek esetén az 5.2.2.1.11.3 pontban előírt kritikussági biztonsági mutatószámot (CSI-t) a bárcán az egyesítőcsomagolás, ill. a konténer teljes hasadóanyag tartalmára összesítve kell feltüntetni.

**5.2.2.1.11.5** Az illetékes hatóság gyártási minta engedélyéhez, ill. szállítási engedélyéhez kötött küldeménydarabok nemzetközi szállítása esetén, ha az érintett országokban különböző engedélytípusok szükségesek, a bárcákat a gyártási minta származási országában kiadott engedélynek megfelelően kell elhelyezni.

## **5.2.2.2 Előírások a bárcákra**

**5.2.2.2.1** A bárcáknak a szín, a jelkép és a forma tekintetében az 5.2.2.2.2 pontban látható bárcákkal kell megegyezniük és a következő előírásoknak kell megfelelniük. Elfogadhatók azonban a többi közlekedési alágazatra előírt hasonló bárcák is, amelyeken csak olyan, apró eltérések vannak, amelyek a bárca nyilvánvaló jelentését nem befolyásolják.

***Megjegyzés:** Az 5.2.2.2.2 pontban – ahol indokolt – a bárcák az 5.2.2.2.1.1 pontban előírtak szerint szaggatott külső határvonallal vannak ábrázolva. Ez nem szükséges akkor, ha a bárca elütő színű háttérrel van.*

**5.2.2.2.1.1** A bárcák csúcsára állított négyzet (rombusz) alakúak, legalább 100 x 100 mm nagyságúak. A szélekkel párhuzamosan, azoktól 5 mm távolságra egy vonal fut körbe. A vonal a bárca felső felén a jelképpel azonos színű, az alsó felén az alsó sarokban feltüntetett számmal azonos színű. A bárcákat elütő színű háttérre kell feltenni vagy pedig a külső szélét szaggatott vagy folytonos határvonallal kell jelölni. Ha a küldeménydarab mérete úgy kívánja, a bárcák méretei csökkenthetők, feltéve, hogy jól láthatók maradnak.

**5.2.2.2.1.2** A 2 osztály gázait tartalmazó palackokhoz alakjuk, helyzetük és a szállításnál szükséges rögzítés módja miatt az e szakaszban előírt, de az ISO 7225:2005 (Gázpalackok – Figyelmeztető bárcák) szabvány szerinti, csökkentett méretű bárcák is használhatók, hogy a gázpalackok nem hengeres részére (vállrészére) elhelyezhetők legyenek. Az 5.2.2.1.6 pont előírásaitól eltérően a bárcák az ISO 7225:2005 szabvány szerinti mértékben fedhetik egymást. A főveszélyre utaló bárcának és az összes bárcán levő számnak mindig, teljes mértékben láthatónak, ill. a jelképeknek felismerhetőnek kell lenniük.

A 2 osztály gázaihoz használt, üres, tisztítatlan nyomástartó tartályok újratöltés, vizsgálat, az érvényes előírásoknak megfelelő, új bárcával való ellátás vagy a nyomástartó tartály ártalmatlanítása céljából úgy is szállíthatók, ha elavult vagy sérült bárcákkal vannak jelölve.

**5.2.2.2.1.3** Az 1 osztály 1.4, 1.5 és 1.6 alosztályának bárcája kivételével a bárcák felső felén a jelkép, az alsó felén a következők vannak feltüntetve:

- a) az 1, a 2, a 3, az 5.1, az 5.2, a 7, a 8 és a 9 osztály bárcáinál az osztály száma;
- b) a 4.1, a 4.2 és a 4.3 osztály bárcáinál a „4” számjegy;
- c) a 6.1 és a 6.2 osztály bárcáinál a „6” számjegy.

A bárcákon az 5.2.2.2.1.5 pont szerint szöveg is feltüntethető, pl. az UN szám, vagy a

veszély jellegét leíró szavak (pl. „gyúlékony”), feltéve, hogy a szöveg nem takarja el, ill. nem zavarja a bárcára előírt egyéb elemeket.

**5.2.2.2.1.4** Ezen kívül az 1 osztály bárcáinak – az 1.4, 1.5 és 1.6 alosztály kivételével – az alsó felén az anyagra vagy tárgyra vonatkozó alosztály száma és összeférhetőségi csoport betűje van az osztály száma fölött. Az 1.4, 1.5 és 1.6 alosztály bárcáinak felső felén az alosztály száma, az alsó felén az osztály száma és az összeférhetőségi csoport betűje van.

**5.2.2.2.1.5** A bárcákon – a 7 osztály anyagaira utaló bárcák kivételével – a jelkép alatti üres részen az osztály számán kívüli egyéb szöveg is feltüntethető, de csak ha a veszély természetére vagy kezelési óvintézkedésre utal.

**5.2.2.2.1.6** A jelképeknek, szövegeknek és számoknak jól olvashatónak és tartósnak és minden bárcán fekete színűnek kell lenniük, kivéve:

- a) a 8 osztály bárcáját, ahol a szöveget (ha van) és az osztály számát fehérrel kell felírni;
- b) a teljesen zöld, vörös vagy kék háttérű bárcákat, ahol fehér színűek is lehetnek;
- c) az 5.2 osztály bárcáját, ahol a jelkép fehér is lehet; és
- d) az UN 1011, 1075, 1965 és 1978 számú anyagokat tartalmazó palackokon és gázpatronokon elhelyezett 2.1 számú bárcát, ahol megegyezhet a tartály színével, ha az kellően elüt a bárca háttérétől.

**5.2.2.2.1.7** A bárcák felismerhetősége az időjárás hatására lényegesen nem csökkenhet.

5.2.2.2.2 *Bárca minták***1 osztály veszélye**  
**Robbanóanyagok és -tárgyak**

(1 sz. bárca)

1.1, 1.2 és 1.3 alosztály

A jelkép (felrobbanó bomba): fekete;

a háttér: narancssárga;

‘1’ számjegy az alsó sarokban



(1.4 sz. bárca)

1.4 alosztály



(1.5 sz. bárca)

1.5 alosztály



(1.6 sz. bárca)

1.6 alosztály

A háttér: narancssárga; a számok: feketék;

a számjegyek kb. 30 mm magasak és kb. 5 mm vastagságúak (100 x 100 mm-es bárcáknál);

‘1’ számjegy az alsó sarokban

\*\* Az alosztály számának helye – üresen kell hagyni, ha a robbanásveszély járulékos veszély.

\* Az összeférhetőségi csoport helye – üresen kell hagyni, ha a robbanásveszély járulékos veszély.

**2 osztály veszélye**  
**Gázok**

(2.1 sz. bárca)

Gyúlékony gázok

A jelkép (láng): fekete vagy fehér

(kivéve, ha az 5.2.2.2.1.6 d) pont szerinti);

a háttér: vörös;

‘2’ számjegy az alsó sarokban



(2.2 sz. bárca)

Nem gyúlékony, nem mérgező gázok

A jelkép (gázpalack): fekete vagy fehér;

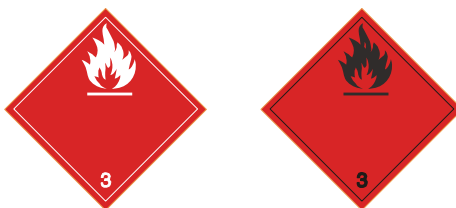
a háttér: zöld;

‘2’ számjegy az alsó sarokban



(2.3 sz. bárca)  
 Mérgező gázok  
 A jelkép (halálfej): fekete;  
 a háttér: fehér;  
 '2' számjegy az alsó sarokban

**3 osztály veszélye**  
**Gyúlékony folyékony anyagok**



(3 sz. bárca)  
 A jelkép (láng): fekete vagy fehér;  
 a háttér: vörös;  
 '3' számjegy az alsó sarokban

**4.1 osztály veszélye**  
**Gyúlékony szilárd anyagok,**  
**önreaktív anyagok és**  
**szilárd,**  
**érzéketlenített**  
**robbanóanyagok**



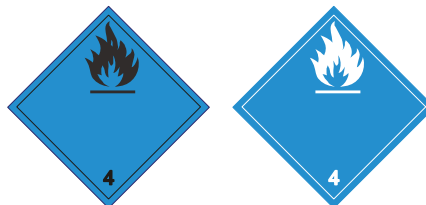
(4.1 sz. bárca)  
 A jelkép (láng): fekete;  
 a háttér: fehér  
 hét függőleges vörös csíkkal;  
 '4' számjegy az alsó  
 sarokban

**4.2 osztály veszélye**  
**Öngyulladásra hajlamos**  
**anyagok**



(4.2 sz. bárca)  
 A jelkép (láng): fekete;  
 a háttér: felső fél fehér,  
 alsó fél vörös;  
 '4' számjegy az alsó  
 sarokban

**4.3 osztály veszélye**  
**Vízzel érintkezve gyúlékony gázokat**  
**fejlesztő anyagok**



(4.3 sz. bárca)  
 A jelkép (láng): fekete vagy fehér;  
 a háttér: kék;  
 '4' számjegy az alsó sarokban

**5.1 osztály veszélye**  
**Gyújtó hatású (oxidáló) anyagok**



(5.1 sz. bárca)  
A jelkép (kör feletti láng): fekete;  
a háttér sárga;  
'5.1' számjegyek az alsó sarokban

**5.2 osztály veszélye**  
**Szerves peroxidok**



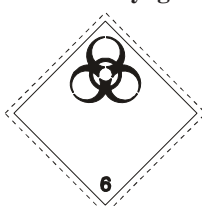
(5.2 sz. bárca)  
A jelkép (láng): fekete vagy fehér;  
a háttér: felső fél vörös, alsó fél sárga;  
'5.2' számjegyek az alsó sarokban

**6.1 osztály veszélye**  
**Mérgező anyagok**



(6.1 sz. bárca)  
A jelkép (halálfej): fekete;  
a háttér: fehér;  
'6' számjegy az alsó sarokban

**6.2 osztály veszélye**  
**Fertőző anyagok**



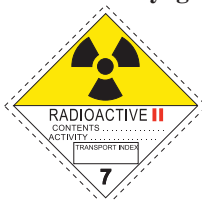
(6.2 sz. bárca)  
A bárca alsó felén feltüntethető a „FERTŐZŐ ANYAG” és a  
„Sérülés vagy szabaddá válás esetén azonnal értesíteni kell az egészségügyi hatóságokat” felirat.  
A jelkép (kör, amelyen három félhold van) és a felirat: fekete;  
a háttér: fehér;  
'6' számjegy az alsó sarokban



**7 osztály veszélye**  
**Radioaktív anyagok**



(7A sz. bárca)  
I – FEHÉR kategória  
A jelkép (stilizált lóhere): fekete;  
a háttér: fehér.  
Kötelező szöveg a bárca  
alsó felén: fekete  
'RADIOACTIVE',  
'CONTENTS .....',  
'ACTIVITY .....';  
a 'RADIOACTIVE' szó után  
egy függőleges vörös csík;  
'7' számjegy az alsó sarokban



(7B sz. bárca)  
II – SÁRGA kategória  
A jelkép (stilizált lóhere): fekete;  
a háttér: felső fél sárga, fehér  
szegéllyel, alsó fél fehér.  
Kötelező szöveg a bárca alsó  
felén: fekete  
'RADIOACTIVE',  
'CONTENTS .....',  
'ACTIVITY .....'.  
Fekete keretben:  
'TRANSPORT INDEX';  
a 'RADIOACTIVE' szó után  
két függőleges vörös csík;  
'7' számjegy az alsó sarokban



(7C sz. bárca)  
III – SÁRGA kategória  
A jelkép (stilizált lóhere): fekete;  
a háttér: felső fél sárga, fehér  
szegéllyel, alsó fél fehér.  
Kötelező szöveg a bárca  
alsó felén: fekete  
'RADIOACTIVE',  
'CONTENTS .....',  
'ACTIVITY .....'.  
Fekete keretben:  
'TRANSPORT INDEX';  
a 'RADIOACTIVE' szó után  
három függőleges vörös csík;  
'7' számjegy az alsó sarokban



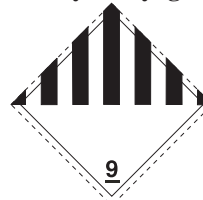
(7E sz. bárca)  
7 osztályba tartozó hasadóanyag  
A háttér: fehér.  
Kötelező szöveg: fekete - a bárca felső felén: 'FISSILE',  
a bárca alsó felén fekete keretben: 'CRITICALITY SAFETY INDEX';  
'7' számjegy az alsó sarokban

**8 osztály veszélye**  
**Maró anyagok**



(8 sz. bárca)  
A jelkép (két üveg kémcsőből csepegő,  
egy kezét és egy fémdarabot megtámadó  
folyadék): fekete;  
a háttér: felső fél fehér,  
alsó fél fekete, fehér szegéllyel;  
'8' számjegy az alsó sarokban

**9 osztály veszélye**  
**Különféle veszélyes anyagok és tárgyak**



(9 sz. bárca)  
A jelkép (hét függőleges csík a  
felső részen): fekete;  
a háttér: fehér;  
'9' számjegy aláhúzva az alsó sarokban

## 5.3 fejezet

### A nagybárcák és a narancssárga jelölés elhelyezése

***Megjegyzés:** A konténerek, MEG-konténerek, tankkonténerek és mobil tartányok jelölésére és nagybárcával való ellátására tengeri szállítást is magában foglaló szállítási láncban lásd az 1.1.4.2.1 pontot.*

#### 5.3.1 Nagybárcák elhelyezése

##### 5.3.1.1 Általános előírások

##### 5.3.1.1.1

Amikor és ahogyan ebben a szakaszban elő van írva, a nagykonténerek, MEG-konténerek, tankkonténerek, mobil tartányok és kocsik külső felületére nagybárcákat kell erősíteni. A nagybárcáknak meg kell egyezniük a nagykonténerben, MEG-konténerben, tankkonténerben, mobil tartányban vagy kocsiban levő árura, a 3.2 fejezet „A” táblázat 5, esetleg 6 oszlopában előírt bárcákkal, és meg kell felelniük az 5.3.1.7 bekezdésben található leírásnak. A nagybárcákat elütő színű háttérre kell feltenni vagy pedig a külső szélét szaggatott vagy folytonos határvonallal kell jelölni.

***Megjegyzés:** A 13 és 15 számú tolatási bárcákra lásd azonban az 5.3.4 szakaszt.*

##### 5.3.1.1.2

Az 1 osztálynál az összeférhetőségi csoportot nem kell a nagybárcákon feltüntetni, ha a kocsi vagy a nagykonténer több összeférhetőségi csoport anyagait szállítja.

A különböző alosztályokba tartozó anyagokat vagy tárgyakat szállító kocsit, ill. nagykonténert csak a legveszélyesebb alosztály szerinti nagybárcával kell ellátni a következők sorrendnek megfelelően:

1.1 (legveszélyesebb), 1.5, 1.2, 1.3, 1.6, 1.4 (legkevésbé veszélyes).

Amennyiben az 1.5D osztályozási kód alá tartozó anyagokat az 1.2 alosztály anyagaival vagy tárgyaival együtt szállítják, úgy a kocsit, ill. a nagykonténert az 1.1 alosztálynak megfelelően kell nagybárcával ellátni.

Az 1.4 alosztály S összeférhetőségi csoportjába tartozó robbanóanyagok és -tárgyak fuvarozása esetén nincs szükség nagybárcára.

Azokat a kocsikat és nagykonténereket, amelyekben olyan küldeménydarabokat szállítanak, amelyek az 1.5.2 szakasz szerinti katonai küldemények és az 5.2.2.1.8 pont szerint nincsenek veszélyességi bárcákkal ellátva, kocsik esetében mindkét oldalukon, nagykonténerek esetében mind a négy oldalukon el kell látnia a 3.2 fejezet „A” táblázat 5 oszlopában megadott nagybárcákkal.

##### 5.3.1.1.3

A 7 osztálynál a fő veszélyre utaló nagybárcának meg kell egyeznie az 5.3.1.7.2 pontban leírt 7D mintával. Erre a nagybárcára nincs szükség azoknál a kocsiknál és nagykonténereknél, amelyekben engedélyezett küldeménydarabokat szállítanak. Amennyiben a kocsira, nagykonténerre, MEG-konténerre, tankkonténerre vagy mobil tartányra a 7 osztály veszélyességi bárcája és nagybárca is elő van írva, akkor a 7D számú nagybárca helyett az előírt veszélyességi bárca felnagyított változata is elhelyezhető, amely mindkét célnak megfelel.

##### 5.3.1.1.4

A több osztályba tartozó árukat tartalmazó nagykonténerekre, MEG-konténerekre, tankkonténerekre, mobil tartányokra vagy kocsikra nem szükséges a járulékos veszélyre utaló nagybárca elhelyezése, ha az ezen nagybárcának megfelelő veszélyt már egy fő vagy járulékos veszélyre utaló nagybárca jelöli.

**5.3.1.1.5** Azokat a nagybárcákat, amelyek nem a szállított veszélyes árukra vagy azok maradékára utalnak, el kell távolítani vagy le kell takarni.

**5.3.1.1.6** Ha a nagybarca forgatható táblán van elhelyezve, akkor azt úgy kell kialakítani és rögzíteni, hogy a szállítás közben ne forduljon át és ne lazuljon meg (különösen ütközés vagy véletlen folytán).

**5.3.1.2** *Nagykonténerek, MEG-konténerek, tankkonténerek és mobil tartányok nagybárcával való megjelölése*

A nagybárcákat a nagykonténerek, MEG-konténerek, mobil tartányok és tankkonténerek mindkét oldalára és mindkét végére el kell helyezni.

Ha egy többkamrás tankkonténer, ill. többkamrás mobil tartány két- vagy többfajta veszélyes árut tartalmaz, a tartánykamrában levő anyagra utaló nagybárcá(ka)t mindkét oldalon a megfelelő tartánykamránál kell elhelyezni, a tankkonténer, ill. a mobil tartány két végére pedig az oldalt levő mindegyik fajta bárcából egyet-egyet kell elhelyezni.

**5.3.1.3** *A nagykonténereket, MEG-konténereket, tankkonténereket és mobil tartányokat szállító kocsik és a huckepack forgalomban használt kocsik nagybárcával való megjelölése*

**5.3.1.3.1** Ha a hordozó kocsin levő nagykonténerekre, MEG-konténerekre, tankkonténerekre vagy mobil tartányokra erősített nagybárcák kívülről nem láthatók, akkor ugyanolyan nagybárcákat kell elhelyezni a kocsik mindkét oldalára. Egyébként a hordozó kocsikat nem kell nagybárcával megjelölni.

**5.3.1.3.2** A huckepack forgalomban használt hordozó kocsiknál a nagybárcákat a kocsik mindkét oldalára kell elhelyezni.

A huckepack forgalomban használt hordozó kocsikra nem kell elhelyezni nagybárcákat:

- a „gördülő országút” alkalmazása esetén (pótkocsi vagy pótkocsi nélküli tehergépkocsi, vagy nyerges vontató és félpótkocsi fuvarozása az e célra alkalmas vasúti kocsin);
- a közúti tartányjárművek, valamint ömlesztett veszélyes árut szállító közúti járművek egyéb fuvarozása esetén;
- a küldeménydarabokat szállító közúti járművek egyéb fuvarozása esetén, ha a szállított küldeménynek megfelelő nagybárcák a járművön jól láthatók.

**5.3.1.4** *Ömlesztett árut szállító kocsik, tartálykocsik, battériás kocsik és leszerelhető tartányos kocsik nagybárcával való megjelölése*

A nagybárcákat a kocsi mindkét oldalára el kell helyezni.

Ha egy többkamrás tartálykocsi, ill. a kocsin levő többkamrás leszerelhető tartány két- vagy többfajta veszélyes árut tartalmaz, a tartánykamrában levő anyagra utaló nagybárcá(ka)t mindkét oldalon a megfelelő tartánykamránál kell elhelyezni. Ha viszont minden tartánykamrán ugyanolyan nagybárcáknak kell lenniük, akkor ezekből a kocsi mindkét oldalára csak egyet kell elhelyezni.

Ha ugyanahhoz a tartánykamrához több nagybarca van előírva, akkor a nagybárcákat egymás mellé kell elhelyezni.

**5.3.1.5** *A kizárólag küldeménydarabokat szállító kocsik nagybárcával való megjelölése*

A nagybárcákat a kocsi mindkét oldalára el kell helyezni.

**5.3.1.6** *Üres tartálykocsik, battériás kocsik, MEG-konténerek, tankkonténerek, mobil tartányok és ömlesztett áru szállításra használt üres kocsik és nagykonténerek nagybárcával való megjelölése*

Az üres, tisztítatlan és nem gáztalanított, nem fertőtlenített tartálykocsikon, leszerelhető tartányos kocsikon, battériás kocsikon, tankkonténereken, MEG-konténereken, mobil tartányokon és az ömlesztett áru szállításra használt, üres, tisztítatlan, nem fertőtlenített kocsikon és nagykonténereken az előző rakomány esetében előírt nagybárcáknak kell lenniük.

**5.3.1.7** *A nagybárcák leírása*

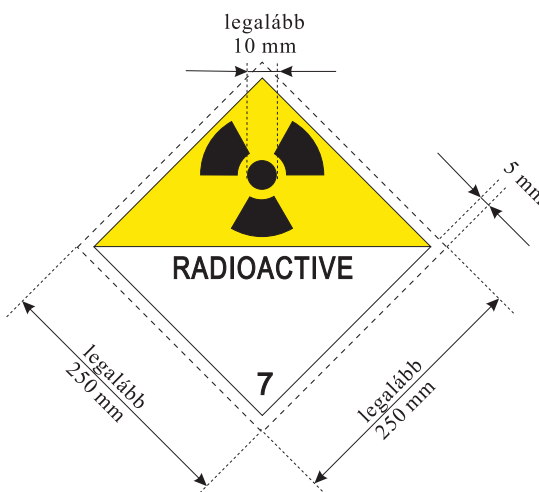
**5.3.1.7.1** A nagybárcáknak – az 5.3.1.7.2 pontban a 7 osztály nagybárcáira előírtak kivételével – a következőknek kell megfelelniük:

- a méretük legalább 250 x 250 mm, a szélekkel párhuzamosan, azoktól 12,5 mm-re a egy vonal fut körbe, ami a nagybarca felső felén a jelképpel azonos színű, az alsó felén az alsó sarokban feltüntetett számmal azonos színű;
- a színnek és a jelképnek meg kell egyeznie az adott veszélyes árura előírt bárcával (lásd az 5.2.2.2 bekezdést); és
- tartalmazniuk kell az adott veszélyes árura az 5.2.2.2 bekezdésben a megfelelő bárcára előírt számokat (és az 1 osztályba tartozó áruknál az összeférhetőségi csoport betűjét) legalább 25 mm magas írásjegyekkel.

Az 5.2.2.1.2 pont előírásai ugyancsak alkalmazhatók.

**5.3.1.7.2** A 7 osztályra utaló nagybárcák mérete legalább 250 x 250 mm, a szélekkel párhuzamosan, azoktól 5 mm-re fekete vonal fut körbe, egyébként a következő ábrának megfelelő kivittel (7D sz.). A '7' számjegy nem lehet 25 mm-nél kisebb. A nagybarca felső fele sárga, az alsó fele fehér, a stilizált lóhere és a feliratok feketék. Az alsó felén a „RADIOACTIVE” szó feltüntetése tetszőleges, azért, hogy a nagybárcán a küldemény UN száma feltüntethető legyen.

7D sz. nagybarca a 7 osztály radioaktív anyagaihoz



Jelkép (stilizált lóhere): fekete; háttér: felső fél sárga, fehér szegéllyel, alsó fél fehér;  
Az alsó felén a „RADIOACTIVE” szó látható, vagy – szükség esetén – a megfelelő UN szám (lásd az 5.3.2.1.2 pontot) és az alsó sarokban a '7' számjegy.

**5.3.1.7.3** A legfeljebb 3 m<sup>3</sup> befogadóképességű tankkonténereknél a nagybárcák helyettesíthetők az 5.2.2.2 bekezdésnek megfelelő bárcákkal.

**5.3.1.7.4** Kocsik esetében a nagybárcák mérete 150 x 150 mm-re csökkenthető. Ebben az esetben a szimbólumra, vonalakra, számjegyekre és betűkre megadott többi méret sem érvényes.

## **5.3.2 Narancssárga tábla**

### **5.3.2.1 A narancssárga táblára vonatkozó általános előírások**

**5.3.2.1.1** Az olyan áruk szállításánál, amelyekre a 3.2 fejezet „A” táblázat 20 oszlopában veszélyt jelölő szám van feltüntetve,

- a tartálykocsi,
- a battériás kocsi,
- a leszerelhető tartányos kocsi,
- a tankkonténer,
- a MEG-konténer,
- a mobil tartány,
- az ömlesztett árut szállító kocsi,
- az ömlesztett áru szállítására szolgáló kiskonténer vagy nagykonténer,
- azon kocsi vagy konténer, amelyben egyetlen UN szám alá tartozó radioaktív anyagot küldeménydarabokban, kizárólagos használat mellett szállítanak és más veszélyes áru nincs benne

mindkét oldalára az 5.3.2.2.1 pont szerinti, téglalap alakú, narancssárga táblát jól látható módon kell elhelyezni.

Ez a tábla elhelyezhető azoknak a kocsiknak mindkét oldalán is, amelyekben ugyanazon árut tartalmazó küldeménydarabokat fuvaroznak kocsirakományként.

**5.3.2.1.2** Minden narancssárga táblán a szállított anyagra a 3.2 fejezet „A” táblázat 20 oszlopában előírt veszélyt jelölő és 1 oszlopában előírt UN számot fel kell tüntetni az 5.3.2.2.2 pontban megadott módon.

Ha egy tartálykocsiban, battériás kocsiban, leszerelhető tartányos kocsiban, tankkonténerben MEG-konténerben vagy mobil tartányban több, különböző anyagot külön tartányokban vagy tartánykamrákban fuvaroznak, akkor a feladónak az 5.3.2.1.1 pontban előírt narancssárga táblát a megfelelő számokkal együtt a tartányok, ill. a tartánykamrák mindkét oldalára a kocsi, a tankkonténer vagy a mobil tartány hossz tengelyével párhuzamosan úgy kell elhelyeznie, hogy jól láthatóak legyenek.

**5.3.2.1.3 –**

**5.3.2.1.4** (fenntartva)

**5.3.2.1.5** Ha a szállító kocsin levő konténerre, tankkonténerre, MEG-konténerre, ill. mobil tartányra erősített, az 5.3.2.1.1 pontban előírt narancssárga táblák kívülről nem láthatók tisztán, akkor ugyanolyan táblákat kell elhelyezni a kocsi mindkét oldalára.

**Megjegyzés:** Azokat a fedett, ill. ponyvás kocsikat, amelyek legfeljebb 3000 liter befogadóképességű tartány(oka)t szállítanak, nem kell narancssárga táblával megjelölni.

**5.3.2.1.6** Az ADR előírásai szerint narancssárga táblával megjelölt közúti járművek szállítása esetén a huckepack forgalomban használt hordozó kocsira nem szükséges elhelyezni a narancssárga táblákat. Ez a mentesség nem alkalmazható, ha a tartányjármű vagy a szállítóegység az ADR 5.3.2.1.3 vagy az 5.3.2.1.6 pontja szerint van megjelölve.

**5.3.2.1.7** Az 5.3.2.1.1 – 5.3.2.1.5 pont előírásai érvényesek az üres, tisztítatlan, nem gáztalanított, ill. nem fertőtlenített

- tartálykocsikra,
- battériás kocsikra,
- leszerelhető tartányos kocsikra,
- tankkonténerekre,
- mobil tartányokra és
- MEG-konténerekre,

valamint az ömlesztett áru szállítására használt, üres, tisztítatlan vagy nem fertőtlenített kocsikra, nagykonténerekre és kiskonténerekre is.

**5.3.2.1.8** A nem a szállított veszélyes árura vagy árumaradékra utaló narancssárga táblákat el kell távolítani vagy le kell takarni. Ha a táblákat letakarják, a letakarásnak teljesnek kell lennie, és 15 percig tartó égés után is takarnia kell a táblát.

## **5.3.2.2 A narancssárga tábla leírása**

**5.3.2.2.1** A narancssárga tábla lehet fényvisszaverő, az alapjának 40 cm-nek, a magasságának 30 cm-nek kell lennie. A táblán 15 mm széles fekete szegélynek kell lenni. A táblát az időjárás viszontagságainak ellenálló és a jelölés tartósságát biztosító anyagból kell készíteni. A tábla 15 percig tartó égés esetén sem válhat le a tartójáról. A táblának rögzítve kell maradnia, bármilyen helyzetben van is a kocsi.

Az 5.3.2.1.2 és az 5.3.2.1.5 pont szerinti táblákat öntapadó fóliával, festéssel vagy bármely más, egyenértékű megoldással lehet helyettesíteni. Ennek az alternatív jelöléseknek meg kell felelnie az ebben a bekezdésben felsorolt feltételeknek, kivéve az 5.3.2.2.1 és az 5.3.2.2.2 pontban említett, tűzállóságra vonatkozó előírásokat.

**Megjegyzés:** A narancssárga tábla színárnyalatának normál használati körülmények között a színdiagramon a következő koordináták összekötésével kapott területre eső színkoordinátákkal kell rendelkeznie:

A terület sarokpontjainak színkoordinátái a színdiagramon				
x	0,52	0,52	0,578	0,618
y	0,38	0,40	0,422	0,38

Fényerő tényező nem fényvisszaverő színnél:  $\beta \geq 0,22$ , fényvisszaverő színnél:  $\beta > 0,12$ .

Referencia középpont E, C normálfény típus, normál beesési szög  $45^\circ$ ,  $0^\circ$  irányából mérve.

A fényvisszaverő szín visszavert fényerősségi együtthatója  $5^\circ$ -os beesési szögnél és  $0,2^\circ$ -nál mérve: legalább 20 kandela/(lux·m<sup>2</sup>).

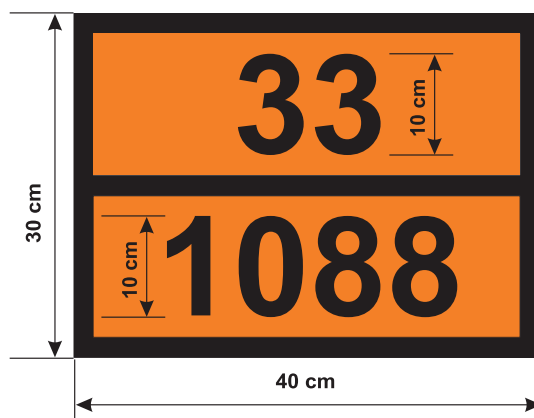
**5.3.2.2.2** A veszélyt jelölő és az UN számoknak 100 mm magas és 15 mm vonalvastagságú fekete számjegyekből kell állniuk. A veszélyt jelölő számnak a tábla felső részén, az UN számnak a tábla alsó részén kell lennie, a két számot a tábla fél magasságában 15 mm széles, fekete,

vízszintes vonallal kell elválasztani (lásd az 5.3.2.2.3 pontot).

A veszélyt jelölő és az UN számoknak kitörölhetetlennek kell lenniük és 15 perig tartó égés után is olvashatónak kell maradniuk.

Ha a táblán a veszélyt jelölő és az UN számok cserélhetőek, a cserélhető számoknak, betűknek a szállítás során nem szabad elmozdulniuk, bármilyen helyzetben van is a kocsi.

**5.3.2.2.3** *A veszélyt jelölő és az UN számot feltüntető narancssárga tábla mintája*



Veszélyt jelölő szám (2 vagy három számjegy, adott esetben előtte egy X betű; lásd az 5.3.2.3 bekezdést)

UN szám (4 számjegy)

A háttér narancssárga.

A keret, a vízszintes vonal és a számjegyek feketék, 15 mm vastagok.

**5.3.2.2.4** Az ebben a bekezdésben megadott méretek megengedett tűrése  $\pm 10\%$ .

**5.3.2.2.5** Ha a narancssárga tábla, ill. az 5.3.2.2.1 pont szerinti, a táblát helyettesítő jelölés forgatható táblán van elhelyezve, akkor azt úgy kell kialakítani és rögzíteni, hogy a szállítás közben ne forduljon át és ne lazuljon meg (különösen ütközés vagy véletlen folytán).

**5.3.2.3** *A veszélyt jelölő számok jelentése*

**5.3.2.3.1** A veszélyt jelölő szám a 2 – 9 osztály anyagaira két vagy három számjegyből áll. A számok általában a következő veszélyekre utalnak:

- |   |  |
|---|--|
| 2 | nyomás vagy vegyi reakció révén gáz kiszabadulása                                |
| 3 | folyékony anyagok (gőzök) és gázok gyúlékonysága vagy önmelegedő folyékony anyag |
| 4 | szilárd anyagok gyúlékonysága vagy önmelegedő szilárd anyag                      |
| 5 | gyújtó (égést tápláló) hatás   |
| 6 | mérgezőképesség vagy fertőzésveszély   |
| 7 | radioaktivitás   |
| 8 | maró hatás   |
| 9 | spontán heves reakció veszélye.  |

**Megjegyzés:** A 9 számjegy alkalmazásának szempontjából a spontán heves reakció veszélye kiterjed az anyag természetéből adódó robbanásveszélyre, bomlási vagy polimerizációs reakció lehetőségére és az ezzel együtt járó jelentős hő vagy gyúlékony és/vagy mérgező gázok fejlődésére.

Valamely számjegy megkettőzése az illető veszély fokozott mértékére utal.

Ha valamely anyag veszélyessége egyetlen számjeggyel megjelölhető, akkor ezt a számjegyet második számként egy nulla követi.

A következő számjegy kombinációknak azonban különleges jelentésük van: 22, 323, 333, 362, 382, 423, 44, 446, 462, 482, 539, 606, 623, 642, 823, 842, 90 és 99, lásd a következő 5.3.2.3.2 pontot.

Ha a veszélyt jelölő szám előtt „X” betű áll, ez azt jelzi, hogy az anyag a vízzel veszélyesen reagál. Ilyen anyagoknál víz csak szakértő jóváhagyásával használható.

Az 1 osztály anyagaihoz és tárgyaihoz veszélyt jelölő számként a 3.2 fejezet „A” táblázat 3b oszlopa szerinti osztályozási kódot kell használni. Az osztályozási kód

- a 2.2.1.1.5 pont szerinti alosztály számából; és
- a 2.2.1.1.6 pont szerinti összeférhetőségi csoport betűjéből áll.

**5.3.2.3.2** A 3.2 fejezet „A” táblázatának 20 oszlopában feltüntetett veszélyt jelölő számok jelentése a következő:

- |      |   |
|------|---|
| 20   | fojtó hatású gáz vagy más járulékos veszéllyel nem járó gáz   |
| 22   | mélyhűtött, cseppfolyósított, fojtó gáz   |
| 223  | mélyhűtött, cseppfolyósított, gyúlékony gáz   |
| 225  | mélyhűtött, cseppfolyósított, gyújtó hatású (égést tápláló) gáz   |
| 23   | gyúlékony gáz   |
| 238  | gyúlékony, maró gáz   |
| 239  | gyúlékony gáz, amely spontán heves reakciót okozhat   |
| 25   | gyújtó hatású (égést tápláló) gáz   |
| 26   | mérgező gáz   |
| 263  | mérgező, gyúlékony gáz  |
| 265  | mérgező, gyújtó hatású (égést tápláló) gáz  |
| 268  | mérgező, maró gáz   |
| 28   | maró gáz  |
| 285  | maró, gyújtó hatású (égést tápláló) gáz   |
| 30   | – gyúlékony (lobbanáspont 23...60 °C) folyékony anyag; vagy   |
|      | – 60 °C feletti lobbanáspontú gyúlékony folyékony anyag vagy olvasztott szilárd anyag lobbanáspontjával egyenlő vagy annál magasabb hőmérsékleten; vagy |
|      | – önmelegedő folyékony anyag  |
| 323  | gyúlékony folyékony anyag amely vízzel reagálva gyúlékony gázokat fejleszt  |
| X323 | gyúlékony folyékony anyag, amely vízzel veszélyesen reagálva <sup>3)</sup> gyúlékony gázokat fejleszt   |
| 33   | könnyen gyúló (lobbanáspont 23 °C alatt) folyékony anyag  |
| 333  | piroforos folyékony anyag   |
| X333 | piroforos folyékony anyag, amely a vízzel veszélyesen reagál <sup>3)</sup>  |
| 336  | könnyen gyúló, mérgező folyékony anyag  |
| 338  | könnyen gyúló, maró folyékony anyag   |
| X338 | könnyen gyúló, maró folyékony anyag, amely a vízzel veszélyesen reagál <sup>3)</sup>  |
| 339  | könnyen gyúló folyékony anyag, amely spontán heves reakciót okozhat   |
| 36   | gyúlékony (lobbanáspont 23...60 °C), enyhén mérgező folyékony anyag vagy önmelegedő, mérgező folyékony anyag  |
| 362  | gyúlékony, mérgező folyékony anyag, amely vízzel reagálva gyúlékony gázokat fejleszt  |

3) Víz csak szakértő jóváhagyásával használható.



- X362 gyúlékony, mérgező folyékony anyag, amely vízzel veszélyesen reagálva<sup>3)</sup> gyúlékony gázokat fejleszt
- 368 gyúlékony, mérgező, maró folyékony anyag
- 38 gyúlékony (lobbanáspont 23...60 °C) folyékony anyag, amely gyengén maró vagy önmelegedő, maró folyékony anyag
- 382 gyúlékony folyékony, maró anyag, amely vízzel reagálva gyúlékony gázokat fejleszt
- X382 gyúlékony folyékony, maró anyag, amely vízzel veszélyesen reagálva<sup>3)</sup> gyúlékony gázokat fejleszt
- 39 gyúlékony folyékony anyag, amely spontán heves reakciót okozhat
- 40 gyúlékony szilárd anyag, vagy önmelegedő anyag, vagy önreaktív anyag
- 423 szilárd anyag, amely vízzel reagálva gyúlékony gázokat fejleszt, vagy gyúlékony szilárd anyag, amely vízzel reagálva gyúlékony gázokat fejleszt, vagy önmelegedő szilárd anyag, amely vízzel reagálva gyúlékony gázokat fejleszt
- X423 szilárd anyag, amely vízzel veszélyesen reagálva<sup>3)</sup> gyúlékony gázokat fejleszt, vagy gyúlékony szilárd anyag, amely vízzel veszélyesen reagálva<sup>3)</sup> gyúlékony gázokat fejleszt, vagy önmelegedő szilárd anyag, amely vízzel veszélyesen reagálva<sup>3)</sup> gyúlékony gázokat fejleszt
- 43 öngyulladó (piroforos) szilárd anyag
- X432 öngyulladó (piroforos) szilárd anyag, amely vízzel veszélyesen reagálva<sup>3)</sup> gyúlékony gázokat fejleszt
- 44 gyúlékony szilárd anyag, amely magasabb hőmérsékleten olvasztott állapotban van
- 446 gyúlékony, mérgező szilárd anyag, amely magasabb hőmérsékleten olvasztott állapotban van
- 46 gyúlékony vagy önmelegedő, mérgező szilárd anyag
- 462 mérgező szilárd anyag, amely vízzel reagálva gyúlékony gázokat fejleszt
- X462 szilárd anyag, amely vízzel veszélyesen reagálva<sup>3)</sup> mérgező gázokat fejleszt
- 48 gyúlékony vagy önmelegedő, maró szilárd anyag
- 482 maró szilárd anyag, amely vízzel reagálva gyúlékony gázokat fejleszt
- X482 szilárd anyag, amely vízzel veszélyesen reagálva<sup>3)</sup> maró gázokat fejleszt
- 50 gyújtó hatású (égést tápláló) anyag
- 539 gyúlékony szerves peroxid
- 55 erősen gyújtó hatású (égést tápláló) anyag
- 556 erősen gyújtó hatású (égést tápláló), mérgező anyag
- 558 erősen gyújtó hatású (égést tápláló), maró anyag
- 559 erősen gyújtó hatású (égést tápláló) anyag, amely spontán heves reakciót okozhat
- 56 gyújtó hatású (égést tápláló), mérgező anyag
- 568 gyújtó hatású (égést tápláló), mérgező, maró anyag
- 58 gyújtó hatású (égést tápláló), maró anyag
- 59 gyújtó hatású (égést tápláló) anyag, amely spontán heves reakciót okozhat
- 60 mérgező vagy enyhén mérgező anyag
- 606 fertőző anyag
- 623 mérgező folyékony anyag, amely vízzel reagálva gyúlékony gázokat fejleszt
- 63 mérgező, gyúlékony (lobbanáspont 23...60 °C) folyékony anyag
- 638 mérgező, gyúlékony (lobbanáspont 23...60 °C), maró folyékony anyag
- 639 mérgező, gyúlékony (lobbanáspont legfeljebb 60 °C) folyékony anyag, amely spontán heves reakciót okozhat
- 64 mérgező, gyúlékony vagy önmelegedő szilárd anyag

- 642 mérgező szilárd anyag, amely vízzel reagálva gyúlékony gázokat fejleszt  
65 mérgező, gyújtó hatású (égést tápláló) anyag  
66 nagyon mérgező anyag  
663 nagyon mérgező, gyúlékony (lobbanáspont legfeljebb 60 °C) folyékony anyag  
664 nagyon mérgező, gyúlékony vagy önmelegedő szilárd anyag  
665 nagyon mérgező, gyújtó hatású (égést tápláló) anyag  
668 nagyon mérgező, maró anyag  
669 nagyon mérgező anyag, amely spontán heves reakciót okozhat  
68 mérgező, maró anyag  
69 mérgező vagy enyhén mérgező anyag, amely spontán heves reakciót okozhat  
70 radioaktív anyag  
78 radioaktív, maró anyag  
80 maró vagy gyengén maró anyag  
X80 maró vagy gyengén maró anyag, amely vízzel veszélyesen reagál<sup>3)</sup>  
823 maró folyékony anyag, amely vízzel reagálva gyúlékony gázokat fejleszt  
83 maró vagy gyengén maró, gyúlékony (lobbanáspont 23...60 °C) folyékony anyag  
X83 maró vagy gyengén maró, gyúlékony (lobbanáspont 23...60 °C) folyékony anyag, amely vízzel veszélyesen reagál<sup>3)</sup>  
839 maró vagy gyengén maró, gyúlékony (lobbanáspont 23...60 °C) folyékony anyag, amely spontán heves reakciót okozhat  
X839 maró vagy gyengén maró, gyúlékony (lobbanáspont 23...60 °C) folyékony anyag, amely spontán heves reakciót okozhat és vízzel veszélyesen reagál<sup>3)</sup>  
84 maró, gyúlékony vagy önmelegedő szilárd anyag  
842 maró szilárd anyag, amely vízzel reagálva gyúlékony gázokat fejleszt  
85 maró vagy gyengén maró, gyújtó hatású (égést tápláló) anyag  
856 maró vagy gyengén maró, gyújtó hatású (égést tápláló), mérgező anyag  
86 maró vagy gyengén maró, mérgező anyag  
88 erősen maró anyag  
X88 erősen maró anyag, amely a vízzel veszélyesen reagál<sup>3)</sup>  
883 erősen maró, gyúlékony (lobbanáspont 23...60 °C) folyékony anyag  
884 gyúlékony vagy önmelegedő, erősen maró, szilárd anyag  
885 erősen maró és gyújtó hatású (égést tápláló) anyag  
886 erősen maró és mérgező anyag  
X886 erősen maró és mérgező anyag, amely vízzel veszélyesen reagál<sup>3)</sup>  
89 maró vagy gyengén maró anyag, amely spontán heves reakciót okozhat  
90 környezetre veszélyes anyag vagy különféle veszélyes anyagok  
99 különféle veszélyes anyagok magas hőmérsékleten szállítva

### 5.3.3 Magas hőmérsékletű anyagok jelölése

Azokat a tartálykocsikat, tankkonténereket, mobil tartányokat, különleges kocsikat és nagykonténereket, ill. különlegesen felszerelt kocsikat és nagykonténereket, amelyeknél a 3.2 fejezet „A” táblázat 6 oszlopában az 580 különleges előírás szerint a magas hőmérsékletű anyag jelölése szükséges, a kocsik mindkét oldalán, a nagykonténerek, tankkonténerek és mobil tartányok mind a négy oldalán a következő ábra szerinti háromszög alakú, vörös színű jelöléssel kell ellátni, amelynek oldalhosszúsága legalább 250 mm.



### 5.3.4 A 13 és 15 számú tolatási bárcák

#### 5.3.4.1 Általános előírások

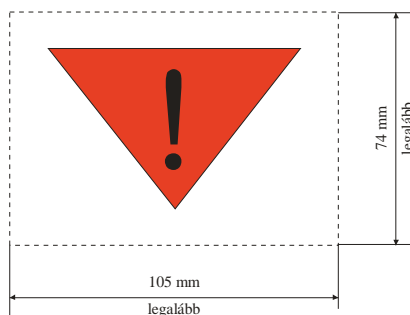
Az 5.3.1.1.1 és az 5.3.1.1.5 pont, valamint az 5.3.1.3 – 5.3.1.6 bekezdés általános előírásai a 13 és a 15 számú tolatási bárcára is érvényesek.

A tolatási bárcák helyett az előírt mintáknak pontosan megfelelő, eltávolíthatatlan tolatási jelek is alkalmazhatók. Ezek a jelek csak vörös háromszög(ek)ből és fekete felkiáltójelből is állhatnak (alap legalább 100 mm, magasság legalább 70 mm).

#### 5.3.4.2 A 13 és 15 számú tolatási bárcák leírása

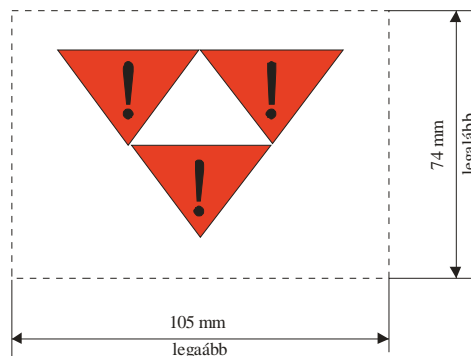
A 13 és 15 számú tolatási bárcák legalább A7 méretű (74 x 105 mm) téglalap alakúak.

13 sz. bárca  
Óvatosan tolatni!



vörös háromszög fekete felkiáltójellel,  
fehér alapon

15 sz. bárca  
Ütközési és gurítási tilalom!  
Vontatójárművel kell mozgatni!  
Tilos gurítani és más kocsik nekigurításával  
szemben védeni kell!



három vörös háromszög fekete  
felkiáltójellel, fehér alapon

**5.3.5            Narancssárga csík**

A cseppfolyósított, a mélyhűtött, cseppfolyósított és az oldott gázok szállítására szolgáló tartálykocsikat a tartány tengely magasságában körbefutó, kb. 30 cm széles, nem fényvisszaverő, narancssárga<sup>4)</sup> csíkkal kell megjelölni.

**5.3.6            A környezetre veszélyes anyagok különleges jelölése**

Ha az 5.3.1 szakasz előírásai szerint nagybárcát kell alkalmazni, a 2.2.9.1.10 pont kritériumai szerint környezetre veszélyes anyagot tartalmazó nagykonténereket, MEG-konténereket, tankkonténereket, mobil tartányokat és kocsikat az 5.2.1.8.3 pont szerinti, „környezetre veszélyes anyag” jelöléssel is el kell látni. Az 5.3.1 szakasz nagybárcákra vonatkozó előírásait erre a jelölésre értelemszerűen alkalmazni kell.

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4)        Lásd az 5.3.2.2.1 bekezdéshez fűzött megjegyzést.

## 5.4 fejezet

### Okmányok

#### 5.4.0

A RID által szabályozott minden fuvarozásnál az árut az ebben a fejezetben előírt okmányoknak kell kísérniük, kivéve, ha az 1.1.3.1 – 1.1.3.5 bekezdésben ez alól felmentés van adva.

**Megjegyzés:** Elektronikus adatfeldolgozási (EDP) vagy elektronikus adatátviteli (EDI) technikák használata az írásos dokumentáció kiegészítéseként vagy helyette megengedett, amennyiben az elektronikus adatok fogadására, tárolására és feldolgozására használt eljárások a bizonyító erőre és a fuvarozás alatti hozzáférhetőségre vonatkozó jogi követelményeknek legalább annyira megfelelnek, mint az írásos dokumentáció.

#### 5.4.1

**Veszélyes áru fuvarokmányok és az azokkal összefüggő információk**

##### 5.4.1.1

**Általános információk, amelyeket a fuvarokmánynak tartalmaznia kell**

##### 5.4.1.1.1

A megfelelő rovatba tett kereszt mellett a fuvarokmány(ok)nak minden szállítandó anyagra vagy tárgyra vonatkozóan a következő információkat kell tartalmaznia (tartalmazniuk):

- a) az UN számot, amely elé az „UN” betűket kell írni;
- b) a helyes szállítási megnevezést, amint azt a 3.1.2 szakasz meghatározza, szükség esetén (lásd a 3.1.2.8.1 pontot) a zárójelbe tett műszaki megnevezéssel kiegészítve (lásd a 3.1.2.8.1.1 pontot);
- c) – az 1 osztály anyagai és tárgyai esetén a 3.2 fejezet „A” táblázat 3b oszlopában található osztályozási kódot.

Ha a 3.2 fejezet „A” táblázat 5 oszlopában az 1, 1.4, 1.5, 1.6, 13, ill. 15 számú bárcán kívül más bárca száma is fel van tüntetve, akkor az osztályozási kód után zárójelben azt a bárcaszámot is fel kell tüntetni;

- a 7 osztály radioaktív anyagai esetén az osztály számát: „7”;

**Megjegyzés:** A járulékos veszélyekkel rendelkező radioaktív anyagokra lásd a 3.3 fejezetben a 172 különleges előírást.

- a többi osztály anyagai és tárgyai esetén a 3.2 fejezet „A” táblázat 5 oszlopában feltüntetett, ill. a 6 oszlopban feltüntetett különleges előírás alapján szükséges bárca számát, kivéve a 13 számú tolatási bárcát. Ha egynél több bárca van megadva, akkor az elsőt követő többi bárca számát zárójelbe kell tenni. Olyan anyagok és tárgyak esetén, amelyeknél a 3.2 fejezet „A” táblázat 5 oszlopában nincs bárca szám feltüntetve, e helyett a 3a oszlopban feltüntetett osztály számát;

- d) ahol van, az anyagra vonatkozó csomagolási csoportot, ami elé a „PG” betűk (pl. „PG II”) vagy az 5.4.1.4.1 pont szerinti nyelven a „csomagolási csoport” kezdőbetűi írhatók;

**Megjegyzés:** A 7 osztály járulékos veszélyekkel rendelkező radioaktív anyagaira lásd a 3.3 fejezetben a 172 különleges előírás b) bekezdését.

- e) küldeménydarabok szállítása esetén a küldeménydarabok számát és fajtáját [lásd a CIM 7. cikk 1. § h) és i) pontját is]. A csomagolóeszköz UN kódjelét csak a küldeménydarab-fajta leírásának kiegészítéseként lehet használni [pl. egy láda (4G)];

- f) a veszélyes árukénti összes mennyiséget (térfogatban, bruttó vagy nettó tömegben) az azonos UN számhoz, helyes szállítási megnevezéshez és – ha van – csomagolási csoporthoz tartozó áruként;

**Megjegyzés: 1. (fenntartva)**

**2. A RID-ben szereplő gépek és készülékek esetén a bennük lévő veszélyes áru összes mennyiségét kell feltüntetni, literben vagy kg-ban.**

- g) a feladó nevét és címét; [lásd a CIM 7. cikk 1. § b) pontját is];
- h) a címzett(ek) nevét és címét; [lásd a CIM 7. cikk 1. § g) pontját is];
- i) az esetleges külön megállapodás rendelkezéseinek megfelelő nyilatkozatot.
- j) ha az 5.3.2.1 bekezdés szerinti jelölés van előírva, a veszélyt jelölő számot az UN szám előtt kell feltüntetni. A veszélyt jelölő számot akkor is fel kell tüntetni, ha ugyanazon árut tartalmazó küldeménydarabokat kocsirakományként fuvarozó kocsit az 5.3.2.1 bekezdés szerinti jelöléssel van ellátva.

Az egyes információk helye és sorrendje a fuvarokmányban tetszőleges, kivéve, hogy az a), b), c) és d) pont szerinti adatokat ebben a sorrendben [azaz a), b), c), d) sorrendben] kell beírni, minden más információ közbeszúrása nélkül, kivéve, amit a RID előír. Ilyen megengedett veszélyes áru leírás például:

„UN 1098 ALLIL-ALKOHOL, 6.1 (3), I” vagy

„UN 1098 ALLIL-ALKOHOL, 6.1 (3), PG I”.

Ha az 5.3.2.1 bekezdés szerinti jelölés van előírva, az a), b), c), d) és j) pont szerinti adatokat a j), a), b), c), d) sorrendben kell írni, minden más információ közbeszúrása nélkül, kivéve, amit a RID előír.

A veszélyes áru ilyen megengedett leírása az 5.3.2.1 bekezdés szerinti jelölés figyelembevételével például:

„663, UN 1098 ALLIL-ALKOHOL, 6.1 (3), I” vagy

„663, UN 1098 ALLIL-ALKOHOL, 6.1 (3), PG I”.

#### **5.4.1.1.2** A fuvarokmányban az előírt információknak jól olvashatónak kell lenniük.

Bár a 3.1 fejezetben és a 3.2 fejezet „A” táblázatában a helyes szállítási megnevezés részét képező elemek nagybetűvel vannak feltüntetve, ill. ebben a fejezetben a fuvarokmányban feltüntetendő információk vegyesen nagy- és kisbetűvel vannak írva, az információt a fuvarokmányba kis- vagy nagybetűvel egyaránt be lehet írni.

#### **5.4.1.1.3** Hulladékokra vonatkozó különleges előírások

Amennyiben veszélyes árut tartalmazó hulladékot szállítanak (a radioaktív hulladékok kivételével), az UN szám és a helyes szállítási megnevezés elé kell írni a „HULLADÉK” szót, kivéve, ha ez része a helyes szállítási megnevezésnek, pl.:

„HULLADÉK, UN 1230 METANOL, 3 (6.1), II” vagy

„HULLADÉK, UN 1230 METANOL, 3 (6.1), PG II” vagy

„HULLADÉK, UN 1993 GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N. (toluol és etil-alkohol), 3, II” vagy

„HULLADÉK, UN 1993 GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N. (toluol és etil-alkohol), 3, PG II”.

Ha az 5.3.2.1 bekezdés szerint jelölés van előírva, az 5.4.1.1.1 j) pont szerint a veszély jelölő szám elé a „HULLADÉK” kifejezést kell írni, pl.:

„HULLADÉK, 33, UN 1993 GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N. (toluol és etil-alkohol), 3, II” vagy

„HULLADÉK, 33, UN 1993 GYÚLÉKONY FOLYÉKONY ANYAG, M.N.N. (toluol és etilalkohol), 3, PG II”.

Ha a hulladékra a 2.1.3.5.5 pont előírásait alkalmazzák, akkor a helyes szállítási megnevezést a következőkkel kell kiegészíteni:

„A 2.1.3.5.5 PONT SZERINTI HULLADÉK”

(pl.: „UN 3264 MARÓ, FOLYÉKONY, SAVAS, SZERVETLEN ANYAG, M.N.N. 8, II, A 2.1.3.5.5 PONT SZERINTI HULLADÉK”).

Ilyen esetben a 3.3 fejezet 274 különleges előírása által előírt műszaki megnevezést nem kell beírni.

**5.4.1.1.4** *A korlátozott mennyiségben csomagolt veszélyes árukra vonatkozó különleges előírások*

Ha a 3.4 fejezet szerinti, korlátozott mennyiségben csomagolt veszélyes árut fuvaroznak, a fuvarokmányba nem szükséges ezt bejegyezni.

**5.4.1.1.5** *A kármentő csomagolásokra vonatkozó különleges előírások*

Ha veszélyes árut kármentő csomagolásban fuvaroznak, a fuvarokmányba az áru megnevezése után a „KÁRMENTŐ CSOMAGOLÁS” bejegyzést kell tenni.

**5.4.1.1.6** *Az üres, tisztítatlan eszközökre vonatkozó különleges előírások*

**5.4.1.1.6.1** A 7 osztály kivételével a többi osztály veszélyes áruinak maradékát tartalmazó, üres, tisztítatlan eszközök esetében a fuvarokmányban az 5.4.1.1.1 b) pontban előírt helyes szállítási megnevezés előtt vagy után az „ÜRES, TISZTÍTATLAN” vagy az „UTOLSÓ RAKOMÁNY MARADÉKA” szavakat kell feltüntetni. Emellett az 5.4.1.1.1 f) pont előírásait nem kell alkalmazni.

**5.4.1.1.6.2** Az 5.4.1.1.6.1 pont különleges előírása helyett az 5.4.1.1.6.2.1, ill. az 5.4.1.1.6.2.2 pont előírásai értelemszerűen alkalmazhatók.

**5.4.1.1.6.2.1** A 7 osztály kivételével a többi osztály veszélyes áruinak maradékát tartalmazó, üres, tisztítatlan csomagolóeszközök esetében, beleértve a legfeljebb 1000 l űrtartalmú, üres, tisztítatlan gáztartályokat is, a fuvarokmányban az 5.4.1.1.1 a), b) c) d), e), f) és j) pont szerinti adatok helyett értelemszerűen az „ÜRES CSOMAGOLÓESZKÖZ”, „ÜRES TARTÁLY”, „ÜRES IBC”, ill. „ÜRES NAGYCSOMAGOLÁS” bejegyzés valamelyike szerepel, amit az utolsó berakott árura az 5.4.1.1.1 c) pontban meghatározott információ követ. Lásd a következő példát:

„ÜRES CSOMAGOLÓESZKÖZ, 6.1 (3)”.

Ha az utolsó berakott veszélyes áru a 2 osztályba tarozó volt, akkor az 5.4.1.1.1 c) pontban meghatározott információ helyett az osztály száma: „2” is bejegyezhető.

**5.4.1.1.6.2.2** A 7 osztály kivételével a többi osztály veszélyes áruinak maradékát tartalmazó, üres, tisztítatlan eszközök – a csomagolóeszközök kivételével –, és az 1000 l-nél nagyobb űrtartalmú, üres, tisztítatlan gáztartályok esetében a fuvarokmányban az 5.4.1.1.1 a) – d) és j) pont szerinti adatok előtt értelemszerűen az „ÜRES TARTÁLYKOCSI”, „ÜRES TARTÁNYJÁRMŰ”, „ÜRES LESZERELHETŐ TARTÁNY”, „ÜRES TANKKONTÉNER”, „ÜRES MOBIL TARTÁNY”, „ÜRES BATTÉRIÁS KOCSI”, „ÜRES BATTÉRIÁS JÁRMŰ”, „ÜRES MEG-KONTÉNER”, „ÜRES JÁRMŰ”, „ÜRES KOCSI”, „ÜRES KONTÉNER”, illetve „ÜRES TARTÁLY” bejegyzés valamelyike szerepel, amit az „UTOLSÓ RAKOMÁNY:” szavak követnek. Emellett az 5.4.1.1.1. f) pont előírásait nem kell alkalmazni. Lásd a következő példát:

„ÜRES TARTÁLYKOCSI, UTOLSÓ RAKOMÁNY: 663, UN 1098 ALLIL-ALKOHOL, 6.1 (3), I” vagy

„ÜRES TARTÁLYKOCSI, UTOLSÓ RAKOMÁNY: 663, UN 1098 ALLIL-ALKOHOL, 6.1 (3), PG I”.

**5.4.1.1.6.2.3** (fenntartva)

**5.4.1.1.6.3** a) Ha az üres, tisztítatlan tartányokat, battériás kocsikat, battériás járműveket vagy MEG-konténereket a 4.3.2.4.3 pont szerint a legközelebbi olyan helyre szállítják, ahol a tisztítás vagy javítás elvégezhető, a következő kiegészítő bejegyzést kell a fuvarokmányba tenni: „**A 4.3.2.4.3 pont szerinti fuvarozás**”.

b) Ha az üres, tisztítatlan kocsikat, járműveket vagy konténereket a 7.5.8.1 bekezdés szerint a legközelebbi olyan helyre szállítják, ahol a tisztítás vagy javítás elvégezhető, a következő kiegészítő bejegyzést kell a fuvarokmányba tenni: „**A 7.5.8.1 bekezdés szerinti fuvarozás**”.

**5.4.1.1.6.4** Ha tartálykocsikat, leszerelhető tartányokat, battériás kocsikat, tankkonténereket vagy MEG-konténereket a 4.3.2.4.4 pont szerint fuvaroznak, a következő kiegészítő bejegyzést kell a fuvarokmányba tenni: „**A 4.3.2.4.4 pont szerinti fuvarozás**”.

**5.4.1.1.7** *A tengeri vagy légi szállítást is magában foglaló szállításra vonatkozó különleges előírások<sup>5)</sup>*

Az 1.1.4.2.1 pont szerinti fuvarozásnál a következő bejegyzést kell a fuvarokmányba tenni: „**Az 1.1.4.2.1 pont szerinti fuvarozás**”.

**5.4.1.1.8** (fenntartva)

**5.4.1.1.9** *A huckepack forgalomra vonatkozó különleges előírások*

Tartányok és ömlesztett veszélyes áruk fuvarozásánál, amikor az ADR 5.3.2.1.4 – 5.3.2.1.6 pontja szerint a fuvarszekőzt táblával kell ellátni, a fuvarokmányban az áru megnevezése előtt a veszélyt jelölő számot is fel kell tüntetni.

**5.4.1.1.10** (fenntartva)

**5.4.1.1.11** *Az IBC-k és mobil tartányok utolsó időszakos vizsgálat érvényességének lejárt utáni szállítására vonatkozó különleges előírások*

A 4.1.2.2 bekezdés b) pontja, a 6.7.2.19.6 pont b) alpontja, a 6.7.3.15.6 pont b) alpontja és a 6.7.4.14.6 pont b) alpontja szerinti fuvarozásnál ezt a tényt a fuvarokmányban a következő formában kell feltüntetni: „**A 4.1.2.2 b) pont szerinti fuvarozás**”; „**A 6.7.2.19.6 b) pont szerinti fuvarozás**”; „**A 6.7.3.15.6 b) pont szerinti fuvarozás**”; „**A 6.7.4.14.6 b) pont szerinti fuvarozás**”.

**5.4.1.1.12** *Az átmeneti rendelkezések szerinti fuvarozásra vonatkozó különleges előírások*

Az 1.6.1.1 bekezdés szerinti fuvarozáshoz a fuvarokmányba a következő bejegyzést kell tenni: „**A 2009. január 1-ig érvényes RID szerinti fuvarozás**”.

**5.4.1.1.13** (fenntartva)

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5) A tengeri vagy légi szállítást is magában foglaló szállítási láncban történő továbbításnál a tengeri vagy légi szállításhoz használt okmány (pl. az 5.4.4 szakasz szerinti, multimodális veszélyes áru nyomtatvány) a fuvarokmányhoz csatolható. Ennek az okmánynak a fuvarokmánnyal azonos méretűnek kell lennie. Ha a fuvarokmányhoz az 5.4.4 szakasz szerinti, multimodális veszélyes áru nyomtatványt csatolják, a fuvarokmányban nem szükséges a veszélyes árua vonatkozó, ebben a nyomtatványban már szereplő információkat bejegyezni, azonban a fuvarokmány megfelelő rovatában utalni kell erre a kiegészítő okmányra.



**5.4.1.1.14** *A magas hőmérsékleten szállított anyagokra vonatkozó különleges előírások*

Ha egy folyékony anyagot 100 °C-on vagy annál magasabb hőmérsékleten, ill. egy szilárd anyagot 240 °C-on vagy annál magasabb hőmérsékleten szállítanak vagy adnak fel szállításra és a helyes szállítási megnevezés nem utal a magas hőmérsékletre (pl. a helyes szállítási megnevezésben nem szerepel az „OLVASZTOTT” vagy „MAGAS HŐMÉRSÉKLETŰ” kifejezés), akkor a helyes szállítási megnevezés elé közvetlenül a „**FORRÓ**” szót kell írni.

**5.4.1.1.15** (fenntartva)**5.4.1.1.16** *A 3.3 fejezet 640 különleges utasítása szerint szükséges információ feltüntetése*

Ha a 3.3 fejezet 640 különleges előírása megköveteli, a fuvarokmányba a „640X különleges előírás” bejegyzést kell tenni, ahol „X” a 3.2 fejezet „A” táblázat 6 oszlopában a 640 különleges előírás után szereplő nagybetű.

**5.4.1.1.17** *A szilárd anyagoknak a 6.11.4 szakasz szerinti, ömlesztettáru-konténerekben történő szállítására vonatkozó különleges előírások*

Ha szilárd anyagot a 6.11.4 szakasz szerinti, ömlesztettáru-konténerekben szállítanak, a fuvarokmányba a következő bejegyzést kell tenni (lásd a 6.11.4 szakasz címéhez fűzött megjegyzést):

„... illetékes hatósága által jóváhagyott BK(x) ömlesztettáru-konténer”.

**5.4.1.2** *Az egyes osztályoknál szükséges különleges vagy kiegészítő információk***5.4.1.2.1** *Különleges előírások az 1 osztályra*

- a) A fuvarokmányban az 5.4.1.1.1 pontban előírtakon kívül fel kell tüntetni a nettó robbanóanyag tömeget kg-ban. Kocsirakomány vagy teljes rakomány esetén a fuvarokmányban fel kell tüntetni a küldeménydarabok számát, az egyes küldeménydarabok tömegét kg-ban, valamint a robbanóanyag összes nettó tömegét kg-ban.
- b) Két különböző áru egybecsomagolása esetén a fuvarokmányba az áru megjelöléseként mindkét anyag vagy tárgy 3.2 fejezet „A” táblázat 1, illetve 2 oszlopában szereplő UN számát és nagybetűvel szedett helyes szállítási megnevezését be kell írni. Amennyiben a 4.1.10 szakasz MP1, MP2, MP20 – MP24 egybecsomagolásra vonatkozó különleges előírása szerint kettőnél több különböző áru van egy küldeménydarabbá egyesítve, úgy a fuvarokmányban az áru megnevezése alatt a küldeménydarabban levő minden anyag és tárgy UN számát „UN ... **számú áru**” formában kell feltüntetni.
- c) A valamely m.n.n. tétel vagy az „UN 0190 ROBBANÓANYAG MINTA” alá besorolt, illetve az 4.1.4.1 bekezdés P101 csomagolási utasítása szerint csomagolt anyagok és tárgyak fuvarozásánál a fuvarokmányhoz mellékelni kell az illetékes hatóság engedélyének egy példányát a szállítási feltételekkel. Ezt a feladási ország valamely hivatalos nyelvén és ezenkívül, ha ez a nyelv nem az angol, a francia, a német vagy az olasz, akkor angol, francia, német vagy olasz nyelven kell szövegezni, kivéve, ha a fuvarozás által érintett országok közötti megállapodások, ha ilyenek vannak, másként rendelkeznek.
- d) Ha a B és a D összeférhetőségi csoport anyagait és tárgyait tartalmazó küldeménydarabokat a 7.5.2.2 bekezdés előírásai szerint ugyanabba a kocsiba együtvé rakják, a fuvarokmányhoz a 7.5.2.2 bekezdéséhez fűzött 1) lábjegyzet szerinti elválasztott rekeszekre vagy különleges védőburkolat-rendszerre vonatkozóan az illetékes hatóság jóváhagyásának másolatát a fuvarokmányhoz kell csatolni. Ezt a feladási ország valamelyik hivatalos nyelvén és ha ez a nyelv nem az angol, a német, a

francia vagy az olasz, akkor angol, német, francia vagy olasz nyelven kell szövegezni, kivéve, ha a fuvarozás által érintett országok közötti megállapodások, ha ilyenek vannak, másként rendelkeznek.

- e) Ha a robbanóanyagokat vagy robbanótárgyakat a P101 csomagolási utasítás szerinti csomagolásban szállítják, a fuvarokmányba a következő bejegyzést kell tenni: „[államjelzés (a nemzetközi forgalomban résztvevő gépjárművek államjelzésének formájában)] **illetékes hatósága által engedélyezett csomagolás**” (lásd a 4.1.4.1 bekezdés P101 csomagolási utasítását).
- f) Az 1.5.2 szakasz szerinti katonai küldeményeknél a 3.2 fejezet „A” táblázat szerinti megnevezések helyett az illetékes katonai hatóság által előírt megnevezések használhatók.
- Az olyan katonai küldemények fuvarozásánál, amelyekre az 5.2.1.5 bekezdés, az 5.2.2.1.8 és az 5.3.1.1.2 pont, valamint a 7.2.4 szakasz W2 különleges előírása szerinti eltérő feltételek vonatkoznak, a fuvarokmányba be kell jegyezni: „**katonai küldemény**”.
- g) Az UN 0333, 0334, 0335, 0336 és 0337 alá tartozó tűzijáték testek szállításánál a fuvarokmányba a következő bejegyzést kell tenni: „**A(z) ...**(a 3.3.1 szakasz 645 különleges előírásában hivatkozott ország) **illetékes hatósága által elismert besorolás**”.

**Megjegyzés:** A helyes szállítási megnevezés kiegészítéseként a fuvarokmányban az áru kereskedelmi vagy műszaki megnevezése is megadható.

#### 5.4.1.2.2

*Kiegészítő előírások a 2 osztályra*

- a) A keverékek (lásd a 2.2.2.1.1 pontot) tartálykocsikban, leszerelhető tartányokban, mobil tartányokban, tankkonténerekben, battériás kocsikban vagy MEG-konténerekben történő fuvarozásánál a keverék összetételét térf.%-ban vagy tömeg%-ban meg kell adni. Az 1%-nál kevesebb alkotórészeket nem kell feltüntetni (lásd még a 3.1.2.8.1.2 pontot is). Nem szükséges megadni a keverék összetételét, ha az 581, 582 vagy 583 különleges előírás által engedélyezett műszaki megnevezést használják a helyes szállítási megnevezés kiegészítéseként.
- b) Palackok, nagypalackok, gázhordók, mélyhűtő tartályok és palackkötegek 4.1.6.10 bekezdés feltételei szerinti fuvarozásánál a fuvarokmányba a következő bejegyzést kell tenni: „**A 4.1.6.10 bekezdés szerinti fuvarozás**”.
- c) Olyan tartálykocsik esetében, amelyeket tisztítatlan állapotban töltöttek meg, a fuvarokmányba az áru tömegéként a betöltött áru tömegének és a visszamaradt rakomány tömegének összegét kell beírni, ami megfelel a megtöltött tartálykocsi össztömege és feltüntetett saját tömege közti különbségnek. Kiegészítésképpen a „**betöltött tömeg ... kg**” megjegyzés is beírható.
- d) A mélyhűtött, cseppfolyósított gázokkal töltött tartálykocsinál, mobil tartánynál és tankkonténernél a feladónak a fuvarokmányba a következő nyilatkozatot kell tenni: „**A tartány úgy van szigetelve, hogy a biztonsági szelepek ..... (a fuvarozó jóváhagyásával megadott dátum) előtt nem nyitnak ki**”.

#### 5.4.1.2.3

*Kiegészítő előírások a 4.1 osztály önreaktív anyagaira és az 5.2 osztály szerves peroxidjaira*

##### 5.4.1.2.3.1

(fenntartva)

##### 5.4.1.2.3.2

A 4.1 osztály egyes önreaktív anyagaihoz és az 5.2 osztály egyes szerves peroxidjaihoz, amelyeknél meghatározott csomagolás esetén az illetékes hatóság engedélye alapján 1 számú bárca nem szükséges (lásd az 5.2.2.1.9 pontot), a fuvarokmányba a következő bejegyzést kell

tenni: „**1 számú veszélyességi bárca nem szükséges**”.

- 5.4.1.2.3.3** Ha az önreaktív anyagokat és a szerves peroxidokat olyan feltételek mellett szállítják, amelyekhez jóváhagyás szükséges (az önreaktív anyagokra lásd a 2.2.41.1.13 és a 4.1.7.2.2 pontot; a szerves peroxidokra lásd a 2.2.52.1.8 és a 4.1.7.2.2 pontot, valamint a 6.8.4 szakasz TA2 különleges előírását), a fuvarokmányba erre utaló bejegyzést kell tenni, pl.: „**A 2.2.52.1.8 pont szerinti fuvarozás**”.

Az illetékes hatóság fuvarozási feltételeket tartalmazó jóváhagyásának másolatát a fuvarokmányhoz kell csatolni. Ezt a feladási ország valamelyik hivatalos nyelvén és ha ez a nyelv nem az angol, a francia, a német vagy az olasz, akkor angol, francia, német vagy olasz nyelven kell szövegezni, kivéve, ha a fuvarozás által érintett országok közötti megállapodások, ha ilyenek vannak, másként rendelkeznek.

- 5.4.1.2.3.4** Szerves peroxid minta (lásd a 2.2.52.1.9 pontot) vagy önreaktív anyag minta (lásd a 2.2.41.1.15 pontot) szállításánál erre a tényre utaló nyilatkozatot kell a fuvarokmányba bejegyezni, pl.: „**A 2.2.52.1.9 pont szerinti fuvarozás**”.

- 5.4.1.2.3.5** G típusú önreaktív anyag fuvarozásánál [lásd a „Vizsgálatok és kritériumok kézikönyv” II. Rész, 20.4.2 g) bekezdését] a következő nyilatkozat tehető a fuvarokmányba: „**Nem a 4.1 osztály önreaktív anyaga**”.

G típusú szerves peroxid fuvarozásánál [lásd a „Vizsgálatok és kritériumok kézikönyv” II. Rész, 20.4.3 g) bekezdését] a következő nyilatkozat tehető a fuvarokmányba: „**Nem az 5.2 osztály anyaga**”.

- 5.4.1.2.4** *Kiegészítő előírások a 6.2 osztályra*

A címzettre vonatkozó információ [lásd az 5.4.1.1.1 h) pontot] kívül egy felelős személy nevét és telefonszámát is meg kell adni.

- 5.4.1.2.5** *Kiegészítő előírások a 7 osztályra*

- 5.4.1.2.5.1** Minden, a 7 osztály anyagát tartalmazó küldemény esetében a fuvarokmányban – értelemszerűen – a következő információt kell a megadott sorrendben, közvetlenül az 5.4.1.1.1 a) – c) pontban előírt információkat követően feltüntetni:

- az egyes radionuklidok nevét vagy jelét, vagy radionuklidok keveréke esetében a megfelelő általános leírást vagy a sugárzás szempontjából meghatározó nuklidok felsorolását;
- az anyagok fizikai és kémiai állapotának leírását vagy annak közlését, hogy különleges formájú radioaktív anyagról vagy kis mértékben diszpergálódó radioaktív anyagról van szó. A kémiai alakot illetően a fajtamegnevezés elegendő. A járulékos veszéllyel rendelkező radioaktív anyagra lásd a 3.3 fejezet 172 különleges előírása utolsó mondatát;
- a radioaktív tartalom maximális aktivitását a szállítás során becquerelben (Bq) a megfelelő SI-prefixum jelével együtt (lásd az 1.2.2.1 bekezdést). Hasadóanyagok esetén az aktivitás helyett megadható az összes mennyiség is grammal (g) vagy annak többszörösében;
- a küldeménydarab kategóriáját, azaz I-FEHÉR, II-SÁRGA, III- SÁRGA;
- a szállítási mutatószámot (csak a II-SÁRGA és a III-SÁRGA kategóriánál);
- hasadóanyagot tartalmazó küldeménynél, kivéve a 6.4.11.2 bekezdés értelmében engedélyezett küldeményeket, a kritikussági biztonsági mutatószámot;
- amennyiben a feladáshoz szükséges, akkor az illetékes hatóság minden engedélyének

(különleges formájú radioaktív anyagokra, kis mértékben diszpergálódó radioaktív anyagokra, külön megegyezésre, küldeménydarab- mintára vagy szállításra vonatkozó engedélyek) jelölő számát;

- h) az olyan küldeményeknél, amelyek egynél több küldeménydarabból állnak, az 5.4.1.1.1 pontban és az előző a) – g) pontban előírt információkat minden egyes küldeménydarabra meg kell adni. Részletesen meg kell adni az egyesítő-csomagolásban, konténerben, ill. kocsiban levő minden egyes küldeménydarab, ill. minden egyes egyesítőcsomagolás, konténer, ill. kocsi tartalmát. Amennyiben az egyesítőcsomagolásból, konténerből, ill. kocsiból egyes küldeménydarabokat útközben kiraknak, a hozzájuk tartozó fuvarokmányokat mellékelni kell;
- i) amennyiben egy küldeményt kizárólagos használat mellett fuvaroznak, kiegészítésképpen a „**fuvarozás kizárólagos használat mellett**” megjegyzést;
- j) *LSA-II* vagy *LSA-III* anyagoknál és *SCO-I* vagy *SCO-II* tárgyaknál a küldeménydarab összes aktivitását az  $A_2$ -érték többszörösében.

**5.4.1.2.5.2** A feladónak a fuvarokmányban nyilatkoznia kell azokról az intézkedésekről, amelyeket esetleg a fuvarozónak kell megtennie. Ezt a nyilatkozatot olyan nyelven kell szövegezni, amelyet a fuvarozó vagy az illetékes hatóság szükségesnek tart, és a nyilatkozatnak legalább a következő információkat kell tartalmaznia:

- a) kiegészítő követelményeket a küldeménydarabok, egyesítőcsomagolások, konténerek, tartányok berakása, tárolása, szállítása, kezelése, kirakása során, beleértve a hőelvezetésre vonatkozó különleges tárolási előírásokat [lásd a 7.5.11 szakasz CW33 3.2) különleges előírását] vagy utalást, amelynek értelmében ilyen intézkedések nem szükségesek;
- b) a szállítási módra vagy a kocsira vonatkozó korlátozásokat, és a szállítási útvonalra vonatkozó szükséges adatokat;
- c) a küldeményre vonatkozó veszélyhelyzeti utasításokat.

**5.4.1.2.5.3** Az illetékes hatóság gyártási minta engedélyéhez, ill. szállítási engedélyéhez kötött küldeménydarabok nemzetközi szállítása esetén, ha az érintett országokban különböző engedélytípusok szükségesek, az 5.4.1.1.1 pontban előírt UN számot és helyes szállítási megnevezést a gyártási minta származási országában kiadott engedélynek megfelelően kell megadni.

**5.4.1.2.5.4** Az illetékes hatóság engedélyét nem kell feltétlenül a küldeményhez mellékelni. A feladónak azonban berakás és kirakás előtt a fuvarozó rendelkezésére kell bocsátania.

**5.4.1.3** (fenntartva)

#### **5.4.1.4** *Az okmányok nyelvezete és formája*

**5.4.1.4.1** A fuvarokmányt egy vagy több nyelven, de legalább angol, francia vagy német nyelven kell kiállítani, kivéve, ha a fuvarozás által érintett országok közötti megállapodások, ha ilyenek vannak, másként rendelkeznek.

**5.4.1.4.2** Minden esetben külön fuvarokmányt kell kiállítani azokra a küldeményekre, amelyeket a 7.5.2 szakasz tiltó rendelkezései miatt nem szabad ugyanazon kocsiba vagy konténerbe együtvé rakni.

A fuvarokmányon kívül a multimodális szállításhoz célszerű az 5.4.4 szakaszban példaként

bemutatott okmány használata<sup>6)</sup>.

#### 5.4.1.5

##### *Nem veszélyes áruk*

Ha a 3.2 fejezet „A” táblázatában név szerint említett áru nem esik a RID hatálya alá, mivel a 2. rész értelmében nem tekinthető veszélyesnek, a feladó bejegyezheti a fuvarokmányba: „**Nem a(z) ... osztályba tartozó áru**”.

**Megjegyzés:** Ez az előírás különösen akkor alkalmazható, ha a feladó úgy gondolja, hogy a szállítmányt útközben ellenőrizhetik a szállított áru (pl. oldat vagy keverék) kémiai tulajdonságai miatt, vagy amiatt, hogy az áru egyéb szabályok szerint veszélyesnek minősül.

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6) Amennyiben ezt használják, az ENSZ EGB-hez (UNECE) tartozó Elektronikus Kereskedelmi és Kereskedelem könnyítési Központ (UN/CEFACT) vonatkozó ajánlásai alkalmazhatók, különösen az 1. sz. Ajánlás (ENSZ kereskedelmi okmányok mintája) (ECE/TRADE/137, 81.3 kiadás), Az ENSZ kereskedelmi okmányok mintája – Alkalmazási útmutató (ECE/TRADE/270, 2002. évi kiadás) a 11. sz. Ajánlás (a veszélyes áruk nemzetközi szállítási okmányai) (ECE/TRADE/204, 96.1 kiadás – átdolgozás alatt) és a 22. sz. Ajánlás (A standard küldemény utasítások mintája) (ECE/TRADE/168, 1989. évi kiadás). Lásd még az UN/CEFACT A kereskedelem megkönnyítésére vonatkozó ajánlások összefoglalóját (ECE/TRADE/346, 2006. évi kiadás) és a ENSZ Kereskedelmi adat elemek jegyzékét (UNTDDED) (ECE/TRADE/362, 2005. évi kiadás).

#### 5.4.2 Konténer megrakási bizonyítvány

Ha a veszélyes áru nagykonténerben történő szállítását tengeri szállítás követi, a fuvarokmányhoz csatolni kell az IMDG Kódex<sup>7)</sup> 5.4.2 szakasza szerinti konténer megrakási bizonyítvány<sup>8)</sup>.

Az 5.4.1 szakaszban előírt fuvarokmány és az előzőekben említett konténer megrakási bizonyítvány funkcióit egyetlen okmány is betöltheti. Ha több okmány van, egymáshoz kell azokat csatolni. Ha ezeket a funkciókat egyetlen okmány látja el, elegendő a fuvarokmányba tett azon nyilatkozat, hogy a konténer megrakása az alkalmazható alágazati előírások szerint történt, valamint a konténer megrakási bizonyítványért felelős személy megnevezése.

**Megjegyzés:** Mobil tartányokhoz, tankkonténerekhez és MEG-konténerekhez nem szükséges konténer megrakási bizonyítvány.

#### 5.4.3 (fenntartva)

- 
- 7) Az áruk szállítóegységbe történő rakodásához gyakorlati és oktatási irányelveket a Nemzetközi Tengerészeti Szervezet (IMO), a Nemzetközi Munkaügyi Szervezet (ILO) és az ENSZ Európai Gazdasági Bizottsága (UNECE) is kialakított, amelyeket az IMO jelentetett meg – (IMO/ILO/UNECE Guidelines for packing of cargo transport units (CTUs)).
- 8) Az IMDG Kódex 5.4.2 szakasza a következőket írja elő:
- „5.4.2 Konténer/jármű megrakási bizonyítvány**
- 5.4.2.1 Ha a veszélyes árut bármilyen konténerbe vagy járműbe rakják, a konténer vagy a jármű berakásáért felelősnek „konténer/jármű megrakási bizonyítvány”-t kell kiállítania, amely tartalmazza a konténer/jármű azonosító számát (számait) és tanúsítja, hogy az eljárást a következő feltételek szerint hajtották végre:
1. A konténer/jármű tiszta, száraz és az áru befogadására alkalmas volt;
  2. Az együvé rakási szabályok szerint együvé nem rakható küldeménydarabokat nem rakták ugyanabba a konténerbe, járműbe, ill. járműre (kivéve, ha az érintett illetékes hatóság az (IMDG Kódex) 7.2.2.3 bekezdése alapján azt engedélyezte);
  3. Minden küldeménydarabot külsőleg megvizsgáltak sérülés szempontjából, és csak hibátlan küldeménydarabokat raktak be;
  4. A hordókat állítva rakták be, kivéve, ha az illetékes hatóság másként engedélyezte, és minden árut megfelelően raktak be, ill. szükség esetén a tervezett szállítás mód(ok)nak megfelelően rögzítőeszközökkel rögzítettek;
  5. Ha a veszélyes árut ömlesztve szállítják, az ömlesztve berakott áru egyenletesen el van terítve a konténerben/járműben;
  6. Ha a küldemény az 1.4 alosztály kivételével 1 osztályba tartozó árut is tartalmaz, a konténer/jármű (az IMDG Kódex) 7.4.6 bekezdése értelmében szerkezetileg megfelelő;
  7. A konténer/jármű és a benne levő küldeménydarabok megfelelően vannak feliratozva, bárcázva és nagybárcával jelölve;
  8. Ha hűtés céljára szilárd szén-dioxidot (CO<sub>2</sub> - szárazjeget) használnak, a konténer/jármű szembetűnő helyen, pl. az ajtó felőli végén kívülről meg van jelölve vagy bárcázva a következő felirattal: „VESZÉLYES CO<sub>2</sub> GÁZT (SZÁRAZJEGET) TARTALMAZ, BELÉPÉS ELŐTT ALAPOSAN KI KELL SZELLŐZTETNI”; és
  9. Az (IMDG Kódex) 5.4.1 szakaszában előírt veszélyes áru fuvarokmányokat a konténerbe/járműbe rakott minden egyes veszélyes áru küldeményre áadták.

**Megjegyzés:** A konténer/jármű megrakási bizonyítvány tartányokhoz nem szükséges.

5.4.2.2 A fuvarokmányban és a konténer/jármű megrakási bizonyítványban feltüntetendő információkat egyetlen okmányban is fel lehet tüntetni; ellenkező esetben az okmányokat egymáshoz kell csatolni. Ha az információkat egyetlen okmány tartalmazza, akkor az okmányban aláírt nyilatkozatnak kell szerepelni, miszerint „Kijelentem, hogy az áruk berakása a konténerbe/járműbe az alkalmazandó előírások szerint történt”. A nyilatkozatot dátummal kell ellátni és az okmányban az aláíró személyét is fel kell tüntetni. Sokszorosított (facsimile) aláírás is elfogadható, ha a vonatkozó jogszabályok, illetve előírások jogilag érvényesnek ismerik el a sokszorosított aláírást.

5.4.2.3 Ha a veszélyes áru okmányokat a fuvarozó részére elektronikus adatfeldolgozási (EDP) vagy elektronikus adatátviteli (EDI) technikák használatával adják, az aláírás helyett megfelelő az aláírásra jogosult személy(ek) neve, nagybetűkkel feltüntetve.”

**5.4.4 Multimodális veszélyes áru nyomtatvány minta**

Nyomtatvány minta, amely a veszélyes áruk multimodális szállításánál egyesített veszélyes áru nyilatkozatként és konténer megrakási bizonyítványként használható.

## MULTIMODÁLIS VESZÉLYES ÁRU NYOMTATVÁNY

1. Feladó		2. Fuvarokmány száma				
		3. 1/ oldal	4. Feladó hivatkozási száma			
6. Címzett		5. Szállítmányozó hivatkozási száma		7. Fuvarozó (a fuvarozónak kell kitölteni)		
		<b>FELADÓI NYILATKOZAT</b> Kijelentem, hogy ezen küldemény tartalma teljes egészében és pontosan megfelel az alábbiakra előírt határértékeknek: (a nemkívánt szöveg törlendő) SZEMÉLYSZÁLLÍTÓ ÉS TEHERSZÁLLÍTÓ REPÜLŐGÉP      CSAK TEHERSZÁLLÍTÓ REPÜLŐGÉP				
8. Ez a küldemény megfelel az alábbiakra előírt határértékeknek: (a nemkívánt szöveg törlendő)		9. Kiegészítő kezelési információ				
10. Hajó / repülőgép járatszáma és dátum					11. Kikötő / berakás helye	
12. Kikötő / kirakás helye					13. Rendeltetési hely	
14. A küldemény jelölése *A küldeménydarabok száma és fajtája; az áru megnevezése    Bruttó tömeg (kg)    Nettó tömeg    Térfogat (m <sup>3</sup> )						
15. Konténer azonosító szám/ jármű rendszám	16. Ólomzárak jele/száma	17. Konténer/jármű méret és típus	18. Tára (kg)	19. Összes tömeg (tárával együtt) (kg)		
<b>KONTÉNER MEGRAKÁSI BIZONYÍTVÁNY</b> Kijelentem, hogy a fent leírt áruk a fent azonosított járműbe/konténerbe a vonatkozó előírásoknak ** megfelelően kerültek berakásra. A BERAKODÁSÉRT FELELŐS SZEMÉLYNEK MINDEN KONTÉNERRE/JÁRMŰRE KI KELL TÖLTENIE ÉS ALÁ KELL ÍRNI		<b>21. AZ ÁTVEVŐ SZERVEZET NYILATKOZATA</b> A fenti darabszámú küldeménydarabot / konténert/ pótkocsit szemmel láthatóan jó állapotban és rendben átvettük, a következő kivételekkel : AZ ÁTVEVŐ SZERVEZET MEGJEGYZÉSEI:				
20. Vállalat neve		Fuvarozó		22. (AZ OKMÁNYT KIALLÍTÓ FELADÓ ) Cég neve		
A nyilatkozó neve / beosztása		Jármű rendszáma				
Hely és dátum		Aláírás és dátum				
A nyilatkozó aláírása		A JÁRMŰVEZETŐ ALÁÍRÁSA		A nyilatkozó aláírása		

\* A VESZÉLYES ÁRUKNÁL fel kell tüntetni: az UN számot, a helyes szállítási megnevezést, a veszélyességi osztályt, a csomagolási csoportot (ha létezik) és a vonatkozó belföldi és nemzetközi szabályozások szerint szükséges minden más információt

\*\* Lásd az 5.4.2 szakaszt.

FEKETE VONALKÁZÁS FEKETE VONALKÁZÁS FEKETE VONALKÁZÁS FEKETE VONALKÁZÁS FEKETE VONALKÁZÁS FEKETE VONALKÁZÁS FEKETE VONALKÁZÁS



## MULTIMODÁLIS VESZÉLYES ÁRU NYOMTATVÁNY

(folytatólagos oldalak)

1. Feladó	2. Fuvarokmány száma				
	3. / oldal	4. Feladó hivatkozási száma			
		5. Szállítmányozó hivatkozási száma			
14. A küldemény jelölése *A küldeménydarabok száma és fajtája; az áru megnevezése Bruttó tömeg (kg) Nettó tömeg Térfogat (m <sup>3</sup> )					

\* A VESZÉLYES ÁRUKNÁL fel kell tüntetni: az UN számot, a helyes szállítási megnevezést, a veszélyességi osztályt, a csomagolási csoportot (ha létezik) és a vonatkozó belföldi és nemzetközi szabályozások szerint szükséges minden más információt

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## 5.5 fejezet

### Különleges előírások

**5.5.1** (törölve)

**5.5.2** **A gázosítószerrel fertőtlenített kocsikra, konténerekre és tartányokra vonatkozó különleges előírások**

**5.5.2.1** Az UN 3359 gázosítószer hatása alatt álló egység (kocsi, konténer vagy tartány) szállításához a fuvarokmányoknak tartalmaznia kell az 5.4.1.1.1 pontban előírt adatokat, a gázosítás időpontját és a használt gázosítószer típusát és mennyiségét. Ezenkívül utasításokat kell adni az esetleges visszamaradó gázosítószer és a gázosító eszköz (ha ilyen van) ártalmatlanítására vonatkozóan.

Ezeket az adatokat a feladási ország valamelyik hivatalos nyelvén és ha ez a nyelv nem az angol, a francia, a német vagy az olasz, akkor angol, francia, német vagy olasz nyelven kell szövegezni, kivéve, ha a fuvarozás által érintett országok közötti megállapodások, ha ilyenek vannak, másként rendelkeznek.

**5.5.2.2** Az 5.5.2.3 bekezdésben meghatározott figyelmeztető jelölést minden gázosítószer hatása alatt álló kocsin, konténeren, ill. tartányon olyan helyen kell elhelyezni, ahol azt a kocsi, a konténer, ill. a tartány belsejébe a belépést megkísérlő személy jól láthatja. A figyelmeztető jelölésen levő szöveget a feladó által alkalmasnak tartott nyelven kell feltüntetni.

Az e bekezdés által előírt figyelmeztető jelölésnek mindaddig rajta kell maradnia a kocsin, konténeren, ill. tartányon, amíg a következő előírások nem teljesülnek:

- a) a gázosítószerrel kezelt kocsit, konténert, ill. tartányt addig szellőztették, hogy már nincs benne gázosítószer ártalmas koncentrációban; és
- b) a gázosítószerrel kezelt árut, ill. anyagot kirakodták.

**5.5.2.3** A gázosítószerezes fertőtlenítésre figyelmeztető jelölésnek téglalap alakúnak kell lennie és szélessége 300 mm-nél, magassága 250 mm-nél nem lehet kisebb. A jelölést fehér háttérre feketével kell felvinni, a betűk magassága nem lehet 25 mm-nél kisebb. A jelölést a következő ábra mutatja be.



Gázosítószeres fertőtlenítésre figyelmeztető jelölés

**6. rész**

**A csomagolóeszközök,  
a nagyméretű csomagolóeszközök (IBC-k),  
a nagycsomagolások, a tartányok és  
az ömlesztettáru-konténerek  
gyártására és vizsgálatára  
vonatkozó előírások**

## 6.1 fejezet

### A csomagolóeszközök gyártására és vizsgálatára vonatkozó előírások

#### 6.1.1 Általános előírások

##### 6.1.1.1 Ezen fejezet követelményeit nem kell alkalmazni:

- a) a 7 osztály radioaktív anyagait tartalmazó küldeménydarabokra, hacsak nincs más előírva (lásd a 4.1.9 szakaszt);
- b) a 6.2 osztály fertőző anyagait tartalmazó küldeménydarabokra, hacsak nincs más előírva (lásd a 6.3 fejezethez fűzött megjegyzést és a 4.1.4.1 bekezdés P621 csomagolási utasítását);
- c) a 2 osztály gázait tartalmazó nyomástartó tartályokra;
- d) azokra a küldeménydarabokra, amelyek nettó tömege meghaladja a 400 kg-ot;
- e) azokra a csomagolóeszközökre, amelyek űrtartalma meghaladja a 450 litert.

##### 6.1.1.2 A 6.1.4 szakaszban levő csomagolási előírások a jelenleg használt csomagolásokon alapulnak. A tudományos és műszaki haladás figyelembevételének érdekében a 6.1.4 szakaszban található csomagolóeszközöktől eltérő jellemzőjű csomagolóeszközök is használhatók, amennyiben ezek ugyanolyan hatékonyságúak, az illetékes hatóság által elfogadhatók és képesek sikeresen elviselni a 6.1.1.3 bekezdésben és a 6.1.5 szakaszban leírt próbákat. Az ebben a fejezetben leírtaktól eltérő vizsgálati módszerek is használhatók, amennyiben egyenértékűek és az illetékes hatóság elfogadja.

##### 6.1.1.3 A folyékony anyagokhoz szánt minden csomagolóeszköznek sikeresen ki kell állnia a megfelelő tömörségi próbát, és a 6.1.5.4.3 pont szerinti megfelelő vizsgálati szintet teljesítenie kell a következők szerint:

- a) a szállításhoz történő első használat előtt;
- b) felújítás vagy átalakítás után, mielőtt szállításhoz újból felhasználnák.

Ehhez a vizsgálatához a csomagolóeszközt nem kell saját zárószervezetével ellátni.

Az összetett csomagolóeszköz belső tartálya a külső csomagolóeszköz nélkül is vizsgálható, ha ez a vizsgálati eredményeket nem befolyásolja.

Erre a vizsgálatra nincs szükség:

- a kombinált csomagolások belső csomagolásainál;
- a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel ellátott, összetett (üveg, porcelán és kőagyag) csomagolóeszközök belső tartályainál;
- a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel ellátott, finomlemez csomagolóeszközöknél.

##### 6.1.1.4 A csomagolóeszközöket az illetékes hatóság szerint megfelelő minőségbiztosítási program alapján kell gyártani, felújítani és vizsgálni annak biztosítására, hogy minden egyes csomagolóeszköz kielégítse a jelen fejezet követelményeit.

**Megjegyzés:** Az alkalmazható eljárás(ok)ra megfelelő útmutatást ad az ISO 16106:2006 szabvány: „Csomagolás. Veszélyes áruk szállítási csomagolása. Veszélyes áruk csomagolásai, közepes méretű szállítótartályok (IBC-k) és nagyméretű csomagolások. Útmutató az ISO 9001 alkalmazásához”.

**6.1.1.5** A csomagolóeszköz gyártójának és forgalmazójának információt kell nyújtania a követendő eljárásokra és a zárószervezetek (beleértve a szükséges tömítéseket) típusára és méreteire és minden más alkatrészre, ami annak biztosításához szükséges, hogy a szállításra előkészített küldeménydarab képes legyen az e fejezet vonatkozó igénybevételi próbáinak elviselésére.

**6.1.2 A csomagolóeszközök típusát jelölő kód**

**6.1.2.1** A kód a következő elemekből áll:

- a) egy arab számjegy, amely a csomagolóeszköz fajtáját jelzi, pl. hordó, kanna stb.; ezt követi:
- b) egy vagy több latin nagybetű, amely az anyagot jelzi, pl. acél, fa stb.; ezt követi szükség esetén:
- c) egy arab számjegy, amely a csomagolóeszköz kategóriáját jelzi azon a típuson belül, amelyhez tartozik.

**6.1.2.2** Összetett csomagolóeszközök esetén a kódban a második helyen két latin nagybetűt kell használni. Az első jelzi a belső tartály anyagát, míg a második a külső csomagolóeszközét.

**6.1.2.3** Kombinált csomagolások esetén csak a külső csomagolóeszköz kódszámát kell használni.

**6.1.2.4** A csomagolási kódot egy „T”, „V” vagy „W” betű követheti. A „T” betű a 6.1.5.1.11 pont előírásainak megfelelő kármentő csomagolásra utal. A „V” betű a 6.1.5.1.7 pont előírásainak megfelelő különleges csomagolóeszközre utal. A „W” betű azt jelenti, hogy a csomagolóeszköz, bár a kód által jelzett típus alá tartozik, de a 6.1.4 szakaszban előírtaktól eltérően gyártották, és a 6.1.1.2 bekezdés előírásai értelmében egyenértékűnek tekinthető.

**6.1.2.5** A következő számjegyek jelzik a csomagolóeszköz fajtáját:

- 1 Hordó
- 2 (fenntartva)
- 3 Kanna
- 4 Láda
- 5 Zsák
- 6 Összetett csomagolóeszköz
- 7 (fenntartva)
- 0 Finomlemez csomagolóeszközök

**6.1.2.6** A következő nagybetűk jelzik az anyagot:

- A Acél (bármilyen minőségű vagy felületkezelésű)
- B Alumínium
- C Fa
- D Rétegelt falemez
- F Farostlemez
- G Papírlemez
- H Műanyag
- L Textil
- M Papír, többrétegű
- N Fém (acélt és alumíniumot kivéve)
- P Üveg, porcelán vagy kőagyag.

**Megjegyzés:** A „műanyag” az egyéb polimer anyagokat, mint pl. a gumit is jelenti.

## 6.1.2.7

A következő táblázat tartalmazza azokat a kódokat, amelyek az egyes csomagolóeszköz típusok jelölésére szolgálnak, a csomagolóeszköz fajtája, a gyártáshoz használt anyag és a kategória függvényében; utalás található a bekezdésre is, amelyben a megfelelő előírások találhatóak:

Fajta	Anyag	Kategória	Kódjel	Bekezdés
1 Hordó	A Acél	nem levehető tetővel	1A1	6.1.4.1
		levehető tetővel	1A2	
	B Alumínium	nem levehető tetővel	1B1	6.1.4.2
		levehető tetővel	1B2	
	D Rétegelt falemez		1D	6.1.4.5
	G Papírlemez		1G	6.1.4.7
	H Műanyag	nem levehető tetővel	1H1	6.1.4.8
		levehető tetővel	1H2	
	N Fém (acélt és al- umíniumot kivéve)	nem levehető tetővel	1N1	6.1.4.3
levehető tetővel		1N2		
2 (fenntartva)				
3 Kanna	A Acél	nem levehető tetővel	3A1	6.1.4.4
		levehető tetővel	3A2	
	B Alumínium	nem levehető tetővel	3B1	6.1.4.4
		levehető tetővel	3B2	
	H Műanyag	nem levehető tetővel	3H1	6.1.4.8
		levehető tetővel	3H2	
4 Láda	A Acél		4A	6.1.4.14
	B Alumínium		4B	6.1.4.14
	C Fa	közönséges faláda	4C1	6.1.4.9
		portömör faláda	4C2	
	D Rétegelt falemez		4D	6.1.4.10
	F Farostlemez		4F	6.1.4.11
	G Papírlemez		4G	6.1.4.12
	H Műanyag	habosított	4H1	6.1.4.13
		Tömör	4H2	
5 Zsák	H Műanyagszövet	belső zsák vagy bevonat nélkül	5H1	6.1.4.16
		portömör	5H2	
		Vízálló	5H3	
	H Műanyagfólia		5H4	6.1.4.17
	L Textil	belső zsák vagy bevonat nélkül	5L1	6.1.4.15
		portömör	5L2	
		Vízálló	5L3	
	M Papír	többrétegű	5M1	6.1.4.18
		többrétegű, vízálló	5M2	

6 Összetett csomagolóeszköz	H Műanyag tartály	külső acélhordóval	6HA1	6.1.4.19
		külső acélládával vagy -rekesszel	6HA2	6.1.4.19
		külső alumíniumhordóval	6HB1	6.1.4.19
		külső alumíniumládával vagy -rekesszel	6HB2	6.1.4.19
		külső faládával	6HC	6.1.4.19
		külső rétegelt falemez hordóval	6HD1	6.1.4.19
		külső rétegelt falemez ládával	6HD2	6.1.4.19
		külső papírlemez hordóval	6HG1	6.1.4.19
		külső papírlemez ládával	6HG2	6.1.4.19
		külső műanyag hordóval	6HH1	6.1.4.19
		külső tömör műanyag ládával	6HH2	6.1.4.19
	P Üveg, porcelán vagy kőagyag tartály	külső acélhordóval	6PA1	6.1.4.20
		külső acélládával vagy -rekesszel	6PA2	6.1.4.20
		külső alumíniumhordóval	6PB1	6.1.4.20
		külső alumíniumládával vagy -rekesszel	6PB2	6.1.4.20
		külső faládával	6PC	6.1.4.20
		külső rétegelt falemez hordóval	6PD1	6.1.4.20
		külső vesszőkosárral	6PD2	6.1.4.20
		külső papírlemez hordóval	6PG1	6.1.4.20
		külső papírlemez ládával	6PG2	6.1.4.20
		külső habosított műanyag csomagolóeszközzel	6PH1	6.1.4.20
		külső tömör műanyag csomagolóeszközzel	6PH2	6.1.4.20
		7 (fenntartva)		
0 Finomlemez csomagolóeszköz	A Acél	nem levehető tetővel	0A1	6.1.4.22
		levehető tetővel	0A2	

## 6.1.3

## Jelölés

- Megjegyzés:** 1. A jelölés arra utal, hogy a csomagolóeszköz, amelyen a jelölés van, megfelel a sikeresen bevizsgált gyártási típusnak és megfelel a jelen fejezet előírásainak, amelyek a csomagolóeszköz gyártására, nem pedig annak használatára vonatkoznak. Ezért a jelölés önmagában nem szükségszerűen igazolja, hogy a csomagolóeszköz valamely anyaghoz használható; általában az egyes anyagokra nézve a csomagolóeszköz fajtája (pl. acélhordó), legnagyobb űrtartalma és/vagy tömege és az esetleges különleges előírások a 3.2 fejezet „A” táblázatában vannak meghatározva.
2. A jelölésnek az a célja, hogy megkönnyítse a csomagolóeszköz gyártók, felújítók és felhasználók, a szállítást/fuvarozást végzők és a szabályozó hatóságok feladatainak teljesítését. Valamely új csomagolóeszköz használatánál az eredeti jelölés eszköz a gyártó(k) részéről a típus azonosítására és a kiállt teljesítményvizsgálatok feltüntetésére.
3. A jelölés nem mindig ad teljes felvilágosítást a vizsgálati szintekről és egyéb részletekről, holott szükséges lehet ezek figyelembe vétele is, ezeknek



*a vizsgálati jegyzőkönyvben, jelentésekben vagy a vizsgálatokat sikeresen kiállt csomagolóeszközök nyilvántartásában kell utána nézni. Pl. egy X vagy Y jelű csomagolóeszköz nagyobb relatív sűrűségű<sup>1)</sup>, de kisebb veszélyességű csomagolási csoportba sorolt anyaghoz is használható, ha a legnagyobb megengedhető relatív sűrűségnél figyelembe veszik a csomagolóeszközök vizsgálatára vonatkozó 6.1.5 szakasz előírásai között jelzett 1,5-es és 2,25-os tényezőt. Tehát egy I csomagolási csoportban 1,2 relatív sűrűségű anyagra vizsgált csomagolóeszköz használható II csomagolási csoportba tartozó, 1,8 relatív sűrűségű anyaghoz, illetve III csomagolási csoportba tartozó, 2,7 relatív sűrűségű anyaghoz, feltéve, hogy minden kritérium teljesül a nagyobb sűrűségű anyaggal is.*

#### 6.1.3.1

Minden csomagolóeszközön, amelyet a RID szerinti használatra szánnak, rajta kell lenni a jelölésnek, amelynek tartósnak, jól láthatónak és a csomagolóeszközhöz képest olyan méretűnek kell lennie, hogy könnyen olvasható legyen. A 30 kg bruttó tömeget meghaladó küldeménydaraboknál a jelölést vagy annak megismétlését a csomagolóeszköz tetejére vagy egyik oldalára kell felvinni. A betűknek, számoknak és szimbólumoknak legalább 12 mm magasnak kell lenniük, kivéve a 30 liter vagy 30 kg, ill. annál kisebb csomagolóeszközöket, amelyeknek legalább 6 mm magasnak kell lenniük és az 5 liter vagy 5 kg, ill. annál kisebb csomagolóeszközöket, ahol megfelelő méretűnek kell lenniük.

A jelölés a következőből áll:

- a) i) az Egyesült Nemzetek jele a csomagolóeszközön: ;

Ezt a jelet csak annak tanúsítására szabad használni, hogy a csomagolóeszköz megfelel a 6.1, a 6.2, a 6.3, a 6.5, ill. a 6.6 fejezetben található vonatkozó előírásoknak. Ez a jel nem használható azokon a csomagolóeszközökön, amelyek a 6.1.1.3, 6.1.5.3.1 e), 6.1.5.3.5 c), 6.1.5.4, 6.1.5.5.1 és 6.1.5.6 bekezdés, ill. pont egyszerűsített feltételeinek felelnek meg [lásd a következő ii) alpontot is]. Amennyiben a jelölést beütéssel viszik fel a fém csomagolóeszközökre, e jel helyett az „UN” nagybetűk is használhatók;

- ii) „RID/ADR” jel az összetett (üveg, porcelán vagy kőagyag) csomagolóeszközökön és finomlemez csomagolóeszközökön, amelyek egyszerűsített feltételeknek felelnek meg [lásd a 6.1.1.3, 6.1.5.3.1 e), 6.1.5.3.5 c), 6.1.5.4, 6.1.5.5.1 és 6.1.5.6 bekezdést, ill. pontot];

**Megjegyzés:** Az ilyen jellel ellátott csomagolóeszközök a RID, az ADR, ill. az ADN hatálya alá tartozó, vasúti, közúti, ill. belvízi szállításra vannak jóváhagyva. Használatuk a többi közlekedési alágazatra, ill. a más szabályzatok hatálya alá tartozó vasúti, közúti, ill. belvízi szállításra nem feltétlenül megengedett.

- b) a csomagolóeszköz típusát a 6.1.2 szakasz szerint jelölő kód;
- c) két részből álló kódszám:
- i) egy betű a csomagolási csoport(ok) jelölésére, amely(ek)re a gyártási típus kiállta a vizsgálatot:
- X az I, a II és a III csomagolási csoporthoz;
- Y a II és a III csomagolási csoporthoz;
- Z csak a III csomagolási csoporthoz;

1) A relatív sűrűség ( $d$ ) kifejezés a „sűrűség” szinonimájának tekinthető, a szövegezés végig ilyen értelemben használja.

- ii) belső csomagolóeszköz nélküli csomagolóeszközökön, amelyek folyékony anyagok szállítására szolgálnak és a folyadéknymás-próbát sikeresen kiállták, a relatív sűrűség megjelölése egy tizedesre kerekítve, amelyre a gyártási típust vizsgálták; ez a jelölés elhagyható, ha ez a relatív sűrűség 1,2-nél nem nagyobb. Szilárd anyagok szállítására szolgáló csomagolóeszközökön vagy belső csomagolóeszközöket tartalmazó csomagolóeszközökön a legnagyobb össztömeg megjelölése kg-ban;

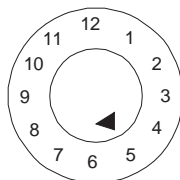
finomlemez csomagolóeszközöknél, amelyek a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel vannak ellátva és 23 °C-on 200 mm<sup>2</sup>/s-nál nagyobb viszkozitású anyagok befogadására szolgálnak, a legnagyobb össztömeg megjelölése kg-ban;

- d) vagy egy „S” betű, ha a csomagolóeszköz szilárd anyagok szállítására vagy belső csomagolások befogadására szolgál,

vagy folyékony anyagok szállítására használt olyan csomagolóeszközre (kivéve a kombinált csomagolást), amely a folyadéknymás-próbát sikeresen kiállta, a próbanyomás értéke kPa-ban, a legközelebbi 10 kPa-ra lefelé kerekítve;

finomlemez csomagolóeszközöknél, amelyek a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel vannak ellátva és 23 °C-on 200 mm<sup>2</sup>/s-nál nagyobb viszkozitású anyagok befogadására szolgálnak, egy „S” betű;

- e) a csomagolóeszköz gyártási éve (az utolsó két számjegy). Az 1H és 3H típusú csomagolóeszközökön ezenkívül a gyártási hónap is, amelyet a többi megjelöléstől eltérő helyen is fel lehet tüntetni. Erre a célra használható a következő jel:



- f) annak az államnak a jele, amely a jelölés alkalmazását engedélyezte a nemzetközi forgalomban résztvevő gépjárművek államjelzésével<sup>2)</sup>;
- g) a gyártó neve vagy a csomagolóeszköznek az illetékes hatóság által megállapított egyéb azonosító jele.

### 6.1.3.2

A 6.1.3.1 bekezdésben előírt tartós jelöléseken kívül minden, 100 liternél nagyobb űrtartalmú, új fémhordót el kell látni a fenékén a 6.1.3.1 a) – e) pont alatti jelölésekkel, feltüntetve legalább a palásthoz használt fém legkisebb névleges vastagságát is (mm-ben, 0,1 mm pontossággal) maradandóan (pl. beütéssel). Ha a fémhordó tetejének vagy fenékének névleges vastagsága kisebb, mint a palásté, akkor a tető, a palást és a fenék névleges vastagságát kell a fenéken maradandóan feltüntetni (pl. beütéssel), pl. „1.0-1.2-1.0” vagy „0.9-1.0-1.0”. A fém névleges vastagságát a megfelelő ISO szabvány (pl. ISO 3574:1999 acélra) szerint kell meghatározni. A 6.1.3.1 f) és g) pont alatti jelöléseket nem szabad maradandóan felvinni, kivéve, ha a 6.1.3.5 bekezdésben másként van előírva.

### 6.1.3.3

Minden felújítható csomagolóeszközre, a 6.1.3.2 bekezdésben említettek kivételével, a 6.1.3.1 a) – e) bekezdésben meghatározott jelölést maradandóan kell felvinni. A jelölés akkor maradandó, ha képes elviselni a felújítási eljárást (pl. beütéssel felvitt jelölés). A 100

2) A közúti közlekedésről szóló Bécsi Egyezmény (Bécs, 1968) által előírt államjelzés a nemzetközi forgalomban résztvevő gépjárművekre.

liternél nagyobb űrtartalmú fémhordók kivételével a többi csomagolóeszköznél ez a maradandó jelölés helyettesítheti a 6.1.3.1 bekezdésben előírt tartós jelöléseket.

**6.1.3.4** Az átalakított hordóknál, ha a csomagolóeszköz típusa nem változik és nem történik lényeges szerkezeti elem csere vagy eltávolítás, az előírt jelölésnek nem kell maradandónak lennie (pl. beütötnnek). Minden más átalakított fémhordót el kell látni a tetején vagy az oldalán maradandóan (pl. beütéssel) a 6.1.3.1 a) – e) pont szerinti jelölésekkel.

**6.1.3.5** Az ismételt újrahasználatra szánt anyagból (pl. rozsdamentes acélból) gyártott fémhordókon a 6.1.3.1 f) és g) pont szerinti jelölések maradandóan (pl. beütéssel) is felvihetők.

**6.1.3.6** A 6.1.3.1 bekezdés szerinti jelölés csak egy gyártási típusra vagy típusorozatra érvényes. Különböző felületi kezelésű csomagolóeszközök ugyanazon gyártási típus alá tartozhatnak.

*Gyártási típus sorozaton* azonos szerkezetű, azonos falvastagságú, azonos anyagból gyártott és azonos keresztmetszetű csomagolóeszközöket kell érteni, amelyek a jóváhagyott gyártási típustól csak annyiban térnek el, hogy szerkezeti magasságuk kisebb.

A tartályok zárószervezetének olyannak kell lennie, hogy azt a vizsgálati jelentésben említettekkel azonosítani lehessen.

**6.1.3.7** A jelölést a 6.1.3.1 bekezdés pontjai szerinti sorrendben kell felvinni; az ezekben a pontokban és adott esetben a 6.1.3.8 bekezdés h) – j) pontjában előírt jelölés elemeket egyértelműen el kell választani egymástól, pl. ferde vonallal vagy szóközzel, hogy könnyen azonosíthatók legyenek. Példaként lásd a 6.1.3.11 bekezdést.

Az illetékes hatóság által engedélyezett kiegészítő jelölések nem zavarhatják a 6.1.3.1 bekezdés szerinti jelölés részek pontos azonosíthatóságát.



**6.1.3.8** Aki a csomagolóeszközt felújítja, köteles a felújítás után a csomagolóeszközre olyan jelet elhelyezni, amely sorrendben a következőket jelzi:




- h) az állam, amelyben a felújítást végezték, a nemzetközi forgalomban résztvevő gépjárművek államjelzésével<sup>2)</sup>;
- i) a felújítást végző neve vagy a csomagolóeszköz más azonosítója, amelyet az illetékes hatóság határozott meg;
- j) a felújítás éve, „R” betű és minden olyan csomagolóeszközre, amely sikeresen kiállta a 6.1.1.3 bekezdés szerinti tömörségi próbát, kiegészítésként az „L” betű.

**6.1.3.9** Ha a felújítás után a 6.1.3.1 a) – d) pontban előírt jelölések a fémhordó tetején vagy oldalán nem lennének láthatóak, a felújítást végzőnek azokat tartós formában fel kell vinni és azokat követően a 6.1.3.8 h), i) és j) pont szerinti jelöléseket is el kell helyezni. Ezek a jelölések nem utalhatnak nagyobb teljesítőképességre, mint amelyre az eredeti típusmintát bevizsgálták és jelölték.



**6.1.3.10** Az 1.2.1 szakaszban meghatározott, visszaforgatott műanyagból gyártott csomagolóeszközöket „REC” jelöléssel kell ellátni. Ezt a jelölést a 6.1.3.1 bekezdésben előírt jelölések közelében kell elhelyezni.

**6.1.3.11** *Példák az új csomagolóeszközök jelölésére*


	4G/Y145/S/02 NL/VL823	6.1.3.1 a) i), b), c), d) és e) szerint 6.1.3.1 f) és g) szerint	Új papírlemez ládára
	1A1/Y1.4/150/98 NL/VL824	6.1.3.1 a) i), b), c), d) és e) szerint 6.1.3.1 f) és g) szerint	Folyékony anyagok szállítására szolgáló új acélhordóra

 1A2/Y150/S/01 NL/VL825	6.1.3.1 a) i), b), c), d) és e) szerint 6.1.3.1 f) és g) szerint	Szilárd anyagok szállítására vagy belső csomagolóeszközök befogadására szolgáló új acélhordóra
 4HW/Y136/S/98 NL/VL826	6.1.3.1 a) i), b), c), d) és e) szerint 6.1.3.1 f) és g) szerint	Egyenértékű specifikációjú új műanyag ládára
 1A2/Y/100/01 USA/MM5	6.1.3.1 a) i), b), c), d) és e) szerint 6.1.3.1 f) és g) szerint	Folyékony anyagok szállítására szolgáló, átalakított acélhordóra
RID/ADR/0A1/100/89 NL/VL123	6.1.3.1 a) ii), b), c), d) és e) szerint 6.1.3.1 f) és g) szerint	Új finomlemez csomagolóeszközre nem levehető tetővel
RID/ADR/0A2/Y20/S/04 NL/VL124	6.1.3.1 a) ii), b), c), d) és e) szerint 6.1.3.1 f) és g) szerint	Új finomlemez csomagolóeszközre levehető tetővel szilárd anyagokhoz vagy olyan folyékony anyagokhoz, amelyek viszkozitása 23 °C-on legalább 200 mm <sup>2</sup> /s

#### 6.1.3.12 *Példák a felújított csomagolóeszközök jelölésére*

 1A1/Y1.4/150/97 NL/RB/01 RL	6.1.3.1 a) i), b), c), d) és e) szerint 6.1.3.8 h), i) és j) szerint
 1A2/Y150/S/99 USA/RB/00 R	6.1.3.1 a) i), b), c), d) és e) szerint 6.1.3.8 h), i) és j) szerint

#### 6.1.3.13 *Példák a kármentő csomagolások jelölésére*

 1A2T/Y300/S/01 USA/abc	6.1.3.1 a) i), b), c), d) és e) szerint 6.1.3.1 f) és g) szerint
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**Megjegyzés:** A jelölések, amelyekre a 6.1.3.11, a 6.1.3.12 és a 6.1.3.13 bekezdésben példák találhatóak elhelyezhetők egyetlen sorban vagy több sorban, amennyiben a helyes sorrendet betartják.

#### 6.1.3.14 *Tanúsítvány*

A 6.1.3.1 bekezdés szerinti jelölés tanúsítja, hogy a sorozatban gyártott csomagolóeszközök megfelelnek a jóváhagyott gyártási típusnak, és a jóváhagyásban szereplő feltételeket kielégítik.

### 6.1.4 **A csomagolóeszközökre vonatkozó követelmények**

#### 6.1.4.1 *Acélhordó*

- 1A1 kódjelű acélhordó nem levehető tetővel
- 1A2 kódjelű acélhordó levehető tetővel

##### 6.1.4.1.1 A palástot és a fenekeket megfelelő minőségű és a hordó ürtartalmának és rendeltetésének megfelelő vastagságú acéllemezről kell gyártani.

**Megjegyzés:** Szénacél hordók esetén „megfelelő” acél minőségek az ISO 3573:1999 („Melegen hengerelt, ötvöztelen lágyacél szalagok és lemezek”) és az ISO 3574:1999 („Hidegen hengerelt, ötvöztelen lágyacél szalagok és lemezek”) szabványban vannak megadva.  
100 l-nél kisebb ürtartalmú, szénacél hordók esetén „megfelelő” acél

*minőségek az előzőeken kívül a következő szabványban vannak megadva: ISO 11949:1995 („Elektrolitikusan ónozott, hidegen hengerelt finomlemez”) és az ISO 11950:1995 („Elektrolitikus króm/króm-oxid bevonatú, hidegen hengerelt finomlemez”) és az ISO 11951:1995 („Hidegen hengerelt finomlemez tekercs formában ónozott vagy elektrolitikus króm/króm-oxid bevonatú acéllemez előállításához”).*

- 6.1.4.1.2** A 40 liternél nagyobb mennyiségű folyadék befogadására használt hordók palástját hegesztéssel kell egyesíteni. A szilárd anyagok vagy legfeljebb 40 liter folyadék befogadására használt hordók palástját korcolással vagy hegesztéssel kell egyesíteni.
- 6.1.4.1.3** A fenekeket és a palástot ráperemezéssel vagy hegesztéssel kell egyesíteni. Különálló erősítő gyűrűk is alkalmazhatók.
- 6.1.4.1.4** A 60 liternél nagyobb űrtartalmú hordók palástján általában legalább két, hengerléssel kiképzett gördítőbordának kell lenni, vagy ehelyett legalább két, különálló gördítőabroncsot kell alkalmazni. Ha a hordók gördítőabroncsokkal készülnek, azokat szorosan kell a palásthöz illeszteni, és úgy kell rögzíteni, hogy ne mozdulhassanak el. A gördítőabroncsokat nem szabad ponthegesztéssel felerősíteni.
- 6.1.4.1.5** A nem levehető tetejű hordók (1A1) palástján és tetején a töltő-, ürítő- és szellőzőnyílások átmérője nem haladhatja meg a 7 cm-t. Az ennél nagyobb nyílású hordókat levehető tetejűnek (1A2) kell tekinteni. A hordók palástján és tetején levő zárószervezeteket úgy kell kialakítani és rögzíteni, hogy normális szállítási körülmények között jól zárjanak és szivárgásmentesek maradjanak. A zárószervezetek karimáit lehet mechanikusan felerősíteni vagy a helyükre lehet hegeszteni. A zárószervezeteket tömítőgyűrűvel vagy egyéb tömítő elemmel kell ellátni, kivéve, ha a zárószervezet eleve szivárgásmentes.
- 6.1.4.1.6** A levehető tetejű hordók (1A2) zárószervezetét úgy kell kialakítani és rögzíteni, hogy normális szállítási körülmények között jól zárjon, és a hordó szivárgásmentes maradjon. A levehető tetőket tömítőgyűrűvel vagy egyéb tömítő elemmel kell ellátni.
- 6.1.4.1.7** Amennyiben a palásthöz, a fenekekhez, a zárószervezetekhez és a szerelvényekhez használt anyagok önmagukban nem összeférhetők a szállítandó anyaggal, alkalmas belső védőbevonatot vagy felületkezelést kell alkalmazni. A bevonatnak, ill. kezeléseknak védő tulajdonságait normális szállítási körülmények között meg kell őriznie.
- 6.1.4.1.8** A hordók legnagyobb űrtartalma 450 liter.
- 6.1.4.1.9** A legnagyobb nettó tömeg 400 kg.
- 6.1.4.2** *Alumíniumhordó*
- 1B1 kódjelű alumíniumhordó nem levehető tetővel
- 1B2 kódjelű alumíniumhordó levehető tetővel
- 6.1.4.2.1** A palástot és a fenekeket 99%-os tisztaságú alumíniumból vagy alumíniumötvözetből kell gyártani. Az anyagnak megfelelő minőségűnek és a hordó űrtartalmának és rendeltetésének megfelelő vastagságúnak kell lennie.
- 6.1.4.2.2** Minden egyesítést hegesztéssel kell kialakítani. Ha van peremvarrat, azt külön erősítő gyűrű felhelyezésével kell megerősíteni.
- 6.1.4.2.3** A 60 liternél nagyobb űrtartalmú hordók palástján általában legalább két, hengerléssel kiképzett gördítőbordának kell lenni, vagy ehelyett legalább két, különálló gördítőabroncsot kell alkalmazni. Ha a hordók gördítőabroncsokkal készülnek, azokat szorosan kell a

palásthöz illeszteni, és úgy kell rögzíteni, hogy ne mozdulhassanak el. A gördítőabroncsokat nem szabad ponthegeztéssel felerősíteni.

**6.1.4.2.4** A nem levehető tetejű hordók (1B1) palástján és tetején a töltő-, ürítő- és szellőzőnyílások átmérője nem haladhatja meg a 7 cm-t. Az ennél nagyobb nyílású hordókat levehető tetejűnek (1B2) kell tekinteni. A hordók palástján és tetején levő zárószerveket úgy kell kialakítani és rögzíteni, hogy normális szállítási körülmények között jól zárjanak és szivárgásmentesek maradjanak. A zárószerveket karimáit lehet mechanikusan felerősíteni vagy a helyükre lehet hegeszteni. A zárószerveket tömítőgyűrűvel vagy egyéb tömítő elemmel kell ellátni, kivéve, ha a zárószervezet eleve szivárgásmentes.

**6.1.4.2.5** A levehető tetejű hordók (1B2) zárószervezetét úgy kell kialakítani és rögzíteni, hogy normális szállítási körülmények között jól zárjon, és a hordó szivárgásmentes maradjon. A levehető tetőket tömítőgyűrűvel vagy egyéb tömítő elemmel kell ellátni.

**6.1.4.2.6** A hordók legnagyobb űrtartalma 450 liter.

**6.1.4.2.7** A legnagyobb nettó tömeg 400 kg.

**6.1.4.3** *Fémhordó (acélt és alumíniumot kivéve)*

1N1 kódjelű fémhordó nem levehető tetővel

1N2 kódjelű fémhordó levehető tetővel

**6.1.4.3.1** A palástot és a fenekeket fémből vagy fém-ötvözetből kell gyártani, acélt és alumíniumot kivéve. Az anyagnak megfelelő minőségűnek és a hordó űrtartalmának és rendeltetésének megfelelő vastagságúnak kell lennie.

**6.1.4.3.2** Ha van peremvarrat, azt külön erősítő gyűrű felhelyezésével kell megerősíteni. Minden egyesítést, (ha létezik) a felhasznált fémre vagy fém-ötvözetre jellemző műszaki gyakorlatnak megfelelően kell kialakítani (hegesztéssel, forrasztással stb.).

**6.1.4.3.3** A 60 liternél nagyobb űrtartalmú hordók palástján általában legalább két, hengerléssel kiképzett gördítőbordának kell lenni, vagy ehelyett legalább két, különálló gördítőabroncsot kell alkalmazni. Ha a hordók gördítőabroncsokkal készülnek, azokat szorosan kell a palásthöz illeszteni, és úgy kell rögzíteni, hogy ne mozdulhassanak el. A gördítőabroncsokat nem szabad ponthegeztéssel felerősíteni.

**6.1.4.3.4** A nem levehető tetejű hordók (1N1) palástján és tetején a töltő-, ürítő- és szellőzőnyílások átmérője nem haladhatja meg a 7 cm-t. Az ennél nagyobb nyílású hordókat levehető tetejűnek (1N2) kell tekinteni. A hordók palástján és tetején levő zárószerveket úgy kell kialakítani és rögzíteni, hogy normális szállítási körülmények között jól zárjanak és szivárgásmentesek maradjanak. A zárószerveket karimáit a felhasznált fémre vagy fém-ötvözetre jellemző műszaki gyakorlatnak megfelelően (hegesztéssel, forrasztással stb.) oly módon kell a helyükre erősíteni, hogy az egyesítő varrat szivárgásmentes legyen. A zárószerveket tömítőgyűrűvel vagy egyéb tömítő elemmel kell ellátni, kivéve, ha a zárószervezet eleve szivárgásmentes.

**6.1.4.3.5** A levehető tetejű hordók (1N2) zárószervezetét úgy kell kialakítani és rögzíteni, hogy normális szállítási körülmények között jól zárjon, és a hordó szivárgásmentes maradjon. A levehető tetőket tömítőgyűrűvel vagy egyéb tömítő elemmel kell ellátni.

**6.1.4.3.6** A hordók legnagyobb űrtartalma 450 liter.

**6.1.4.3.7** A legnagyobb nettó tömeg 400 kg.



**6.1.4.4** *Acél-, ill. alumíniumkanna*

- 3A1 kódjelű acélkanna nem levehető tetővel
- 3A2 kódjelű acélkanna levehető tetővel
- 3B1 kódjelű alumíniumkanna nem levehető tetővel
- 3B2 kódjelű alumíniumkanna levehető tetővel

**6.1.4.4.1** A palástot és a fenekeket acéllemezből, ill. legalább 99%-os tisztaságú alumíniumból vagy alumíniumötvözetből kell gyártani. Az anyagnak megfelelő minőségűnek és a kanna ürtartalmának és rendeltetésének megfelelő vastagságúnak kell lennie.

**6.1.4.4.2** Az acélkannáknál a fenekeket és a palástot ráperemezéssel vagy hegesztéssel kell egyesíteni. A 40 liternél több folyadék befogadására használt acélkannák palástját hegesztéssel kell egyesíteni. A legfeljebb 40 liter folyadék szállítására használt kannák palástját korcolással vagy hegesztéssel kell egyesíteni. Az alumíniumkannáknál minden egyesítést hegesztéssel kell kialakítani. Ha van peremvarrat, azt külön erősítő gyűrű felhelyezésével kell megerősíteni.

**6.1.4.4.3** A nem levehető tetejű kannák (3A1 és 3B1) nyílásainak átmérője nem lehet 7 cm-nél nagyobb. Az ennél nagyobb nyílású kannát levehető tetejűnek (3A2 és 3B2) kell tekinteni. A zárószerkezeteket úgy kell kialakítani és rögzíteni, hogy normális szállítási körülmények között jól zárjanak és szivárgásmentesek maradjanak. A zárószerkezeteket tömítőgyűrűvel vagy egyéb tömítő elemmel kell ellátni, kivéve, ha a zárószerkezet eleve szivárgásmentes.

**6.1.4.4.4** Amennyiben a palásthöz, a fenekekhez, zárószerkezetekhez és szerelvényekhez használt anyagok önmagukban nem összeférhetők a szállítandó anyaggal, alkalmas belső védőbevonatot vagy felületkezelést kell alkalmazni. A bevonatnak, ill. kezelésnek védő tulajdonságait normális szállítási körülmények között meg kell őriznie.

**6.1.4.4.5** A kannák legnagyobb ürtartalma 60 liter.

**6.1.4.4.6** A legnagyobb nettó tömeg 120 kg.

**6.1.4.5** *Rétegelt falemez hordó*

- 1D kódjelű rétegelt falemez hordó

**6.1.4.5.1** A felhasznált fának jól kiérleltnek, a kereskedelembe szokásos mértékben száraznak és minden olyan hibától mentesnek kell lennie, amely ártana a hordó rendeltetésszerű használatra való megfelelőségének. Amennyiben a fenekek gyártásához a rétegelt falemeztől eltérő anyagot használnak, ennek a rétegelt falemezzel azonos minőségűnek kell lennie.

**6.1.4.5.2** A felhasznált rétegelt falemeznek legalább kétrétegűnek kell lennie a hordó palástjánál és legalább háromrétegűnek a fenekeknél. A rétegeket ereszettel egymásra merőlegesen vízálló ragasztóval kell szilárdan összeragasztani.

**6.1.4.5.3** A palástot és a fenekeket a hordó ürtartalmának és rendeltetésének megfelelően kell kialakítani.

**6.1.4.5.4** Az anyag kiszóródásának elkerülése érdekében a fedeleket nátronpapírral vagy más, egyenértékű anyaggal kell bélelni, amit a fedélhez szilárdan rögzíteni kell, és amelynek a fedél egész kerülete mentén túl kell nyúlnia.

**6.1.4.5.5** A hordók legnagyobb ürtartalma 250 liter.

**6.1.4.5.6** A legnagyobb nettó tömeg 400 kg.

- 6.1.4.6** (törölve)
- 6.1.4.7** *Papírlemez hordó*
- 1G kódjelű papírlemez hordó
- 6.1.4.7.1** A hordó palástját több réteg vastag papírból, vagy szilárdan összeragasztott, vagy rétegelt papírlemezről (nem hullámpapírlemezről) kell készíteni, amelyen egy vagy több bitumen, paraffinozott nátronpapír, fémfólia vagy műanyag stb. védőréteg lehet.
- 6.1.4.7.2** A fenekeket fából, papírlemezről, fémből, rétegelt falemezből, műanyagból vagy más alkalmas anyagból kell gyártani, és egy vagy több bitumen, paraffinozott nátronpapír, fémfólia, műanyag stb. védőréteggel lehet bevonni.
- 6.1.4.7.3** A hordó palástját, fenekeit és illesztéseit a hordó űrtartalmának és rendeltetésének megfelelően kell kialakítani.
- 6.1.4.7.4** Az összeszerelt csomagolóeszköznek vízzel szemben kielégítő módon ellenállónak kell lennie, hogy a rétegek normális szállítási körülmények között szét ne váljanak.
- 6.1.4.7.5** A hordó legnagyobb űrtartalma 450 liter.
- 6.1.4.7.6** A legnagyobb nettó tömeg 400 kg.
- 6.1.4.8** *Műanyag hordó és kanna*
- 1H1 kódjelű műanyag hordó nem levehető tetővel
- 1H2 kódjelű műanyag hordó levehető tetővel
- 3H1 kódjelű műanyag kanna nem levehető tetővel
- 3H2 kódjelű műanyag kanna levehető tetővel
- 6.1.4.8.1** A csomagolóeszközt megfelelő műanyagból kell gyártani, űrtartalmának és rendeltetésének megfelelő szilárdsággal kell rendelkeznie. Az 1.2.1 szakasz szerinti visszaforgatott műanyagok kivételével a gyártáshoz az ugyanazon sorozatból eredő gyártási maradékon vagy hulladékon kívül más használt anyagot nem szabad felhasználni. A csomagolóeszköznek megfelelően ellenállónak kell lennie az öregedéssel szemben, ill. a betöltött anyag vagy az ultraibolya sugárzás gyengítő hatásával szemben. A szállított anyag esetleges átszivárgása még az új csomagolóeszköz gyártásához felhasznált visszaforgatott műanyag esetében sem okozhat veszélyt normális szállítási körülmények között.
- 6.1.4.8.2** Ha szükség van ultraibolya-sugárzás elleni védelemre, ezt korom vagy más, megfelelő pigment vagy inhibitor hozzáadásával kell biztosítani. Ezeknek az adalékanyagoknak összeférhetőnek kell lenniük a tartalommal, és hatékonyságukat a csomagolóeszköz teljes használati időtartama alatt meg kell őrizniük. Amennyiben a jóváhagyott gyártási minta elkészítése során használttól eltérő kormot, pigmentet vagy inhibitort használnak, a vizsgálatok megismétlésétől el lehet tekinteni, ha a koromtartalom nem haladja meg a 2 tömeg%-ot vagy a pigmenttartalom a 3 tömeg%-ot; az ultraibolya-sugárzás elleni védelem inhibitortartalma nincs korlátozva.
- 6.1.4.8.3** Az ultraibolya-sugárzás elleni védelem kivül más okból használt adalékanyagok is lehetnek a műanyagban, feltéve, hogy nem változtatják meg a csomagolóeszköz anyagának kémiai és fizikai tulajdonságait. Ilyen esetben a vizsgálatok megismétlésétől el lehet tekinteni.
- 6.1.4.8.4** A falvastagságnak a csomagolóeszköz minden részén az űrtartalomnak és a rendeltetésnek megfelelőnek kell lennie, figyelembe véve azokat az erőhatásokat is, amelyeknek az egyes



részek ki lehetnek téve.

**6.1.4.8.5** A nem levehető tetejű hordók (1H1) és kannák (3H1) palástján és tetején a töltő-, ürítő- és szellőzőnyílások átmérője nem haladhatja meg a 7 cm-t. Az ennél nagyobb nyílású hordókat és kannákat levehető tetejűnek (1H2 és 3H2) kell tekinteni. A hordók és kannák palástján, ill. tetején levő zárószerveket úgy kell kialakítani és rögzíteni, hogy normális szállítási körülmények között jól zárjanak és szivárgásmentesek maradjanak. A zárószerveket tömítőgyűrűvel vagy egyéb tömítő elemmel kell ellátni, kivéve, ha a zárószervezete eleve szivárgásmentes.

**6.1.4.8.6** A levehető tetejű hordók és kannák (1H2 és 3H2) zárószerveit úgy kell kialakítani és rögzíteni, hogy normális szállítási körülmények között jól zárjanak, és szivárgásmentesek maradjanak. Minden levehető tetőnél tömítőgyűrűt kell alkalmazni, kivéve, ha a hordó, ill. kanna kialakítása olyan, hogy a levehető tető helyes rögzítése esetén a hordó, ill. kanna eleve szivárgásmentes.

**6.1.4.8.7** A gyúlékony folyadékok esetében megengedett legnagyobb áteresztőképesség 23 °C-on 0,008 g/(l·h) (lásd a 6.1.5.7 bekezdést).

**6.1.4.8.8** Amennyiben új csomagolóeszközök gyártásához visszaforgatott műanyagot használnak, a visszaforgatott műanyag jellemzőit az illetékes hatóság által jóváhagyott minőségbiztosítási program keretében szavatolni és rendszeresen dokumentálni kell. A minőségbiztosítási programnak ki kell terjednie a megfelelő előválogatás regisztrálására és annak felülvizsgálatára, hogy a visszaforgatott műanyag minden egyes tétele megfelelő olvadási tulajdonságokkal, sűrűséggel és folyáshatárral bír, ami megegyezik az ugyanilyen visszaforgatott műanyagból készült gyártási típusával. Ez szükségszerűen magában foglalja annak ismeretét, hogy milyen csomagolóeszközből származik a visszaforgatott anyag, illetve, ha a csomagolóeszközbe előzően csomagolt anyag csökkentheti a visszaforgatott anyagból gyártott új csomagolóeszköz alkalmasságát, akkor annak ismeretét is. Ezen túlmenően a csomagolóeszköz gyártó 6.1.1.4 bekezdés szerinti minőségbiztosítási programjának ki kell terjednie a 6.1.5 szakasz szerinti mechanikai gyártási típus vizsgálat végrehajtására minden egyes tétel visszaforgatott műanyagból gyártott csomagolóeszköz esetében. Ennek során a halmazolhatóság vizsgálatára a statikus terhelés helyett megfelelő dinamikus nyomáspróba is alkalmazható.

**Megjegyzés:** A „Csomagolás. Veszélyes áruk szállítási csomagolása. Anyagában hasznosított (visszaforgatott) műanyag” c. ISO 16103:2005 szabvány további útmutatást ad a visszaforgatott műanyagok használatának engedélyezési eljárására.

**6.1.4.8.9** A hordók és kannák legnagyobb űrtartalma: az 1H1 és az 1H2 kódjelűé 450 liter,  
a 3H1 és a 3H2 kódjelűé 60 liter.

**6.1.4.8.10** A legnagyobb nettó tömeg: az 1H1 és az 1H2 kódjelűé 400 kg,  
a 3H1 és a 3H2 kódjelűé 120 kg.

#### **6.1.4.9 Faláda**

4C1 kódjelű közönséges faláda

4C2 kódjelű faláda portömör falakkal

**6.1.4.9.1** A felhasznált fának jól kiérleltnek, a kereskedelembe szokásos mértékben száraznak és minden olyan hiányosságtól mentesnek kell lennie, ami jelentősen csökkenthetné a láda bármelyik szerkezeti elemének ellenálló képességét. A felhasznált anyag szilárdságának és a láda szerkezetének meg kell felelnie a láda űrtartalmának és rendeltetésének. A tetőt és a feneket vízálló, fűrészárut helyettesítő anyagból, pl. farostlemezről, faforgácslemezről vagy más hasonló alkalmas anyagból is lehet gyártani.

- 6.1.4.9.2** Az összeerősítéseknek ellen kell állni a rezgéseknek normális szállítási feltételek között. A deszkavégeken a rostirányú szögezést, ahol csak lehetséges, kerülni kell. A nagy igénybevételnek kitett egyesítéseket visszahajtásos szegezéssel, gyűrűs szeggel vagy azonos hatékonyságú módon kell kialakítani.
- 6.1.4.9.3** 4C2 típusú láda esetén a láda minden elemét egyetlen darabból vagy ezzel egyenértékű módon kell gyártani. Az egyetlen darabból álló elemmel egyenértékűnek számítanak azok az elemek, amelyeket a következő módszerek egyike szerint ragasztással állítottak össze: Lindermann-illesztés (fecskefarok), hornyolás, átlapolás vagy tompaillesztés, minden csatlakozásnál legalább két, hullámosított fém rögzítőelemmel.
- 6.1.4.9.4** A legnagyobb nettó tömeg 400 kg.
- 6.1.4.10** *Rétegelt falemez láda*
- 4D kódjelű rétegelt falemez láda
- 6.1.4.10.1** A felhasznált rétegelt falemeznek legalább háromrétegűnek kell lennie. Jól kiérlelt, hámozott, késelt vagy fűrészelt furnérból kell gyártani, amely a kereskedelemben szokásos mértékben száraz és minden olyan hibától mentes legyen, ami a láda szilárdságát csökkenthetné. A felhasznált anyag szilárdságát és a gyártás módját a láda ürtartalmának és rendeltetésének megfelelően kell megválasztani. Minden réteget vízálló ragasztóval kell összeragasztani. Más alkalmas anyagok is használhatók rétegelt falemezzel együtt a ládák gyártásához. A ládák lapjait a sarkoknál vagy illesztéseknél szilárdan össze kell szegezni vagy kapcsolni, vagy más, ugyancsak alkalmas eszközzel össze kell erősíteni.
- 6.1.4.10.2** A legnagyobb nettó tömeg 400 kg.
- 6.1.4.11** *Farostlemez láda*
- 4F kódjelű farostlemez láda
- 6.1.4.11.1** A ládák falait vízálló farostlemezről kell gyártani, pl. kemény farostlemezről, faforgácslemezről vagy más megfelelő típusból. A felhasznált anyag szilárdságát és a gyártás módját a láda ürtartalmának és rendeltetésének megfelelően kell megválasztani.
- 6.1.4.11.2** A láda egyéb részeit más alkalmas anyagból is lehet gyártani.
- 6.1.4.11.3** A ládákat megfelelő eszközökkel szilárdan össze kell erősíteni.
- 6.1.4.11.4** A legnagyobb nettó tömeg 400 kg.
- 6.1.4.12** *Papírlemez láda*
- 4G kódjelű papírlemez láda
- 6.1.4.12.1** A ládát ürtartalmának és rendeltetésének megfelelő papírlemezről vagy kettős fedőrétegű (egy vagy több hullámosított réteggel) hullámpapírlemezről kell készíteni. A külső felületnek annyira kell vízállónak lennie, hogy a Cobb-módszer (az ISO 535:1991 sz. szabvány) szerinti harmincperces vízfelvételi vizsgálat során mért tömegnövekedése ne haladja meg a 155 g/m<sup>2</sup> értéket. A papírlemeznek megfelelő hajlítószilárdságúnak kell lennie és úgy kell kiszabni, átmetszés nélkül völgyelni és réselni, hogy a felállítás során ne törjön meg, felülete ne szakadjon be, és a ládának egyáltalán nem szabad kihatásodnia. A hullámosított réteget a fedőréteggel szilárdan kell összeragasztani.
- 6.1.4.12.2** A ládák homlokoldalai lehetnek fakeretűek vagy teljesen fából vagy más alkalmas anyagból

is készíthetők. Erősítésként faléceket vagy más alkalmas anyagot lehet használni.

**6.1.4.12.3** A ládák palástegyesítéseit ragasztószalaggal, vagy átlapolással és ragasztással vagy kapcsolással kell rögzíteni. Az átlapolt egyesítéseknél az átlapolásnak megfelelő méretűnek kell lennie.

**6.1.4.12.4** Ha a zárást ragasztószalaggal vagy ragasztással végzik, a ragasztónak vízállónak kell lennie.

**6.1.4.12.5** A láda méretei illeszkedjenek a tartalomhoz.

**6.1.4.12.6** A legnagyobb nettó tömege 400 kg.

**6.1.4.13** *Műanyag láda*

4H1 kódjelű habosított műanyag láda

4H2 kódjelű tömör műanyag láda

**6.1.4.13.1** A ládát alkalmas műanyagból kell gyártani, úrtartalmának és rendeltetésének megfelelően szilárdnak kell lennie. Kielégítően ellenálló legyen az öregedéssel, a szállított anyag, illetve az ultraibolya-sugárzás okozta fokozatos gyengüléssel szemben.

**6.1.4.13.2** A habosított műanyag ládának két részből kell állnia, az alsó részből, amely a belső csomagolás befogadására alkalmas fészkekből áll és a felső részből, amely az alsó részt lefedi és abba illeszkedik. Az alsó és felső részt oly módon kell kialakítani, hogy a belső csomagolóeszközök szorosan beleilleszkedjenek. A belső csomagolóeszközök zárószervezeteinek nem szabad érintkezniük a láda felső részének belső felületével.

**6.1.4.13.3** Feladáshoz a habosított műanyag ládákat öntapadó szalaggal kell lezárni, amelynek elegendő szakítószilárdságúnak kell lennie ahhoz, hogy megakadályozza a láda kinyílását. Az öntapadó szalagnak ellenállónak kell lenni az időjárási hatásokkal szemben, és ragasztóanyagának összeférhetőnek kell lennie a láda habosított műanyagával. Egyéb zárószervezetek is használhatók, feltéve, hogy legalább azonos hatékonyságúak.

**6.1.4.13.4** A tömör műanyag ládáknál az ultraibolya-sugárzás elleni védelmet, ha szükséges, korommal vagy más pigmenttel vagy alkalmas inhibitorokkal kell biztosítani. Ezeknek az adalékanyagoknak összeférhetőnek kell lenniük a tartalommal, és hatékonyságukat a láda teljes használati ideje alatt meg kell őrizniük. Ha más kormot, pigmentet vagy inhibitorokat használnak, mint amelyeket a jóváhagyott gyártási minta elkészítésekor használtak, a vizsgálatok megismétlésétől el lehet tekinteni, ha a koromtartalom nem haladja meg a 2 tömeg%-ot vagy a pigmenttartalom a 3 tömeg%-ot; az ultraibolya-sugárzás elleni védelemre használt inhibitor százalékos aránya nincs korlátozva.

**6.1.4.13.5** Az ultraibolya-sugárzás elleni védelmen kívül más okból használt adalékanyagok is lehetnek a műanyagban, feltéve, hogy nem változtatják meg a csomagolóeszköz anyagának kémiai és fizikai tulajdonságait. Ilyen esetben a vizsgálatok megismétlésétől el lehet tekinteni.

**6.1.4.13.6** A tömör műanyag ládákat megfelelő szilárdságú, alkalmas anyagból készített zárószervezettel kell ellátni, amelyet úgy kell kialakítani, hogy a nem szándékos kinyitás megelőzhető legyen.

**6.1.4.13.7** Amennyiben új csomagolóeszközök gyártásához visszaforgatott műanyagot használnak, a visszaforgatott műanyag jellemzőit az illetékes hatóság által jóváhagyott minőségbiztosítási program keretében szavatolni és rendszeresen dokumentálni kell. A minőségbiztosítási programnak ki kell terjednie a megfelelő előválogatás regisztrálására és annak felülvizsgálatára, hogy a visszaforgatott műanyag minden egyes tétele megfelelő olvadási tulajdonságokkal, sűrűséggel és folyáshatárral bír, ami megegyezik az ugyanilyen

visszaforgatott műanyagból készült gyártási típusával. Ez szükségszerűen magában foglalja annak ismeretét, hogy milyen csomagolóeszközből származik a visszaforgatott anyag, illetve, ha a csomagolóeszközbe előzően csomagolt anyag csökkentheti a visszaforgatott anyagból gyártott új csomagolóeszköz alkalmasságát, akkor annak ismeretét is. Ezen túlmenően a csomagolóeszköz gyártó 6.1.1.4 bekezdés szerinti minőségbiztosítási programjának ki kell terjednie a 6.1.5 szakasz szerinti mechanikai gyártási típus vizsgálat végrehajtására minden egyes tétel visszaforgatott műanyagból gyártott csomagolóeszköz esetében. Ennek során a halmazolhatóság vizsgálatára a 6.1.5.6 bekezdés szerinti halmazolási próba helyett megfelelő dinamikus nyomáspróba is alkalmazható.

- |                   |  |   |                   |
|-------------------|--|---|-------------------|
| <b>6.1.4.13.8</b> | A legnagyobb nettó tömeg:  | 4H1 kódjelűé<br>4H2 kódjelűé  | 60 kg;<br>400 kg. |
| <b>6.1.4.14</b>   | <b><i>Acél-, ill. alumíniumláda</i></b>  |   |                   |
|                   | 4A   | kódjelű acélláda  |                   |
|                   | 4B   | kódjelű alumíniumláda   |                   |
| <b>6.1.4.14.1</b> | A fém szilárdságának és a láda szerkezetének a láda ürtartalmához és rendeltetéséhez kell igazodnia.   |   |                   |
| <b>6.1.4.14.2</b> | A ládákat szükség esetén papírlemez vagy nemez párnázattal kell bélelni, vagy alkalmas anyagból készült béléssel vagy bevonattal kell ellátni. Amennyiben kettős korcolású fémbélést használnak, gondoskodni kell annak megakadályozásáról, hogy az illesztések hézagaiba anyag hatolhasson be, különösen robbanóanyag esetén. |   |                   |
| <b>6.1.4.14.3</b> | A zárószerkezetek bármilyen alkalmas típusúak lehetnek, normális szállítási körülmények között jól kell zárniuk.   |   |                   |
| <b>6.1.4.14.4</b> | A legnagyobb nettó tömeg 400 kg.   |   |                   |
| <b>6.1.4.15</b>   | <b><i>Textilzsák</i></b>   |   |                   |
|                   | 5L1  | kódjelű, belső zsák vagy bevonat nélküli textilzsák   |                   |
|                   | 5L2  | kódjelű portömör textilzsák   |                   |
|                   | 5L3  | kódjelű vízálló textilzsák  |                   |
| <b>6.1.4.15.1</b> | A felhasznált textíliának jó minőségűnek kell lennie. A textília szilárdsága és a zsák kidolgozása feleljen meg a zsák ürtartalmának és rendeltetésének.   |   |                   |
| <b>6.1.4.15.2</b> | Portömör zsák (5L2): a zsákot pl. a következő módok valamelyikével kell portömörre tenni:  |   |                   |
|                   | a)   | a zsák belső felületére vízálló ragasztóval, pl. bitumennel ragasztott papírral; vagy   |                   |
|                   | b)   | a zsák belső felületére ragasztott műanyag fóliával; vagy   |                   |
|                   | c)   | egy vagy több papír vagy műanyag belső zsákkal.   |                   |
| <b>6.1.4.15.3</b> | Vízálló zsák (5L3): a nedvesség behatolásának megakadályozására a zsákot pl. a következő módok valamelyikével kell vízállóvá kell tenni:   |   |                   |
|                   | a)   | különálló, vízálló papír (pl. viasszal átitatott nátronpapír, bitumenes papír vagy műanyaggal bevont nátronpapír) belső zsákkal; vagy |                   |
|                   | b)   | a zsák belső felületére ragasztott műanyagfóliával; vagy  |                   |
|                   | c)   | egy vagy több műanyag belső zsákkal.  |                   |

- 6.1.4.15.4** A legnagyobb nettó tömeg 50 kg.
- 6.1.4.16** *Műanyagszövet zsák*
- 5H1 kódjelű, belső zsák vagy bevonat nélküli műanyagszövet zsák
- 5H2 kódjelű portömör műanyagszövet zsák
- 5H3 kódjelű vízálló műanyagszövet zsák
- 6.1.4.16.1** A zsákot alkalmas, húzással nyújtott műanyag szalagokból vagy műanyag elemi szálakból kell gyártani. A felhasznált anyag szilárdsága és a zsák kidolgozása feleljen meg a zsák úrtartalmának és rendeltetésének.
- 6.1.4.16.2** Ha a zsákot síkszövetből készítik, az oldalát és alját varrással vagy más módon kell összeerősíteni. Ha a zsákot cső alakú műanyagszövetből készítik, az alját össze kell varrni, szőni vagy egyéb, azonos szilárdságot nyújtó módon össze kell erősíteni.
- 6.1.4.16.3** Portömör zsák (5H2): a zsákot pl. a következő módok valamelyikével kell portömörre tenni:
- a) a zsák belső felületére ragasztott papírral vagy műanyagfóliával; vagy
- b) egy vagy több, különálló papír vagy műanyag belső zsákkal.
- 6.1.4.16.4** Vízálló zsák (5H3): a nedvesség behatolásának megakadályozására a zsákot pl. a következő módok valamelyikével kell vízállóvá tenni:
- a) különálló, vízálló papír (pl. viasszal átitatott nátronpapír, bitumenes papír vagy műanyaggal bevont nátronpapír) belső zsákkal; vagy
- b) a zsák belső felületére ragasztott műanyagfóliával; vagy
- c) egy vagy több műanyag belső zsákkal.
- 6.1.4.16.5** A legnagyobb nettó tömeg 50 kg.
- 6.1.4.17** *Műanyagfólia zsák*
- 5H4 kódjelű műanyagfólia zsák
- 6.1.4.17.1** A zsákot megfelelő műanyagból kell gyártani. A felhasznált műanyag szilárdsága és a zsák kivitele feleljen meg a zsák úrtartalmának és rendeltetésének. A varratoknak a normális szállítási feltételek között fellépő nyomásnak és ütődéseknek ellen kell állniuk.
- 6.1.4.17.2** A legnagyobb nettó tömeg 50 kg.
- 6.1.4.18** *Papírsák*
- 5M1 kódjelű, többrétegű papírsák
- 5M2 kódjelű, többrétegű, vízálló papírsák
- 6.1.4.18.1** A zsákot alkalmas nátronpapírból vagy azonos minőségű papírból, legalább három rétegűre kell kialakítani, ahol a középső réteg hálósövet is lehet, ami a külső papír réteghez hozzá van ragasztva. A papír szilárdságának és a zsák kidolgozásának meg kell felelnie a zsák úrtartalmának és rendeltetésének. A varratoknak és zárásoknak portömörnek kell lenniük.
- 6.1.4.18.2** 5M2 kódjelű papírsák: A nedvesség behatolásának megakadályozására a négy vagy többrétegű zsákot oly módon kell vízállóvá tenni, hogy külső két réteg egyikét vízálló

anyagból készítik vagy megfelelő védő anyagból készített vízzáró réteget helyeznek a két legkülső réteg közé; a háromrétegű zsákok oly módon kell vízállóvá tenni, hogy legkülső réteggént vízálló anyagot használnak. Amennyiben fennáll annak a veszélye, hogy a betöltött anyag a nedvességgel reakcióba lép, vagy az anyagot nedvesen csomagolják, vízálló réteget vagy víz átnemeresztő anyagot, például mindkét oldalán kátránnyal bevont nátronpapírt, műanyag bevonatú nátronpapírt, a zsák belső felületéhez ragasztott műanyagfóliát, vagy egy vagy több műanyag belső bélést kell az anyaggal érintkező módon legbelülre elhelyezni. A varratoknak és zárásoknak vízállónak kell lenniük.

**6.1.4.18.3** A legnagyobb nettó tömeg 50 kg.

**6.1.4.19** *Összetett (műanyag) csomagolóeszköz*

- 6HA1 kódjelű műanyag tartály külső acélhordóval
- 6HA2 kódjelű műanyag tartály külső acélládával vagy –rekesszel
- 6HB1 kódjelű műanyag tartály külső alumíniumhordóval
- 6HB2 kódjelű műanyag tartály külső alumíniumládával vagy –rekesszel
- 6HC kódjelű műanyag tartály külső faládával
- 6HD1 kódjelű műanyag tartály külső rétegelt falemez hordóval
- 6HD2 kódjelű műanyag tartály külső rétegelt falemez ládával
- 6HG1 kódjelű műanyag tartály külső papírlemez hordóval
- 6HG2 kódjelű műanyag tartály külső papírlemez ládával
- 6HH1 kódjelű műanyag tartály külső műanyag hordóval
- 6HH2 kódjelű műanyag tartály külső tömör műanyag ládával

**6.1.4.19.1** *Belső tartály*

**6.1.4.19.1.1** A műanyag belső tartálynak meg kell felelnie 6.1.4.8.1 és a 6.1.4.8.4 – 6.1.4.8.7 pont előírásainak.

**6.1.4.19.1.2** A műanyag belső tartálynak hézag nélkül kell beleilleszkednie a külső csomagolóeszközbe, amelyen nem lehetnek olyan felületi érdességek, amelyek a műanyag kidörzsölését okozhatják.

**6.1.4.19.1.3** A belső tartály legnagyobb űrtartalma: 6HA1, 6HB1, 6HD1, 6HG1 és 6HH1 250 liter,  
6HA2, 6HB2, 6HC, 6HD2, 6HG2 és 6HH2 60 liter.

**6.1.4.19.1.4** A legnagyobb nettó tömeg: 6HA1, 6HB1, 6HD1, 6HG1 és 6HH1 400 kg,  
6HA2, 6HB2, 6HC, 6HD2, 6HG2 és 6HH2 75 kg.

**6.1.4.19.2** *Külső csomagolóeszköz*

**6.1.4.19.2.1** Műanyag tartály külső acél – vagy alumíniumhordóval (6HA1 vagy 6HB1). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.1, ill. a 6.1.4.2 bekezdés előírásainak.

**6.1.4.19.2.2** Műanyag tartály külső acél vagy alumínium rekesszel vagy ládával (6HA2 vagy 6HB2). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.14 bekezdés előírásainak.

**6.1.4.19.2.3** Műanyag tartály külső faládával (6HC). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.9 bekezdés előírásainak.

**6.1.4.19.2.4** Műanyag tartály külső rétegelt falemez hordóval (6HD1). A külső csomagolóeszköz

kialakításának meg kell felelnie a 6.1.4.5 bekezdés előírásainak.

- 6.1.4.19.2.5** Műanyag tartály külső rétegelt falemez ládával (6HD2). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.10 bekezdés előírásainak.
- 6.1.4.19.2.6** Műanyag tartály külső papírlemez hordóval (6HG1). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.7.1 – 6.1.4.7.4 pont előírásainak.
- 6.1.4.19.2.7** Műanyag tartály külső papírlemez ládával (6HG2). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.12 bekezdés előírásainak.
- 6.1.4.19.2.8** Műanyag tartály külső műanyag hordóval (6HH1). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.8.1 – 6.1.4.8.6 pont előírásainak.
- 6.1.4.19.2.9** Műanyag tartály külső tömör műanyag ládával (beleértve a műanyag hullámlemez) (6HH2). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.13.1 és a 6.1.4.13.4 – 6.1.4.13.6 pont előírásainak.

**6.1.4.20** *Összetett (üveg, porcelán, kőagyag) csomagolóeszköz*

- 6PA1 kódjelű tartály külső acélhordóval
- 6PA2 kódjelű tartály külső acéllárával vagy -rekesszel
- 6PB1 kódjelű tartály külső alumíniumhordóval
- 6PB2 kódjelű tartály külső alumíniumlárával vagy -rekesszel
- 6PC kódjelű tartály külső falárával
- 6PD1 kódjelű tartály külső rétegelt falemez hordóval
- 6PD2 kódjelű tartály külső vesszőkosárral
- 6PG1 kódjelű tartály külső papírlemez hordóval
- 6PG2 kódjelű tartály külső papírlemez lárával
- 6PH1 kódjelű tartály külső habosított műanyag csomagolóeszközzel
- 6PH2 kódjelű tartály külső tömör műanyag csomagolóeszközzel

**6.1.4.20.1** *Belső tartály*

- 6.1.4.20.1.1** A tartályoknak megfelelő alakúaknak kell lenniük (henger vagy körte alakú), és azokat jó minőségű, minden olyan hibától mentes anyagból kell gyártani, amely szilárdságukat csökkenthetné. A falaknak minden ponton elég vastagnak és belső feszültségektől mentesnek kell lenniük.
- 6.1.4.20.1.2** A tartályok zárószervezeteként használhatók csavarmenetes műanyag zárószervezetek, csiszolt üvegdugók vagy legalább ugyanilyen hatékonyságú zárószervezetek. A zárószervezet minden olyan részének, amely a tartály tartalmával érintkezésbe juthat, a tartalommal szemben ellenállónak kell lennie. Ügyelni kell arra, hogy a zárószervezeteket úgy szereljék fel, hogy azok szivárgásmentesek legyenek, és hogy úgy legyenek lezárva, hogy szállítás közben minden lazulás elkerülhető legyen. Ha szellőző-szerkezettel ellátott zárószervezetre van szükség, a 4.1.1.8 bekezdés előírásait kell betartani.
- 6.1.4.20.1.3** A tartályokat párnázóanyagok és/vagy felszívóképes anyagok használatával szilárdan be kell ágyazni a külső csomagolásba.
- 6.1.4.20.1.4** A tartály legnagyobb ürtartalma 60 liter.
- 6.1.4.20.1.5** A legnagyobb nettó tömeg 75 kg.



**6.1.4.20.2** *Külső csomagolóeszköz*

**6.1.4.20.2.1** Tartály külső acélhordóval (6PA1). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.1 bekezdés előírásainak. Az e csomagolástípushoz szükséges levehető tető süveg alakú is lehet.

**6.1.4.20.2.2** Tartály külső acélládával vagy -rekesszel (6PA2). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.14 bekezdés előírásainak. Hengeres tartályoknál függőleges helyzetben a külső védőcsomagolásnak felfelé túl kell nyúlni a tartályon és annak zárószerkezetén. Amennyiben a rekesz körte alakú tartályt vesz körül és annak alakjához illeszkedik, a külső védőcsomagolást védőtetővel (süveggel) kell ellátni.

**6.1.4.20.2.3** Tartály külső alumíniumhordóval (6PB1). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.2 bekezdés előírásainak.

**6.1.4.20.2.4** Tartály külső alumíniumládával vagy -rekesszel (6PB2). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.14 bekezdés előírásainak.

**6.1.4.20.2.5** Tartály külső faládával (6PC). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.9 bekezdés előírásainak.

**6.1.4.20.2.6** Tartály külső rétegelt falemez hordóval (6PD1). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.5 bekezdés előírásainak.

**6.1.4.20.2.7** Tartály külső vesszőkosárral (6PD2). A vesszőkosarat jó minőségű anyagból, megfelelően kell elkészíteni. Védőtetővel (süveggel) úgy kell felszerelni, hogy a tartály sérülése elkerülhető legyen.

**6.1.4.20.2.8** Tartály külső papírlemez hordóval (6PG1). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.7.1 – 6.1.4.7.4 bekezdés előírásainak.

**6.1.4.20.2.9** Tartály külső papírlemez ládával (6PG2). A külső csomagolóeszköz kialakításának meg kell felelnie a 6.1.4.12 bekezdés előírásainak.

**6.1.4.20.2.10** Tartály külső habosított műanyag vagy tömör műanyag csomagolóeszközzel (6PH1 vagy 6PH2). E két külső csomagolóeszköz anyagának meg kell felelnie a 6.1.4.13 bekezdés előírásainak. A tömör műanyag csomagolóeszközt nagy sűrűségű polietilénből vagy más, ehhez hasonló műanyagból kell készíteni. Az e csomagolási típushoz tartozó levehető tető süveg alakú is lehet.

**6.1.4.21** *Kombinált csomagolások*

Csak a 6.1.4 szakasz megfelelő, a külső csomagolóeszközre vonatkozó előírásait kell figyelembe venni.

**Megjegyzés:** Az alkalmazandó külső és belső csomagolóeszközökre lásd a 4.1 fejezetben a megfelelő csomagolási utasításokat.

**6.1.4.22** *Finomlemez csomagolóeszköz*

0A1 kódjelű finomlemez csomagolóeszköz nem levehető tetővel

0A2 kódjelű finomlemez csomagolóeszköz levehető tetővel

**6.1.4.22.1** A palásthöz és a fenekekhez megfelelő acélból készített lemezt kell használni és a lemez vastagságának meg kell felelnie a csomagolás úrtartalmának és rendeltetésének.

**6.1.4.22.2** Az illesztéseket hegeszteni kell, vagy legalább kettős korcolással vagy hasonló szilárdságot



és tömítettséget adó eljárással kell kialakítani.

**6.1.4.22.3** A belső bevonatoknak, pl. cink-, ón-, zománc- vagy hasonló bevonatoknak ellenállóknak kell lenniük, és minden pontban, beleértve a zárószerkezetet is, az acélhoz kell tapadniuk.

**6.1.4.22.4** A nem levehető tetejű csomagolóeszközök (OA1) palástján és fenekein a töltő-, ürítő- és szellőzőnyílások átmérője nem haladhatja meg a 7 cm-t. A nagyobb nyílású csomagolóeszközöket levehető tetejűnek (OA2) kell tekinteni.

**6.1.4.22.5** A nem levehető tetejű csomagolóeszközök (OA1) zárószerkezetének csavarmentesnek kell lennie, vagy olyannak, amely csavarmentes szerkezettel vagy más, legalább azonos hatékonyságú szerkezettel zárható. A levehető tetejű csomagolóeszközök (OA2) zárószerkezetét úgy kell kialakítani és rögzíteni, hogy normális szállítási körülmények között jól zárjanak, ill. a hordók és kannák szivárgásmentesek maradjanak.

**6.1.4.22.6** A csomagolóeszköz legnagyobb úrtartalma 40 liter.

**6.1.4.22.7** A legnagyobb nettó tömeg 50 kg.

## **6.1.5 Előírások a csomagolóeszközök vizsgálatára**

### **6.1.5.1 A vizsgálatok végrehajtása és gyakorisága**

**6.1.5.1.1** Minden egyes csomagolóeszköz gyártási típusát a jelölés felvitelét engedélyező illetékes hatóság által meghatározott eljárás szerint, a 6.1.5 szakaszban előírt vizsgálatoknak kell alávetni, és ugyanek az illetékes hatóságnak jóvá kell hagyni.

**6.1.5.1.2** A csomagolóeszközök gyártási típusának sikeresen ki kell állnia az e fejezetben előírt vizsgálatokat, mielőtt az adott típusú csomagolóeszközt használatba vennék. A csomagolóeszköz gyártási típusát a tervezési méret, az anyag és falvastagság, a gyártási és összeállítási mód határozza meg, de beleérthetők a különféle felületkezelések. Egy gyártási típus tartalmazza azokat a csomagolóeszközöket is, amelyek a gyártási típustól csupán kisebb szerkezeti magasságukban térnek el.

**6.1.5.1.3** A vizsgálatokat a gyártásból vett mintákon az illetékes hatóság által meghatározott időközönként meg kell ismételni. Az ilyen vizsgálatoknál papír vagy papírlemez csomagolóeszközök esetén a szobahőmérsékleten való előkészítés a 6.1.5.2.3 pont követelményeivel egyenértékűnek tekintendő.

**6.1.5.1.4** A vizsgálatokat minden olyan módosítás után is meg kell ismételni, ami megváltoztatja a csomagolóeszköz szerkezetét, anyagát vagy gyártási módját.

**6.1.5.1.5** Az illetékes hatóság engedélyezheti azon csomagolóeszközök szelektív vizsgálatát, amelyek csak kismértékben térnek el a már bevizsgálttól, pl. kisebb méretű belső csomagolásokat vagy kisebb nettó tömegű belső csomagolásokat tartalmaznak; vagy olyan hordók, zsákok és ládák, melyek a külső méret(ek)et tekintve valamivel kisebbek.

**6.1.5.1.6** (fenntartva)

**Megjegyzés:** *Különböző típusú belső csomagolóeszközök egy külső csomagolóeszközbe való helyezésére, ill. a belső csomagolóeszköz változatokra vonatkozóan lásd a 4.1.1.5.1 pontot.*

**6.1.5.1.7** Bármilyen, akár folyadékot, akár szilárd anyagot tartalmazó belső csomagolóeszközök, ill. tárgyak egy külső csomagolóeszközbe berakva szállíthatók anélkül, hogy a külső csomagolóeszközzel együtt vizsgálták volna, feltéve, ha:

- a) a külső csomagolóeszköz folyékony anyagot tartalmazó, törékeny (pl. üveg) belső csomagolóeszközökkel a 6.1.5.3 bekezdés szerinti ejtőpróbát az I csomagolási csoportnak megfelelő ejtési magassággal sikeresen kiállta;
- b) a belső csomagolóeszközök együttes össztömege nem haladhatja meg az előző a) pontban leírt ejtőpróbánál alkalmazott belső csomagolóeszközök össztömegének a felét;
- c) a belső csomagolóeszközök között, ill. a belső csomagolóeszközök és a csomagolás külseje között a párnázóanyag vastagsága nem lehet kisebb az eredetileg vizsgált csomagolásban alkalmazott vastagságnál; ha az eredeti vizsgálatnál csak egy belső csomagolóeszköz volt, akkor a belső csomagolóeszközök közötti párnázóanyag vastagsága az eredeti vizsgálatnál a belső csomagolóeszköz és a csomagolás külseje közötti vastagságnál nem lehet kisebb. Ha az ejtőpróbánál alkalmazott belső csomagolóeszköz(ök)nél kevesebb vagy kisebb belső csomagolóeszköz(öke)t használnak, akkor az ebből adódó hézagokat ki kell tölteni elegendő mennyiségű párnázóanyaggal;
- d) a külső csomagolóeszköz – üres állapotban vizsgálva – sikeresen kiállta a 6.1.5.6 bekezdésben leírt halmazolási próbát. Az „azonos küldeménydarabok össztömegét” az előző a) pontban az ejtőpróbánál alkalmazott belső csomagolóeszközök össztömege alapján kell meghatározni;
- e) a folyadékot tartalmazó belső csomagolóeszközöket teljesen körül kell venni felszívóképes anyaggal, amely a belső csomagolóeszközök teljes folyadéktartalmának felszívására elegendő mennyiségű;
- f) ha a külső csomagolóeszközt folyadékot tartalmazó belső csomagolóeszközökhöz használják és nem szivárgásmentes, ill. szilárd anyagot tartalmazó belső csomagolóeszközökhöz használják és nem portömör, akkor szivárgásmentes bélés, műanyag zsák vagy egyéb azonos hatékonyságú eszköz alkalmazásával biztosítani kell, hogy a folyadékot, ill. szilárd anyagot szivárgás esetén is megtartsa. Folyadékot tartalmazó csomagolóeszközöknél az előző e) pont szerinti felszívóképes anyagot a folyadékot tartalmazó belső csomagolóeszközöket befogadó eszköz belsejébe kell helyezni.
- g) a csomagolóeszközt a 6.1.3 szakasz szerint úgy kell jelölni, mint az I csomagolási csoportra vizsgált kombinált csomagolásokat. A feltüntetett „legnagyobb össztömeg kg-ban” a külső csomagolóeszköz tömegének és az előző a) pont szerinti ejtőpróba-hoz használt belső csomagolóeszközök fele össztömegének összege legyen. A csomagolóeszköz jelölésében a „V” betűt is fel kell tüntetni, mint azt a 6.1.2.4 bekezdés előírja.

**6.1.5.1.8** Az illetékes hatóság bármikor előírhatja, hogy a jelen szakasz előírásainak megfelelő próbákkal igazolják, hogy a sorozatban gyártott csomagolóeszközök megfelelnek a gyártási típus követelményeinek. A vizsgálatok jegyzőkönyvét ellenőrzés céljából meg kell őrizni.

**6.1.5.1.9** Amennyiben biztonsági okokból valamilyen belső felületkezelés vagy bevonat szükséges, annak védő tulajdonságait a vizsgálatok után is meg kell őriznie.

**6.1.5.1.10** Amennyiben a vizsgálat eredményeinek érvényességét nem befolyásolja és az illetékes hatóság hozzájárul, ugyanazon a mintadarabon több vizsgálat is végezhető.

**6.1.5.1.11** *Kármentő csomagolások*

A kármentő csomagolásokat (lásd az 1.2.1 szakaszt) a szilárd anyagok vagy belső csomagolások szállítására használt, II csomagolási csoportba tartozó csomagolóeszközökre

vonatkozó előírások szerint kell vizsgálni és jelölni, a következő eltérésekkel:

- a) a vizsgálatok végrehajtásához töltőanyagként vizet kell használni és a csomagolóeszközöket ürtartalmuk legalább 98%-áig kell megtölteni. Abból a célból, hogy elérjék a küldeménydarab megkövetelt össztömegét, kiegészítő terhek is használhatók, pl. ólomszemcsét tartalmazó zsákok, feltéve, hogy ezeket oly módon helyezik el, hogy nem hamisítják meg a próbák eredményét. Ennek alternatívájaként az ejtőpróba végrehajtásánál az ejtési magasság a 6.1.5.3.5 b) ponttal összhangban változtatható;
- b) ezenkívül a csomagolóeszközöknek sikeresen ki kell állniuk a 30 kPa-lal végrehajtott tömörségi próbát, a próba eredményét a 6.1.5.8 bekezdésben előírt vizsgálati jegyzőkönyvben rögzíteni kell; és
- c) a csomagolóeszközöket „T” betűvel kell jelölni, mint azt a 6.1.2.4 bekezdés előírja.

#### 6.1.5.2 *A csomagolóeszközök előkészítése a próbákhoz*

**6.1.5.2.1** A próbákat szállításra kész csomagolásokon kell végrehajtani, beleértve a kombinált csomagolások esetén azok belső csomagolásait. A belső csomagolóeszközöket, a tartályokat, az önálló csomagolóeszközöket, a zsákok kivételével, folyadékok esetén ürtartalmuk legalább 98%-áig, szilárd anyag esetén legalább 95%-áig kell megtölteni. A zsákokat az engedélyezett legnagyobb tömegig kell megtölteni. A kombinált csomagolásoknál, ahol a belső csomagolóeszközök folyadékokat és szilárd anyagokat egyaránt tartalmaznak, külön vizsgálat szükséges a folyadék és külön a szilárd anyag tartalomra. A szállítandó anyag helyettesíthető más anyaggal, kivéve, ha ez meghamisítaná a próbák eredményét. Szilárd anyag esetén a helyettesítő anyagnak ugyanolyan fizikai jellemzői legyenek (tömeg, szemcseméret stb.), mint a szállítandó anyagnak. Abból a célból, hogy elérjék a küldeménydarab megkövetelt össztömegét, kiegészítő terhek is használhatók, pl. ólomszemcsét tartalmazó zsákok, feltéve, hogy ezeket oly módon helyezik el, hogy nem hamisítják meg a próbák eredményét.

**6.1.5.2.2** Folyadékokra vonatkozó ejtőpróbánál ha más anyagot használnak, ennek a szállítandó anyaggal azonos relatív sűrűségűnek és viszkozitásúnak kell lennie. A 6.1.5.3.5 pontban meghatározott feltételek között végzett ejtőpróbákhoz víz is használható.

**6.1.5.2.3** A papírból vagy papírlémezről készült csomagolóeszközöket legalább 24 órán át szabályozott hőmérsékletű és relatív páratartalmú levegőn kell tartani. Három megoldás közül lehet választani. Az ajánlott érték  $23\text{ °C} \pm 2\text{ °C}$  hőmérséklet és  $50\% \pm 2\%$  relatív páratartalom. A másik két lehetőség:  $20\text{ °C} \pm 2\text{ °C}$  hőmérséklet és  $65\% \pm 2\%$  relatív páratartalom, illetve  $27\text{ °C} \pm 2\text{ °C}$  hőmérséklet és  $65\% \pm 2\%$  relatív páratartalom.

**Megjegyzés:** Az átlagértékeknek *e* határok közé kell esni. A rövid idejű ingadozások és a mérési korlátok az egyedi mérésektől legfeljebb  $\pm 5\%$  relatív páratartalom eltérést eredményezhetnek a vizsgálatok reprodukálhatóságának észrevehető csökkenése nélkül.

**6.1.5.2.4** (fenntartva)

**6.1.5.2.5** A 6.1.4.8 bekezdés szerinti műanyag hordókat, kannákat és – ha szükséges – a 6.1.4.19 bekezdés szerinti összetett (műanyag) csomagolóeszközöket abból a célból, hogy kipróbálják, hogy kémiai összeférhetőségük a folyadékokkal kielégítő-e, szobahőmérsékleten hat hónapig kell tárolni, ez idő alatt a mintadaraboknak azokkal az árukkal kell megtöltnie lenniük, amelyeket szállítani kívánnak bennük.

A tárolás első és utolsó 24 órája alatt a mintadarabokat zárószerkezetükkel lefelé kell állítani. A szellőző-szerkezettel ellátott csomagolóeszközöket azonban egy-egy alkalommal csak öt

percig kell ilyen helyzetben tartani. A tárolást követően a mintadarabokat a 6.1.5.3 – 6.1.5.6 bekezdésben előírt próbáknak kell alávetni.

Az összetett (műanyag) csomagolóeszközök belső tartályai esetén nem szükséges a kémiai összeférhetőséget bizonyítani, ha ismeretes, hogy a műanyag szilárdsági jellemzői a töltőanyag hatására lényegesen nem változnak meg.

A szilárdsági jellemzők lényeges változásán a következőket kell érteni:

- a) jelentős ridegedést; vagy
- b) a szakítószilárdság jelentős csökkenését, hacsak ez nem jár a szakadási nyúlás legalább arányos növekedésével.

Ha a műanyag viselkedését más módszerekkel megállapították, az előző összeférhetőségi vizsgálatról el lehet tekinteni. Az ilyen eljárásoknak azonban legalábbis azonos értékűnek kell lennie az előző összeférhetőségi vizsgálattal és azokat az illetékes hatóságnak el kell ismernie.

**Megjegyzés:** Az olyan műanyag hordókra és kannákra, valamint az összetett (műanyag) csomagolóeszközökre vonatkozóan, amelyek polietilénből készülnek, lásd a 6.1.5.2.6 pontot is.

#### 6.1.5.2.6

A 6.1.4.8 bekezdés szerinti, polietilénből készült hordóknál és kannáknál, valamint – ha szükséges – a 6.1.4.19 bekezdés szerinti, polietilénből készült összetett (műanyag) csomagolóeszközöknél a töltőanyaggal való kémiai összeférhetőség a 4.1.1.19 bekezdés alapján hozzárendelt standardfolyadék(ok)kal is bizonyítható a következők szerint (lásd a 6.1.6 szakaszt is).

A standardfolyadékok a polietilénnél fellépő károsító folyamatok (így a lágyulás duzzadás révén, a feszültségkorrózió, a molekula degradációs reakciók és ezek kombinációi) szempontjából reprezentálják a szállítandó anyagot. E csomagolóeszközök kielégítő kémiai összeférhetősége bizonyítható háromhetes 40 °C-on végzett tárolással a megfelelő standardfolyadékkal feltöltve; az ezen eljárással végzett tárolásra nincs szükség, ha standardfolyadékként víz van megadva. Ugyancsak nem szükséges tárolni a halmazolási próbához használt mintadarabokat, ha standardfolyadékként nedvesítőszer oldat vagy ecetsav van megadva.

A tárolás első és utolsó 24 órája alatt a mintadarabokat zárószervezetükkel lefelé kell állítani. A szellőző-szerkezettel ellátott csomagolóeszközöket azonban egy-egy alkalommal csak öt percig kell ilyen helyzetben tartani. A tárolás után a mintadarabokat a 6.1.5.3 – 6.1.5.6 bekezdésben előírt próbáknak kell alávetni.

Az 5.2 osztályba tartozó, 40%-nál nagyobb peroxid-tartalmú terc-butil-hidroperoxid és a peroxi-ecetsavak esetében az összeférhetőségi vizsgálat standardfolyadékkal nem végezhető el. Ezeknél az anyagoknál a kielégítő kémiai összeférhetőség bizonyításához a mintadarabot a szállítani kívánt anyaggal megtöltve hat hónapon keresztül kell szobahőmérsékleten tárolni.

A polietilénből készült csomagolóeszközökre e pont szerinti eljárás alapján kapott eredmények azokra a hasonló gyártási típusokra is elfogadhatók, amelyek belső felülete fluorozott.

#### 6.1.5.2.7

A 6.1.5.2.6 pont szerinti polietilénből készült csomagolóeszközök, ha kiállták a 6.1.5.2.6 pont szerinti próbát, más töltőanyagokra is jóváhagyhatók, mint amelyeket 4.1.1.19 bekezdés szerint helyettesítettek. Ennek a jóváhagyásnak laboratóriumi vizsgálatokon<sup>3)</sup> kell alapulnia,

3) A 6.1.5.2.6 pont meghatározása szerinti polietilénnek a betöltött termékkel (anyagokkal, keverékekkel és készítményekkel) szembeni kémiai összeférhetőségének bizonyítására a 6.1.6 szakasz szerinti standardfolyadék(ok)kal az alkalmas laboratóriumi módszerekre lásd az OTIF Titkársága által nyilvánosságra hozott, a RID nemhivatalos részében található Irányelvet.

amelyeknek igazolniuk kell, hogy ezeknek az anyagoknak a hatása a mintadarabokra – a figyelembe veendő károsodási folyamatok szempontjából – gyengébb, mint a standardfolyadék(ok)é. A relatív sűrűsége és a gőznyomásra az előző 4.1.1.19.2 pont feltételei érvényesek.

- 6.1.5.2.8** A kombinált csomagolások műanyag belső csomagolóeszközein nem szükséges a kémiai összeférhetőséget bizonyítani, ha ismeretes, hogy a műanyag szilárdsági jellemzői a betöltött anyag hatására lényegesen nem változnak.

A szilárdsági jellemzők lényeges változásán a következőket kell érteni:

- a) a jelentős ridegedést; vagy
- b) a rugalmasság jelentős csökkenését, hacsak ez nem jár a szakadási nyúlás legalább arányos növekedésével.

**6.1.5.3** *Ejtőpróba*<sup>4)</sup>

- 6.1.5.3.1** *A próbadarabok száma (gyártási típusonként és gyártónként) és a próbadarab helyzete az ejtőpróbához*

A lapra való ejtéstől eltérő ejtőpróbánál a tömegközéppontnak függőlegesen a felütközési pont fölött kell lennie.

Amennyiben egynél több helyzet lehetséges egy adott ejtőpróbánál, azt a helyzetet kell választani, ami a legnagyobb valószínűséggel eredményezi a csomagolóeszköz sérülését.

Csomagolóeszköz	A próbadarabok száma	A próbadarabok helyzete az ejtőpróbához
a) Acélhordó Alumíniumhordó Fémhordó (acélt és alumíniumot kivéve) Acélkanna Alumíniumkanna Rétegelt falemez hordó Papírlemez hordó Műanyag hordó és kanna Hordó alakú összetett csomagolóeszköz Finomlemez csomagolóeszköz	hat (ejtőpróbánként három)	<i>első próba</i> (három próbadarabbal): a csomagolásokat átlósan a fenék korcolására, vagy ha ilyen nincs, a körvarratra vagy az élre kell ejteni <i>második próba</i> (három másik próbadarabbal): a csomagolásokat a leggyengébb pontra kell ejteni, amely az első ejtés során nem került vizsgálatra, pl. az egyik záróelemre vagy egyes hengeres hordóknál a hordópalást hosszirányú hegesztési varratára
b) Faláda Rétegelt falemez láda Farostlemez láda Papírlemez láda Műanyag láda Acél- vagy alumíniumláda Láda alakú összetett csomagolóeszköz	öt (ejtőpróbánként egy)	<i>első próba</i> : a fenéklapra <i>második próba</i> : a tetőlapra <i>harmadik próba</i> : a hosszabbik oldallapra <i>negyedik próba</i> : a rövidebbik oldallapra <i>ötödik próba</i> : az egyik sarokra

4) Lásd az ISO 2248 szabványt.

c)	Zsák – egyrétegű, oldalvarrattal	három (három ejtés zsákonként)	<i>első próba:</i> a zsák egyik széles oldallapjára <i>második próba:</i> a zsák egyik keskeny oldallapjára <i>harmadik próba:</i> a zsák végére
d)	Zsák – egyrétegű, oldalvarrat nélkül, vagy többretegű	három (két ejtés zsákonként)	<i>első próba:</i> a zsák egyik széles oldallapjára <i>második próba:</i> a zsák végére
e)	Hordó vagy láda alakú összetett (üveg, porcelán, kőagyag) csomagolóeszköz, amely a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel van ellátva	három (ejtőpróbánként egy)	átlós irányban a fenék peremére, ha ilyen nincs, a körvarratra vagy a fenékélre

#### 6.1.5.3.2 A próbadarabok különleges előkészítése az ejtőpróbákhoz

A próbadarab és tartalmának hőmérsékletét  $-18\text{ }^{\circ}\text{C}$ -ra vagy az alá kell csökkenteni a következő csomagolásoknál:

- műanyag hordók (lásd a 6.1.4.8 bekezdést);
- műanyag kannák (lásd a 6.1.4.8 bekezdést);
- műanyag ládák a habosított műanyag ládák kivételével (lásd a 6.1.4.13 bekezdést);
- összetett (műanyag) csomagolóeszközök (lásd a 6.1.4.19 bekezdést); és
- kombinált csomagolások műanyag belső csomagolóeszközökkel, a szilárd anyagokhoz vagy tárgyakhoz használt műanyag zsákok kivételével.

Ha a próbadarabokat ily módon készítették elő, a 6.1.5.2.3 pontban előírt kondicionálás elhagyható. A próbához használt folyadékokat szükség esetén fagyásgátló hozzáadásával kell folyékony állapotban tartani.

#### 6.1.5.3.3 A folyékony anyagokhoz használt, levehető tetejű csomagolóeszközöknél csak a megtöltés és lezárás után 24 óra múlva szabad az ejtőpróbát elvégezni, tekintettel a tömítés esetleges rugalmas alakváltozására.

#### 6.1.5.3.4 Ütközőlap

Az ütközőlap legyen rugalmatlan és vízszintes felületű, valamint:

- egy darabból álló és elég masszív, hogy ne mozdulhason el;
- sima felületű, amely mentes minden olyan helyi hibától, amely befolyásolhatná a vizsgálat eredményét;
- elég szilárd, hogy a vizsgálati körülmények között ne deformálódjon és ne sérülhessen meg a vizsgálat hatására;
- elég nagy, hogy a vizsgált küldeménydarab teljes egészében a felületére essék.

#### 6.1.5.3.5 Ejtési magasság

Szilárd és folyékony anyagoknál, ha a próbát a szállítandó szilárd vagy folyékony anyaggal vagy lényegében azonos fizikai jellemzőkkel bíró egyéb anyaggal végzik:

I csomagolási csoport	II csomagolási csoport	III csomagolási csoport
1,8 m	1,2 m	0,8 m



Önálló csomagolóeszközökben vagy kombinált csomagolások belső csomagolóeszközeiben levő folyékony anyagok esetén, ha a próbát vízzel hajtják végre:

**Megjegyzés:** A víz alatt értendők a  $-18\text{ }^{\circ}\text{C}$ -on végzett vizsgálathoz használt, legalább 0,95 relatív sűrűségű víz/fagyásgátló oldatok is.

- a) olyan szállítandó anyagoknál, amelyeknek relatív sűrűsége nem haladja meg az 1,2 értéket:

I csomagolási csoport	II csomagolási csoport	III csomagolási csoport
1,8 m	1,2 m	0,8 m

- b) olyan szállítandó anyagok esetén, amelyeknek relatív sűrűsége meghaladja az 1,2 értéket, az ejtési magasságot a szállítandó anyag relatív sűrűségéből a következő módon kell kiszámítani (egy tizedesre felkerekítve):

I csomagolási csoport	II csomagolási csoport	III csomagolási csoport
relatív sűrűség $\times 1,5$ (m)	relatív sűrűség $\times 1,0$ (m)	relatív sűrűség $\times 0,67$ (m)

- c) olyan anyagok szállítására használt és a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel ellátott finomlemez csomagolóeszközök esetében, amelyeknek viszkozitása  $23\text{ }^{\circ}\text{C}$ -on  $200\text{ mm}^2/\text{s}$ -nál nagyobb (ez megfelel az ISO 2431:1993 szabvány szerinti 6 mm átmérőjű kifolyónyílású szabványos pohárból 30 s kifolyási időnek):

- i) ha a relatív sűrűség nem haladja meg az 1,2 értéket:

II csomagolási csoport	III csomagolási csoport
0,6 m	0,4 m

- ii) ha a szállítandó anyag relatív sűrűsége meghaladja az 1,2 értéket, az ejtési magasságot a szállítandó anyag relatív sűrűségéből a következő módon kell kiszámítani (egy tizedesre felkerekítve):

II csomagolási csoport	III csomagolási csoport
relatív sűrűség $\times 0,5$ m	relatív sűrűség $\times 0,33$ m

#### 6.1.5.3.6 Elfogadási feltétel

**6.1.5.3.6.1** Minden folyadékot tartalmazó csomagolásnak tömítettnek kell maradnia, miután a belső és a külső nyomás között az egyensúly létrejött; a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel ellátott, összetett (üveg, porcelán és kőagyag) csomagolóeszközöknél és a kombinált csomagolások belső csomagolásainál nincs szükség arra, hogy a nyomások kiegyenlítődjenek.

**6.1.5.3.6.2** Ha szilárd anyagok szállítására használt csomagolóeszközt ejtőpróbának vetnek alá úgy, hogy az ütközőlapra a felső rész ütközik fel, és a tartalmat a belső csomagolóeszköz vagy belső tartály (pl. műanyag zsák) teljes egészében megtartotta, a próbadarab kiállta a próbát, még akkor is, ha a zárószerkezet már nem portömör, de megtartó funkcióját megőrizte.

**6.1.5.3.6.3** A csomagolóeszközön, ill. az összetett csomagolóeszköz vagy a kombinált csomagolás külső csomagolóeszközén nem szabad olyan sérülésnek mutatkoznia, amely befolyásolná a szállítás biztonságát. A belső tartályban vagy belső csomagolóeszköz(ök)ben levő anyagból semmi sem juthat ki.

**6.1.5.3.6.4** A zsákok külső rétegén, ill. a külső csomagolóeszközön nem szabad olyan sérülésnek mutatkoznia, amely befolyásolná a szállítás biztonságát.

**6.1.5.3.6.5** Felütközésnél a zárószerkezeteknél keletkezett nagyon csekély veszteség nem tekinthető a csomagolás hiányosságának, feltéve, hogy további elfolyás nincs.

**6.1.5.3.6.6** Az 1 osztályba tartozó áruk csomagolásán semmiféle olyan repedés nem engedhető meg,

amely miatt az robbanóanyagok vagy -tárgyak a külső csomagolóeszközből kijuthatnának.

#### **6.1.5.4 Tömörégi próba**

Tömörégi próbát kell végrehajtani minden, folyékony anyag szállítására szánt csomagolás típuson, kivéve:

- a kombinált csomagolások belső csomagolásait;
- a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel ellátott és összetett (üveg, porcelán és kőagyag) csomagolóeszközök belső tartályait;
- az olyan finomlemez csomagolóeszközöket, amelyek 23 °C-on 200 mm<sup>2</sup>/s-nál nagyobb viszkozitású anyagok csomagolására valók és a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel vannak ellátva.

**6.1.5.4.1** *A próbadarabok száma:* gyártási mintánként és gyártónként három próbadarab.

**6.1.5.4.2** *A próbadarabok különleges előkészítése a próbához:* a szellőző-szerkezettel ellátott zárószerkezetet hasonló, de szellőző-szerkezet nélkülire kell kicserélni, vagy a szellőző-szerkezetet le kell zárni.

**6.1.5.4.3** *Vizsgálati módszer és alkalmazandó nyomás:* a csomagolóeszközöket, beleértve a zárószerkezeteket is, víz alatt kell tartani 5 percen át, mialatt a belső levegőnyomás hat rájuk; a rögzítési módszernek nem szabad a próba eredményét befolyásolnia.

Az alkalmazandó levegőnyomás (túlnyomás):

I csomagolási csoport	II csomagolási csoport	III csomagolási csoport
legalább 30 kPa (0,3 bar)	legalább 20 kPa (0,2 bar)	legalább 20 kPa (0,2 bar)

Alkalmazhatók más, legalább azonos hatékonyságú eljárások is.

**6.1.5.4.4** *Elfogadási feltétel:* nem következhet be semmiféle szivárgás.

#### **6.1.5.5 Belsőnyomás-állósági próba (folyadéknyomás-próba)**

**6.1.5.5.1** A folyadéknyomás-próbát folyadék befogadására használt, minden fémből és műanyagból készült és összetett csomagolóeszköz típusán el kell végezni. Nincs szükség nyomáspróbára:

- a kombinált csomagolások belső csomagolásain;
- a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel ellátott összetett (üveg, porcelán és kőagyag) csomagolóeszközök belső tartályain; és
- az olyan finomlemez csomagolóeszközökön, amelyek 23 °C-on 200 mm<sup>2</sup>/s-nál nagyobb viszkozitású anyagok csomagolására valók és a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel vannak ellátva.

**6.1.5.5.2** *A próbadarabok száma:* gyártási mintánként és gyártónként három próbadarab.

**6.1.5.5.3** *A próbadarabok különleges előkészítése a próbához:* a szellőző-szerkezettel ellátott zárószerkezetet hasonló, de szellőző-szerkezet nélkülire kell kicserélni, vagy a szellőző-szerkezeteket le kell zárni.

**6.1.5.5.4** *Vizsgálati módszer és alkalmazandó nyomás:* a fém csomagolóeszközöket és az összetett (üveg, kőagyag, porcelán) csomagolóeszközöket, beleértve zárószerkezeteiket is, 5 percig kell a próbanyomásnak kitenni. A műanyag csomagolóeszközöket és az összetett (műanyag) csomagolóeszközöket, beleértve zárószerkezeteiket is, 30 percig kell a próbanyomásnak kitenni. Ez az a próbanyomás, amit a jelölésben a 6.1.3.1 d) pont szerint fel kell tüntetni. A csomagolóeszköz megtámasztásának módja nem hamisíthatja meg a próba eredményeit. A



nyomást folyamatosan és egyenletesen kell növelni. A próbanyomást a próba teljes időtartama alatt állandó értéken kell tartani. Az alkalmazott folyadéknymomást (túlnymomást) a következő módszerek egyikével kell meghatározni. A próbanyomás nem lehet kisebb, mint:

- a) a csomagolásban 55 °C-on mért teljes túlnyomás (vagyis a betöltött folyadék gőznyomásának és a levegő vagy más inert gázok parciális nyomásának összegéből levonva 100 kPa-t) szorozva 1,5 biztonsági tényezővel; e teljes túlnyomás meghatározásához 4.1.1.4 bekezdés szerinti maximális töltési fokot és 15 °C töltési hőmérsékletet kell alapul venni; vagy
- b) a betöltött folyadék 50 °C-on mért gőznyomásának 1,75-szorosából levonva 100 kPa-t, de legalább 100 kPa túlnyomás; vagy
- c) a betöltött folyadék 55 °C-on mért gőznyomásának 1,5-szereséből levonva 100 kPa-t, de legalább 100 kPa túlnyomás.

**6.1.5.5.5** Ezenkívül az I csomagolási csoportba tartozó folyadékokhoz szánt csomagolóeszközöket a csomagolóeszköz szerkezeti anyagától függően 5 percig vagy 30 percig legalább 250 kPa próbanyomással (túlnyomással) kell vizsgálni.

**6.1.5.5.6** *Elfogadási feltétel:* egyetlen csomagolóeszköz sem szivároghat.

#### **6.1.5.6 Halmazolási próba**

A halmazolási próbát minden csomagolástípuson el kell végezni, kivéve a zsákokat és a 6.1.3.1 a) ii) pont szerint „RID/ADR” jellel ellátott, nem halmazolható, összetett (üveg, porcelán és kőagyag) csomagolóeszközöket.

**6.1.5.6.1** *A próbadarabok száma:* gyártási mintánként és gyártónként három próbadarab.

**6.1.5.6.2** *Vizsgálati módszer:* a próbadarabot ki kell tenni a csomagolóeszköz felső felületére ható, az azonos küldeménydarabok össztömegével megegyező erőnek, melyek a szállítás során arra halmazolhatók; amennyiben a próbadarab tartalma olyan folyadék, amelynek relatív sűrűsége eltér a szállítandó folyadék sűrűségétől, az erőt ez utóbbira vonatkoztatva kell kiszámítani. A legkisebb halmazolási magasság, beleértve a próbadarabot is, 3 méter. A próba időtartama 24 óra, kivéve a folyadékokhoz szánt műanyag hordókat, kannákat és a 6HH1 és 6HH2 összetett csomagolóeszközöket, amelyeket 28 nap időtartamon át kell legalább 40 °C hőmérsékleten halmazolási próbának alávetni.

A 6.1.5.2.5 pont szerinti vizsgálathoz az eredeti töltőanyagot kell használni. A 6.1.5.2.6 pont szerinti vizsgálatnál a halmazolási próbát standardfolyadékkal kell végrehajtani.

**6.1.5.6.3** *Elfogadási feltétel:* A csomagolóeszköz nem szivároghat. Összetett csomagolóeszközök, ill. kombinált csomagolások esetén a belső tartályban, ill. a belső csomagolásban található anyagból semennyinek sem szabad kifolynia. Egyetlen próbadarabon sem szabad olyan sérülésnek lennie, amely veszélyeztetheti a szállítás során a biztonságot, sem pedig olyan alakváltozásoknak, amelyek csökkenthetik a szilárdságot vagy a stabilitás hiányát vonhatják maguk után, ha a küldeménydarabokat egymásra rakják. A műanyag csomagolóeszközöket a próba értékelése előtt környezeti hőmérsékletre kell hűteni.

**6.1.5.7** *Kiegészítő áteresztőképességi (szivárgási) próba a 60 °C vagy annál kisebb lobbánáspontú folyadékok szállítására használt, a 6.1.4.8 bekezdés szerinti műanyag hordókra és kannákra, és a 6.1.4.19 bekezdés szerinti összetett (műanyag) csomagolóeszközökre, kivéve a 6HA1 kódjelű csomagolóeszközöket*

A polietilénből gyártott csomagolóeszközökön ezt a próbát csak akkor kell végrehajtani, ha

benzol, toluol, xilol vagy ezeket az anyagokat tartalmazó keverékek vagy készítmények szállítására kell jóváhagyni.

**6.1.5.7.1** *A próbadarabok száma:* Gyártási típusonként és gyártónként három próbadarab.

**6.1.5.7.2** *A próbadarabok különleges előkészítése a próbákhoz:* A próbadarabokat előzetesen, vagy a 6.1.5.2.5 pont szerint eredeti töltőanyaggal, vagy polietilénből gyártott csomagoló-eszközöknél a 6.1.5.2.6 pont szerint szénhidrogén-keverék (white spirit) standardfolyadékkal megtöltve kell tárolni.

**6.1.5.7.3** *Vizsgálati eljárás:* A jóváhagyandó anyaggal megtöltött próbadarabokat 50%-os relatív páratartalom mellett és 23 °C-on 28 napig tartó tárolás előtt és után le kell mérni. A polietilénből gyártott csomagolásoknál a próbát szénhidrogén-keverék (white spirit) standardfolyadékkal is el lehet végezni benzol, toluol vagy xilol helyett.

**6.1.5.7.4** *Elfogadási feltétel:* A folyadékáteresztés (szivárgás) nem haladhatja meg a 0,008 g/(l·h) értéket.

**6.1.5.8** *Vizsgálati jegyzőkönyv*

**6.1.5.8.1** A vizsgálatokról legalább a következő adatokat tartalmazó jegyzőkönyvet kell készíteni, amit a csomagolóeszköz felhasználói számára hozzáférhetővé kell tenni:

1. A vizsgálatot végző szervezet neve és címe;
2. A vizsgálatot kérő neve és címe (ha szükséges);
3. A vizsgálati jegyzőkönyv egyedi azonosítója;
4. A vizsgálati jegyzőkönyv kelte;
5. A csomagolóeszköz gyártója;
6. A csomagolóeszköz típus leírása (pl. méretek, anyagok, zárószerkezetek, falvastagság stb.), beleértve a gyártási módszert (pl. üreges test fúvás), ami rajzzal (rajzokkal) és/vagy fényképpel (fényképekkel) kiegészíthető;
7. Legnagyobb űrtartalom;
8. A vizsgálat alatti tartalom jellemzői, pl. folyadékoknál a viszkozitás és a relatív sűrűség és szilárd anyagoknál a szemcseméret;
9. A vizsgálatok leírása és eredményei;
10. A vizsgálati jegyzőkönyvet alá kell írni, az aláíró nevét és beosztását fel kell tüntetni.

**6.1.5.8.2** A vizsgálati jegyzőkönyvnek megállapítást kell tartalmaznia arra nézve, hogy a szállításra előkészített csomagolás ezen fejezet megfelelő rendelkezéseivel összhangban került vizsgálatra és más csomagolási módszerek vagy alkotórészek használata azt érvénytelenné teheti. A vizsgálati jegyzőkönyv egy példányát az illetékes hatóság rendelkezésére kell bocsátani.

**6.1.6 Standardfolyadékok polietilénből gyártott csomagolóeszközök (IBC-k) kémiai összeférhetőségének a 6.1.5.2.6, ill. a 6.5.6.3.5 pont szerinti vizsgálatához**

**6.1.6.1** Az ilyen műanyaghoz a következő standardfolyadékokat kell használni:

- a) Nedvesítőszer oldatot olyan anyagoknál, amelyeknek a polietilénre erős, feszültség-korróziót kiváltó hatásuk van, különösen az összes, nedvesítőszeret tartalmazó oldatnál és készítménynél.

Alkil-benzol-szulfonát 1%-os vizes oldatát vagy nonil-fenol-etoxilát 5%-os vizes oldatát kell használni, amelyet a vizsgálatokhoz történő első felhasználás előtt legalább 14 napig 40 °C-on előtárolásnak kell alávetni. Az oldat felületi feszültségének 23 °C-on 31...35 mN/m-nek kell lennie.

A halmazolási próbánál legalább 1,2 relatív sűrűség-értéket kell alapul venni.

Amennyiben a nedvesítőszer oldattal való kielégítő kémiai összeférhetőség bizonyított, akkor ecetsavval nem kell összeférhetőségi vizsgálatot végezni.

Olyan töltőanyagok esetén, amelyeknek a polietilénre a nedvesítőszer oldatnál erősebb feszültségkorróziót kiváltó hatásuk van, a kielégítő kémiai összeférhetőséget a 6.1.5.2.6 pont szerinti, 40 °C-on végzett, háromhetes előtárolással, de az eredeti töltőanyaggal lehet vizsgálni.

- b) Ecetsavat olyan anyagoknál és készítményeknél, amelyeknek a polietilénre feszültségkorróziót kiváltó hatásuk van, különösen a monokarbonsavaknál és egyértékű alkoholoknál.

98...100%-os koncentrációjú ecetsavat kell használni, amelynek relatív sűrűsége 1,05.

A halmazolási próbánál legalább 1,1 relatív sűrűség-értéket kell alapul venni.

Olyan töltőanyagok esetén, amelyek a polietilént az ecetsavnál nagyobb mértékben és legfeljebb 4% tömegnövekedést kitevő mértékben duzzasztják, a kielégítő kémiai összeférhetőséget a 6.1.5.2.6 pont szerinti 40 °C-on végzett háromhetes előtárolással, de az eredeti töltőanyaggal lehet vizsgálni.

- c) Normál-butil-acetátot/n-butil-acetáttal telített nedvesítőszer oldatot olyan anyagoknál és készítményeknél, amelyek a polietilént legfeljebb 4% tömegnövekedést kitevő mértékben duzzasztják, és egyidejűleg feszültségkorróziót okoznak, különösen növényvédő szereknek, folyékony festékeknek és észtereknek. A 6.1.5.2.6 pont szerinti előtároláshoz 98...100%-os koncentrációjú n-butil-acetátot kell használni.

A 6.1.5.6 bekezdés szerinti halmazolási próbához az előző a) pont szerinti 1...10% vizes nedvesítőszer oldatot és 2% n-butil-acetátot tartalmazó vizsgálófolyadékot kell használni.

A halmazolási próbánál legalább 1,0 relatív sűrűség-értéket kell alapul venni.

Olyan töltőanyagok esetén, amelyek a polietilént az n-butil-acetátnál nagyobb mértékben és legfeljebb 7,5% tömegnövekedést kitevő mértékben duzzasztják, a kielégítő kémiai összeférhetőséget a 6.1.5.2.6 pont szerinti 40 °C-on végzett háromhetes előtárolással, de az eredeti töltőanyaggal lehet vizsgálni.

- d) Szénhidrogén-keveréket (white spirit) a polietilénre duzzasztó hatást kifejtő anyagoknál és készítményeknél, különösen szénhidrogéneknek, észtereknek és ketonoknak.

A szénhidrogén-keverék forrás tartományának 160...220 °C közöttinek, relatív

sűrűségének 0,78...0,80 közöttinek, lobbanáspontjának 50 °C fölöttinek és aromás szénhidrogén-tartalmának 16...21%-nak kell lenni.

A halmazolási próbánál legalább 1,0 relatív sűrűség-értéket kell alapul venni.

Olyan töltőanyagok esetén, amelyek a polietilént 7,5%-nál nagyobb tömegnövekedést kitevő mértékben duzzasztják, a kielégítő kémiai összeférhetőséget a 6.1.5.2.6 pont szerinti 40 °C-on végzett háromhetes előtárolás után, de az eredeti töltőanyaggal lehet vizsgálni.

- e) Salétromsavat minden olyan anyagnál és készítménynél, amelynek a polietilénre gyakorolt oxidáló hatása és molekulatömeg-csökkentése azonos vagy kisebb mértékű, mint az 55%-os salétromsavé.

A salétromsavat legalább 55%-os koncentrációban kell alkalmazni.

A halmazolási próbánál legalább 1,4 relatív sűrűség-értéket kell alapul venni.

Olyan töltőanyagok esetén, amelyek oxidáló hatása vagy molekulatömeg-csökkentése nagyobb mértékű, mint az 55%-os salétromsavé, a 6.1.5.2.5 pont szerint kell eljárni.

Az ilyen esetekben a felhasználhatóság időtartamát a károsodás mértékének megfigyelése alapján kell meghatározni (pl. legalább 55%-os töménységű salétromsavnál 2 év).

- f) Vízet azoknál az anyagoknál, amelyek az a) – e) pontban jelzett esetektől eltérően nem támadják meg a polietilént, különösen szervesetlen savaknál és lúgoknál, vizes sóoldatoknál, többértékű alkoholoknál és vízben oldott szerves anyagok esetében.

A halmazolási próbánál legalább 1,2 relatív sűrűség-értéket kell alapul venni.

Ha a megfelelő kémiai összeférhetőség nedvesítőszer oldattal vagy salétromsavval bizonyított, a gyártási típust nem szükséges vízzel vizsgálni.

## 6.2 fejezet

### **A nyomástartó tartályok, az aeroszolok, a gázzal töltött, kisméretű tartályok (gázpatronok) és a gyúlékony, cseppfolyósított gázt tartalmazó üzemanyagcella kazetták gyártására és vizsgálatára vonatkozó követelmények**

#### **6.2.1 Általános követelmények**

*Megjegyzés:* Az aeroszolok, a gázzal töltött kisméretű tartályok (gázpatronok) és a gyúlékony, cseppfolyósított gázt tartalmazó üzemanyagcella kazetták nem tartoznak a 6.2.1 – 6.2.5 szakaszok hatálya alá.

##### **6.2.1.1 Tervezés és gyártás**

**6.2.1.1.1** A nyomástartó tartályokat és zárószerkezetüket úgy kell méretezni, gyártani, bevizsgálni és felszerelni, hogy a normális szállítási feltételek mellett és normális használatot feltételezve minden fellépő igénybevételt, beleértve a kifáradást is, elviseljenek.

**6.2.1.1.2** (fenntartva)

**6.2.1.1.3** A legkisebb falvastagság semmilyen esetben sem lehet kisebb a tervezésre és gyártásra vonatkozó műszaki szabványokban meghatározott értéknél.

**6.2.1.1.4** Hegesztett nyomástartó tartályokhoz csak hibátlanul hegeszthető anyagok használhatók fel.

**6.2.1.1.5** A palackok, nagypalackok, gázhordók és palackkötegek próbanyomásának a 4.1.4.1 bekezdés P200 csomagolási utasításában előírtaknak kell lennie. A zárt mélyhűtő tartályoknál a próbanyomásnak a 4.1.4.1 bekezdés P203 csomagolási utasításában előírtaknak kell lennie.

**6.2.1.1.6** A köteget alkotó nyomástartó tartályokat szerkezeti szerelvényekkel kell egységbe építeni. A nyomástartó tartályokat úgy kell rögzíteni, hogy se a szerkezeti szerelvényekhez képest ne mozdulhassanak el, se oly módon, ami veszélyes helyi feszültség halmozódást okozna. A csőrendszert (pl. gyűjtőcsöveket, szelepeket, nyomásmérőket) úgy kell méretezni és kialakítani, hogy az ütközések okozta sérülésekkel és a szállítás során felépő szokásos erőhatásokkal szemben védve legyenek. A gyűjtőcső próbanyomásának legalább akkorának kell lennie, mint a palackokénak. A cseppfolyósított, mérgező gázok esetén mindegyik nyomástartó tartálynak elválasztó szeleppel kell rendelkeznie, ami biztosítja, hogy minden egyes nyomástartó tartály külön tölthető legyen és a szállítás alatt tartalmuk egymással ne cserélődhessen ki.

*Megjegyzés:* A cseppfolyósított, mérgező gázok a 2T, 2TF, 2TC, 2TO, 2TFC, ill. 2TOC osztályozási kód alá tartoznak.

**6.2.1.1.7** Kerülni kell a különböző fémek érintkezését, ami a galvanikus hatás folytán károsodást okozhat.

**6.2.1.1.8** A mélyhűtött, cseppfolyósított gázokhoz használt zárt mélyhűtő tartályok gyártására vonatkozó kiegészítő követelmények

**6.2.1.1.8.1** Minden egyes nyomástartó tartályra meg kell állapítani a felhasznált fém mechanikai tulajdonságait, beleértve az ütőszilárdságot és a hajlítási együtthatót.

*Megjegyzés:* Az ütőszilárdságra (a fajlagos ütmunkára) vonatkozóan a 6.8.5.3 bekezdés részletezi az alkalmazható vizsgálati követelményeket.

**6.2.1.1.8.2** A nyomástartó tartályokat hőszigetelni kell. A hőszigetelést az ütések ellen burkolattal kell védeni. Ha a nyomástartó tartály és a burkolat közötti tér légüres (vákuumszigetelés), a védőburkolatot úgy kell méretezni, hogy egy elismert műszaki szabályzat szerint számítva legalább 100 kPa (1 bar) külső nyomásnak vagy legalább 200 kPa (2 bar) (túlnyomás) számított kritikus felszakítási nyomásnak álljon ellen maradandó alakváltozás nélkül. Ha a burkolat gáztömören zár (pl. vákuumszigetelés esetén), külön berendezéssel kell megakadályozni, hogy a nyomástartó tartályon vagy szerelvényein bekövetkező tömítetlenség esetén a szigetelőrétegben veszélyes nyomás keletkezzék. A berendezésnek meg kell akadályoznia, hogy a szigetelésbe nedvesség hatoljon be.

**6.2.1.1.8.3** Azok a zárt mélyhűtő tartályok, amelyek atmoszférikus nyomáson  $-182\text{ °C}$  alatti forráspontú, mélyhűtött, cseppfolyósított gázok szállítására szolgálnak, nem tartalmazhatnak olyan anyagokat, amelyek az oxigénnel vagy az oxigénben dús környezettel veszélyes módon reagálhatnak, ha a hőszigetelés olyan részén helyezkednek el, ahol fennáll annak a veszélye, hogy oxigénnel vagy oxigénben dús környezettel érintkeznek.

**6.2.1.1.8.4** A zárt mélyhűtő tartályokat megfelelő emelő és rögzítő szerkezetekkel kell tervezni és ellátni.

**6.2.1.1.9** *Az acetilénhez használt nyomástartó tartályok gyártására vonatkozó kiegészítő követelmények*

Az UN 1001 oldott acetilénhez és az UN 3374 oldószermentes acetilénhez használt nyomástartó tartályokat olyan, egyenletesen elosztott, porózus anyaggal kell kitölteni, amely megfelel az illetékes hatóság által meghatározott követelményeknek és vizsgálatoknak, és amely:

- a) összeférhető a nyomástartó tartállyal, és sem az acetilénnel, sem az oldószerrel (az UN 1001 oldott acetilén esetén) nem alkot káros vagy veszélyes vegyületet;
- b) képes megakadályozni az acetilén bomlásának terjedését a porózus anyagban.

Az UN 1001 oldott acetilén esetén az oldószernek összeférhetőnek kell lennie a nyomástartó tartállyal.

## **6.2.1.2 Szerkezeti anyagok**

**6.2.1.2.1** A nyomástartó tartályok és zárószerkezetük anyaga, amely a veszélyes áruval közvetlenül érintkezik csak olyan lehet, amelyet a szállítandó veszélyes áru nem támad meg, ill. nem gyengít, és amely nem fejt ki veszélyes hatást, pl. reakció katalizálást vagy a veszélyes áruval való reakciót.

**6.2.1.2.2** A nyomástartó tartályokat és zárószerkezetüket a tervezésre és gyártásra vonatkozó műszaki szabványokban és a nyomástartó tartályban szállítandó veszélyes anyagra vonatkozó csomagolási utasításban meghatározott anyagból kell gyártani. Az anyagnak a tervezésre és gyártásra vonatkozó műszaki szabványban meghatározottak szerint ellenállónak kell lennie a ridegtöréssel és a feszültség alatti korróziós repedezéssel szemben.

## **6.2.1.3 Üzemi szerelvények**

**6.2.1.3.1** A nyomásnak kitett szelepeket, csővezetékeket és más szerelvényeket – a nyomáscsökkentő szerkezetek kivételével – úgy kell tervezni és gyártani, hogy a repesztőnyomásuk a nyomástartó tartály próbanyomásának legalább 1,5-szerese legyen.

**6.2.1.3.2** Az üzemi szerelvényeket úgy kell kialakítani vagy elrendezni, hogy normális szállítási és kezelési körülmények között ne sérülhessenek úgy meg, hogy a nyomástartó tartály tartalma

a szabadba jusson. A nyomáscsökkentő szelepekhez vezető gyűjtőcső vezetéknek elegendően hajlékonynak kell lennie, hogy ne következhesen be a szelepek és a csővezeték nyíródása és a nyomástartó tartály tartalmának kiszabadulása. A töltő- és ürítő szelepeknek és a védőkupakoknak a nem szándékos nyitással szemben védhetőnek kell lenniük. A szelepeket a 4.1.6.8 bekezdésben előírt módon védeni kell.

- 6.2.1.3.3** A kézzel nem mozgatható, ill. nem gördíthető nyomástartó tartályokat olyan szerkezettel (pl. csúszótalppal, emelőfülekkel, kampókkal) kell ellátni, amely lehetővé teszi gépi berendezéssel való biztonságos kezelésüket, és ezt úgy kell tartályra felszerelni, hogy ne okozzák sem a nyomástartó tartály gyengülését, sem pedig meg nem engedhető igénybevételét.
- 6.2.1.3.4** Az önálló nyomástartó tartályokat a 4.1.4.1 bekezdés P200 csomagolási utasítása 2) bekezdése, ill. a 6.2.1.3.6.4 és a 6.2.1.3.6.5 pontok szerint kell nyomáscsökkentő szerkezettel ellátni. A nyomáscsökkentő szerkezeteket úgy kell kialakítani, hogy megakadályozzák az idegen anyagoknak a tartályba való bejutását, a gáz kiszivárgását és mindenféle veszélyes túlnyomás kialakulását. A nyomáscsökkentő szerkezeteket a gyűlékony gázzal töltött, gyűjtőcsővel összekapcsolt, vízszintes helyzetű nyomástartó tartályokon úgy kell elhelyezni, hogy a lefúvás a szabad levegőbe akadálytalanul történhessen, és normális szállítási körülmények mellett a kiszabaduló gáz ne ütközzön magának a nyomástartó tartálynak.
- 6.2.1.3.5** A térfogatra töltött nyomástartó tartályokat szintjelzővel kell ellátni.
- 6.2.1.3.6** *A zárt mélyhűtő tartályokra vonatkozó kiegészítő követelmények*
- 6.2.1.3.6.1** A gyűlékony mélyhűtött, cseppfolyósított gázok szállítására szolgáló zárt mélyhűtő tartályok minden töltő- és ürítőnyílását legalább két, egymás mögött elhelyezett, egymástól független zárószerkezettel kell ellátni, ahol az első egy zárószelep, a második pedig egy sapka vagy azzal egyenértékű, más szerkezet.
- 6.2.1.3.6.2** Azokon a csővezeték szakaszokon, amelyek mindkét végükön zárhatóak, és azokon a részeken, ahol folyékony anyag maradhat vissza, a csővezetékben a túlzott nyomás kialakulásának elkerülésére automatikus nyomáscsökkentő rendszert kell alkalmazni.
- 6.2.1.3.6.3** A zárt mélyhűtő tartályoknál minden csatlakozáson jól látható módon fel kell tüntetni a rendeltetését (pl. gőzfázis, folyadékfázis).
- 6.2.1.3.6.4** Nyomáscsökkentő szerkezetek
- 6.2.1.3.6.4.1** A zárt mélyhűtő tartályokat legalább egy nyomáscsökkentő szerkezettel kell ellátni. A nyomáscsökkentő szerkezetnek olyan típusúnak kell lennie, ami ellenáll a dinamikus hatásoknak, beleértve a folyadék hullámzását is.
- 6.2.1.3.6.4.2** A zárt mélyhűtő tartályok ezenkívül a 6.2.1.3.6.5 pont követelményeinek kielégítésére a rugóterhelésű szerkezettel (szerkezetekkel) párhuzamosan hasadótarcsával is elláthatók.
- 6.2.1.3.6.4.3** A nyomáscsökkentő szerkezet csatlakozásának akkora keresztmetszetűnek kell lennie, amekkora lehetővé teszi, hogy a szükséges ürítési mennyiség akadálytalanul eljuthasson a nyomáscsökkentő szerkezethez.
- 6.2.1.3.6.4.4** Minden nyomáscsökkentő szerkezet bemenetnek a megengedett legnagyobb töltési fok mellett is a zárt mélyhűtő tartály gőzterében kell lennie és a szerkezetet úgy kell kialakítani, hogy biztosítva legyen a gőz akadálytalan távozása.



**6.2.1.3.6.5** A nyomáscsökkentő szerkezetek teljesítménye és beállítása

**Megjegyzés:** A zárt mélyhűtő tartályok nyomáscsökkentő szerkezetei szempontjából a megengedett legnagyobb üzemi nyomás a megtöltött, zárt mélyhűtő tartály tetején, üzemi helyzetben megengedett legnagyobb tényleges túlnyomás, beleértve a töltés és ürítés során fellépő legnagyobb tényleges nyomást.

**6.2.1.3.6.5.1** A nyomáscsökkentő szerkezetnek legalább a megengedett legnagyobb üzemi nyomáson automatikusan ki kell nyílnia, és a megengedett legnagyobb üzemi nyomás 110%-ának megfelelő nyomáson teljesen nyitva kell lennie. Lefűvás után a szerkezetnek a nyitónyomásánál legfeljebb 10%-kal alacsonyabb nyomáson záródnia kell és minden, ennél alacsonyabb nyomáson zárva kell maradnia.

**6.2.1.3.6.5.2** A hasadótárcsákat olyan névleges nyomásra kell beállítani, ami a próbanyomás és a megengedett legnagyobb üzemi nyomás 150%-ának megfelelő nyomás közül az alacsonyabb értékkel egyenlő.

**6.2.1.3.6.5.3** A vákuumszigetelt, zárt mélyhűtő tartályoknál a vákuum csökkenése esetén a beépített nyomáscsökkentő szerkezetek összes lefűvási teljesítményének elégnek kell lennie ahhoz, hogy a nyomás (beszámítva a nyomás növekedését) a zárt mélyhűtő tartályban ne lépje túl a megengedett legnagyobb üzemi nyomás 120%-át.

**6.2.1.3.6.5.4** A nyomáscsökkentő szerkezetek szükséges teljesítményét az illetékes hatóság által elismert műszaki szabályzat<sup>1)</sup> szerint kell meghatározni.

**6.2.1.4** A nyomástartó tartályok engedélyezése

**6.2.1.4.1** A nyomástartó tartályok megfelelőségét a gyártásukkor kell értékelni az illetékes hatóság által előírt módon. A nyomástartó tartályokat egy vizsgáló szervezetnek kell megvizsgálnia és engedélyeznie. A műszaki dokumentációnak a tervezés és a gyártás részletes leírását, valamint a gyártás és a vizsgálat teljes dokumentációját tartalmaznia kell.

**6.2.1.4.2** A minőségbiztosítási rendszernek meg kell felelnie az illetékes hatóság előírásainak.

**6.2.1.5** Üzembe helyezés előtti vizsgálat

**6.2.1.5.1** Az új nyomástartó tartályokat – a zárt mélyhűtő tartályok kivételével – a gyártás során és az üzembe helyezés előtt a vonatkozó tervezési szabványoknak megfelelően vizsgálatnak kell alávetni, amelynek a következőkre kell kiterjednie:

Elegendő számú nyomástartó tartály mintadarabon:

- a) a szerkezeti anyag mechanikai jellemzőinek vizsgálatára;
- b) a legkisebb falvastagság ellenőrzésére;
- c) a szerkezeti anyag minden egyes gyártási sorozaton belüli azonosságának (minőségének) ellenőrzésére;
- d) a nyomástartó tartály külső és belső állapotának vizsgálatára;
- e) a nyakmenet vizsgálatára;

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1) Lásd például a CGA S-1.2-2003 „Pressure Relief Device Standards – Part 2 – Cargo and Portable Tanks for Compressed Gases” (Nyomáscsökkentő szerkezet szabványok – 2. rész – Árutartályok és mobil tartályok sűrített gázokhoz) és az S-1.1-2003 „Pressure Relief Device Standards – Part 1 – Cylinders for Compressed Gases” (Nyomáscsökkentő szerkezet szabványok – 1. rész – Sűrített gáz palackok) kiadványt.



- f) a tervezési szabványoknak való megfelelés ellenőrzésére.

Minden egyes nyomástartó tartályon:

- g) folyadéknomás-próbára. A nyomástartó tartálynak a tervezési előírásokban meghatározottnál nagyobb tágulás bekövetkezte nélkül kell elviselnie a próbanomást;

**Megjegyzés:** Az illetékes hatóság hozzájárulása esetén a folyadéknomás-próba gázzal végzett vizsgálattal helyettesíthető, ha az ilyen eljárás nem okoz semmiféle veszélyt.

- h) a gyártási hibák vizsgálatára és értékelésére. A hibákat ki kell javítani vagy a nyomástartó tartályt használatra alkalmatlanná kell tenni. Hegesztett nyomástartó tartályok esetén különös figyelmet kell fordítani a hegesztés minőségére;
- i) a nyomástartó tartályon levő jelölések vizsgálatára;
- j) ezen kívül az UN 1001 oldott acetilén és az UN 3374 oldószermentes acetilén szállítására használt nyomástartó tartályoknál ellenőrizni kell a porózus anyag megfelelő alkalmazását és állapotát, ill. ha van, az oldószer mennyiségét.

**6.2.1.5.2** A zárt mélyhűtő tartályok egy megfelelő mintadarabján el kell végezni a 6.2.1.5.1 a), b), d) és f) pontban meghatározott vizsgálatokat. Ezen kívül a zárt mélyhűtő tartályok mintadarabján a vonatkozó tervezési és gyártási előírások szerint radiográfiás, ultrahangos vagy más alkalmas, roncsolásmentes vizsgálati módszerrel meg kell vizsgálni a hegesztéseket. A burkolat hegesztését nem kell így vizsgálni.

Ezen kívül minden zárt mélyhűtő tartályt alá kell vetni az üzembe helyezés előtti vizsgálatnak és a 6.2.1.5.1 g), h) és i) pontban meghatározott vizsgálatoknak, valamint tömörségi próbának és összeszerelés után ellenőrizni kell az üzemi szerelvények kielégítő működését.

#### **6.2.1.6 Időszakos vizsgálat**

**6.2.1.6.1** Az újratölthető nyomástartó tartályokat – a mélyhűtő tartályok kivételével – az illetékes hatósága által felhatalmazott szervezet által időszakos vizsgálatnak kell alávetni, amelynek a következőkre kell kiterjednie:

- a) a nyomástartó tartály külső állapotának vizsgálatára, valamint a szerelvények és a külső jelölések ellenőrzésére;
- b) a nyomástartó tartály belső állapotának vizsgálatára (pl. a belső vizsgálattal, a legkisebb falvastagság ellenőrzésével);
- c) a menetek vizsgálatára, ha korrózió jelei mutatkoznak vagy ha a szerelvényeket eltávolították;
- d) folyadéknomás-próbára és szükség esetén alkalmas vizsgálati eljárással az anyagjellemzők ellenőrzésére;
- e) az üzemi szerelvények, az egyéb tartozékok és a nyomáscsökkentő szerkezetek ellenőrzésére, amennyiben azokat újra üzembe helyezik.

**Megjegyzés:** 1. Az illetékes hatóság hozzájárulása esetén a folyadéknomás-próba helyettesíthető gázzal végzett vizsgálattal, ha az ilyen eljárás nem okoz semmiféle veszélyt.

2. Az illetékes hatóság hozzájárulása esetén a palackok, ill. nagypalackok folyadéknomás-próbája akusztikus emissziós vizsgálaton, ultrahangos vizsgálaton vagy az akusztikus emissziós és az ultrahangos vizsgálat

*kombinációján alapuló, egyenértékű vizsgálattal helyettesíthető.*

**3.** Az időszakos vizsgálatok gyakoriságára vonatkozóan lásd a 4.1.4.1 bekezdés P200 csomagolási utasítását.

**6.2.1.6.2** Az UN 1001 oldott acetilén és az UN 3374 oldószermentes acetilén szállítására használt nyomástartó tartályoknál csak a 6.2.1.6.1 a), c) és e) pontok szerinti vizsgálatot kell elvégezni. Ezenkívül a porózus anyag állapotát (pl. repedezettség, felső szabad tér, lazulás, összeesés) is kell vizsgálni.

#### **6.2.1.7 A gyártóra vonatkozó előírások**

**6.2.1.7.1** A gyártónak műszakilag alkalmasnak kell lennie a nyomástartó tartályok megfelelő színvonalú előállítására és rendelkeznie kell minden, ehhez szükséges erőforrással, különösen megfelelő képzettségű alkalmazottakkal:

- a) a gyártási folyamat átfogó felügyeletére;
- b) az anyagok illesztésének kivitelezésére;
- c) a megfelelő vizsgálatok végrehajtására.

**6.2.1.7.2** A gyártó alkalmasságának értékelését minden esetben a jóváhagyó ország illetékes hatósága által jóváhagyott vizsgáló szervezetnek kell végeznie.

#### **6.2.1.8 A vizsgáló szervezetekre vonatkozó előírások**

**6.2.1.8.1** A vizsgáló szervezeteknek a gyártó vállalatoktól függetlennek kell lenniük és kellő szakértelemmel kell rendelkezniük a szükséges vizsgálatok, ellenőrzések elvégzéséhez, ill. a jóváhagyásokhoz.

### **6.2.2 Az UN nyomástartó tartályokra vonatkozó követelmények**

Az UN nyomástartó tartályoknak a 6.2.1 szakasz általános követelményein kívül e szakasz előírásainak is meg kell felelniük, beleértve az esetleges szabványokat.

#### **6.2.2.1 Tervezés, gyártás és üzembe helyezés előtti vizsgálat**

**6.2.2.1.1** Az UN palackok tervezéséhez, gyártásához és üzembe helyezés előtti vizsgálatához a következő szabványokat kell alkalmazni, a megfelelőség-értékelési rendszerrel és a jóváhagyással kapcsolatos vizsgálati követelményeknek azonban a 6.2.2.5 bekezdéssel összhangban kell lenniük:

ISO 9809-1:1999	Gázpalackok – Újratölthető, varrat nélküli acél gázpalackok – Tervezés, gyártás és vizsgálat – 1. Rész: Edzett és temperált palackok 1100 MPa-nál kisebb szakítószilárdságú acélból. <i>Megjegyzés: A szabvány 7.3 szakaszában az F tényezőre vonatkozó megjegyzés az UN palackokra nem vonatkozik.</i>
ISO 9809-2:2000	Gázpalackok – Újratölthető, varrat nélküli acél gázpalackok – Tervezés, gyártás és vizsgálat – 2. rész: Edzett és temperált palackok 1100 MPa vagy annál nagyobb szakítószilárdságú acélból.
ISO 9809-3:2000	Gázpalackok – Újratölthető, varrat nélküli acél gázpalackok – Tervezés, gyártás és vizsgálat – 3. rész: Normalizált acélpalackok.

ISO 7866:1999	Gázpalackok – Újratölthető, varrat nélküli alumíniumötvözet gázpalackok – Tervezés, gyártás és vizsgálat <b>Megjegyzés:</b> A szabvány 7.2 szakaszában az <i>F</i> tényezőre vonatkozó megjegyzés az UN palackokra nem vonatkozik. 6351A-T6 vagy azszal egyenértékű alumíniumötvözet nem megengedett.
ISO 11118:1999	Gázpalackok – Nem újratölthető fém gázpalackok – Meghatározások és vizsgálati módszerek.
ISO 11119-1:2002	Kompozit gázpalackok - Előírások és vizsgálati módszerek – 1. rész: Köpenyrészen bevont kompozit gázpalackok
ISO 11119-2:2002	Kompozit gázpalackok - Előírások és vizsgálati módszerek – 2. rész: Teljes felületen bevont szálvázas kompozit gázpalackok teherviselő fém béléstesttel
ISO 11119-3:2002	Kompozit gázpalackok - Előírások és vizsgálati módszerek – 3. rész: Teljes felületen bevont szálvázas kompozit gázpalackok nem-teherviselő fém vagy nemfém béléstesttel

**Megjegyzés:** 1. Az előzőekben hivatkozott szabványok szerint a kompozit palackokat korlátlan élettartamra kell tervezni.

2. Az első 15 évi használat után az *e* szabványok szerint gyártott kompozit palackok használatát a palackokat eredetileg jóváhagyó illetékes hatóság a gyártó, a tulajdonos vagy a felhasználó által közölt vizsgálati adatokra alapozva korlátlan időre kiterjesztheti.

#### 6.2.2.1.2

Az UN nagypalackok tervezéséhez, gyártásához és üzembe helyezés előtti vizsgálatához következő szabványokat kell alkalmazni, a megfelelőség-értékelési rendszerrel és a jóváhagyással kapcsolatos vizsgálati követelményeknek azonban a 6.2.2.5 bekezdéssel összhangban kell lenniük:

ISO 11120:1999	Gázpalackok. A 150 l – 3000 l űrtartalmú, újratölthető, varrat nélküli acél nagypalackok sűrített gáz szállítására. Kialakítás, kivitelezés és vizsgálat <b>Megjegyzés:</b> A szabvány 7.1 szakaszában az <i>F</i> tényezőre vonatkozó megjegyzés az UN nagypalackokra nem vonatkozik.
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#### 6.2.2.1.3

Az UN acetilén palackok tervezéséhez, gyártásához és üzembe helyezés előtti vizsgálatához a következő szabványokat kell alkalmazni, a megfelelőség-értékelési rendszerrel és a jóváhagyással kapcsolatos vizsgálati követelményeknek azonban a 6.2.2.5 bekezdéssel összhangban kell lenniük:

A palackra:

ISO 9809-1:1999	Gázpalackok – Újratölthető, varrat nélküli acél gázpalackok – Tervezés, gyártás és vizsgálat – 1. Rész: Edzett és temperált palackok 1100 MPa-nál kisebb szakítószilárdságú acélból. <b>Megjegyzés:</b> A szabvány 7.3 szakaszában az <i>F</i> tényezőre vonatkozó megjegyzés az UN palackokra nem vonatkozik.
ISO 9809-3:2000	Gázpalackok – Újratölthető, varrat nélküli acél gázpalackok – Tervezés, gyártás és vizsgálat – 3. Rész: Normalizált acélpalackok.

A palackban levő porózus anyagra:

ISO 3807-1:2000	Acetilén palackok – Alapkövetelmények – 1. Rész: Palackok kioldódó dugó nélkül
ISO 3807-2:2000	Acetilén palackok – Alapkövetelmények – 2. Rész: Palackok kioldódó dugóval

- 6.2.2.1.4** Az UN mélyhűtő tartályok tervezésére, gyártására és üzembe helyezés előtti vizsgálatára a következő szabvány vonatkozik, azzal a különbséggel, hogy a megfelelőség értékelési rendszerrel és a gyártás jóváhagyásával kapcsolatos vizsgálati követelményekre a 6.2.2.5 bekezdést kell alkalmazni.

ISO 21029-1:2004	Mélyhűtő tartályok – Szállítható, vákuumszigetelt tartályok legfeljebb 1000 liter ürtartalommal – 1. Rész: Tervezés, gyártás és vizsgálat
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#### **6.2.2.2 Szerkezeti anyagok**

A nyomástartó tartályok tervezési és gyártási szabványaiban az anyagokra meghatározott követelményeken és a szállítandó gáz(ok)ra vonatkozó csomagolási utasításokban (pl. a 4.1.4.1 bekezdés P200 csomagolási utasításában) meghatározott korlátozásokon kívül az anyagok összeférhetőségére a következő szabványokat kell alkalmazni:

ISO 11114-1:1997	Szállítható gázpalackok. Gázpalack és palackszelep szerkezeti anyagainak megfelelősége a gáztöltetnek. 1. rész: Fémek
ISO 11114-2:2000	Szállítható gázpalackok. Gázpalack és palackszelep szerkezeti anyagainak megfelelősége a gáztöltetnek. 2. rész: Nemfémek

**Megjegyzés:** Az ISO 11114-1 szabványban a nagy szilárdságú acélötvözeteknél a legnagyobb szakítószilárdsága vonatkozó 1100 MPa érték nem vonatkozik az UN 2203 szilícium-hidrogén (szilán) esetére.

#### **6.2.2.3 Üzemi szerelvények**

A zárószerkezetekre és védelmükre a következő szabványokat kell alkalmazni:

ISO 11117:1998	Gázpalackok – Szelepvédő kupakok és szelepvédelmek ipari és orvosi gázpalackokhoz – Tervezés, gyártás és vizsgálat
ISO 10297:2006	Szállítható gázpalackok – Palackszelepek – Műszaki követelmények és típusvizsgálat <b>Megjegyzés:</b> Az ISO szabvány EN változata is alkalmazható, mivel megfelel a követelményeknek.

#### **6.2.2.4 Időszakos vizsgálat**

Az UN palackok időszakos vizsgálatához a következő szabványokat kell alkalmazni:

ISO 6406:2005	Varrat nélküli acél gázpalackok időszakos vizsgálata
ISO 10461:2005 +A1:2006	Varrat nélküli alumínium-ötvözet gázpalackok – Időszakos vizsgálat
ISO 10462: 2005	Gázpalackok – Szállítható palackok oldott acetilénhez – Időszakos vizsgálat és karbantartás
ISO 11623:2002	Szállítható gázpalackok – Kompozit gázpalackok időszakos vizsgálata

#### **6.2.2.5 A nyomástartó tartályok megfelelőség-értékelési rendszere és gyártásának jóváhagyása**

##### **6.2.2.5.1 Meghatározások**

Ezen bekezdés alkalmazásában:

A megfelelőség-értékelési rendszer a gyártó illetékes hatóság általi engedélyezésére szolgáló, a nyomástartó tartály típusjóváhagyására, a gyártó minőségbiztosítási rendszerének

jóváhagyására és a vizsgáló szervezetek jóváhagyására kiterjedő rendszer;

A *gyártási típus* valamely nyomástartó tartályra vonatkozó szabványban meghatározott nyomástartó tartály típus;

Az *ellenőrzés* meghatározott követelmények teljesítésének megállapítása vizsgálattal vagy objektív bizonyítékok felhasználásával.

#### **6.2.2.5.2** *Általános követelmények*

*Illetékes hatóság*

##### **6.2.2.5.2.1** A nyomástartó tartályt jóváhagyó illetékes hatóságnak jóvá kell hagynia a megfelelőség-értékelési rendszert, annak érdekében, hogy a nyomástartó tartályok megfeleljenek a RID előírásainak. Ha egy nyomástartó tartályt jóváhagyó illetékes hatóság nem a gyártó országának illetékes hatósága, akkor a nyomástartó tartályon fel kell tüntetni mind a gyártó országának, mind a jóváhagyó országnak a jelét (lásd a 6.2.2.7 és a 6.2.2.8 bekezdést).

A jóváhagyó ország illetékes hatóságának azon ország megfelelő hatósága kérésre, amelyben a nyomástartó tartályt használják, bizonyítania kell, hogy megfelel a megfelelőség-értékelési rendszernek.

##### **6.2.2.5.2.2** Az illetékes hatóság feladatait a megfelelőség-értékelési rendszerben részben vagy egészben átruházhatja.

##### **6.2.2.5.2.3** Az illetékes hatóságnak biztosítania kell, hogy a jóváhagyott vizsgáló szervezetek és azonosító jelölésük, továbbá az engedélyezett gyártók és azonosító jelölésük érvényes jegyzéke rendelkezésre álljon.

*Vizsgáló szervezet*

##### **6.2.2.5.2.4** A vizsgáló szervezetnek az illetékes hatóság jóváhagyásával kell rendelkeznie a nyomástartó tartályok vizsgálatára és a következő feltételeknek kell megfelelnie:

- a) szervezetbe integrált, alkalmas, hozzáértő, szakképzett és gyakorlott személyzettel kell rendelkeznie, hogy műszaki feladatait megfelelő módon végezhesse;
- b) alkalmas és elegendő berendezésnek és felszerelésnek kell rendelkezésére állnia;
- c) részrehajlás nélkül kell működnie, és minden olyan hatástól mentesnek kell lennie, ami ebben akadályozhatná;
- d) a gyártók és más szervezetek kereskedelmi és tulajdonjogi védelmet élvező tevékenységeit üzleti titokként kell kezelnie;
- e) egyértelműen el kell különítenie a vizsgáló szervezeti funkcióit és az ezzel nem kapcsolatos tevékenységet;
- f) dokumentált minőségbiztosítási rendszert kell működtetnie;
- g) biztosítania kell, hogy a nyomástartó tartályokra vonatkozó szabványokban és a RID-ben szereplő vizsgálatokat elvégezzék; és
- h) a 6.2.2.5.6 pontban foglaltak szerinti célszerű és megfelelő jegyzőkönyvezési és okirat nyilvántartási rendszert kell működtetnie.

##### **6.2.2.5.2.5** A nyomástartó tartályra vonatkozó szabványnak való megfelelőség biztosításához a vizsgáló szervezetnek jóvá kell hagynia a gyártási típust, meg kell vizsgálnia és felügyelnie kell a nyomástartó tartály gyártását és ezekről tanúsítványt kell kiállítania (lásd a 6.2.2.5.4 és a 6.2.2.5.5 pontot).

*Gyártó***6.2.2.5.2.6** A gyártónak

- a) a 6.2.2.5.3 pont szerinti, dokumentált minőségbiztosítási rendszert kell működtetnie;
- b) a típusjóvá hagyást a 6.2.2.5.4 pont szerint kell megkérnie;
- c) a jóvá hagyó országban az illetékes hatóság által vezetett, jóvá hagyott vizsgáló szervezetek jegyzékéből ki kell választania egy vizsgáló szervezetet; és
- d) az okiratokat a 6.2.2.5.6 pont szerint kell megőriznie.

*Vizsgáló laboratórium***6.2.2.5.2.7** A vizsgáló laboratóriumnak:

- a) szervezetbe integrált, szakképzett és gyakorlott, kellő számú személyzettel kell rendelkeznie; és
- b) alkalmas és elegendő berendezésnek és felszerelésnek kell rendelkezésére állnia, hogy a gyártási szabványokban előírt vizsgálatokat a vizsgáló szervezet számára elfogadható módon elvégezhesse.

**6.2.2.5.3** *A gyártó minőségbiztosítási rendszere***6.2.2.5.3.1** A minőségbiztosítási rendszernek a gyártó által alkalmazott minden elemre, követelményre és előírásra ki kell terjednie. Ezt szisztematikusan és rendezett módon kell dokumentálni írásban rögzített alapelvek, eljárások és utasítások formájában.

Különösen a következők megfelelő leírását kell tartalmaznia:

- a) a szervezeti felépítés, a tervezéssel és termék minőségével kapcsolatos személyi felelősség;
- b) a nyomástartó tartályok tervezése és tervezés-ellenőrzése során alkalmazott technikák, módszerek és eljárások;
- c) a nyomástartó tartályok gyártására, minőségellenőrzésére, minőségbiztosítására és gyártási folyamatára vonatkozó, megfelelő utasítások;
- d) minőségellenőrzési nyilvántartás, pl. vizsgálati jegyzőkönyvek, vizsgálati eredmények és hitelesítési adatok;
- e) vezetői felülvizsgálatok a 6.2.2.5.3.2 pont szerinti auditálás alapján a minőségbiztosítási rendszer hatékony működésének biztosításához;
- f) a vevő igényeinek kielégítését szolgáló eljárások leírása;
- g) a dokumentáció ellenőrzési és karbantartási eljárása;
- h) a nem megfelelő minőségű nyomástartó tartályok, vásárolt alkatrészek, félkész és késztermékek ellenőrzésének, kiszűrésének módja; és
- i) az érintett személyekre vonatkozó képzési program és minősítési eljárás.

**6.2.2.5.3.2** A minőségbiztosítási rendszer auditálása

A minőségbiztosítási rendszert először ki kell értékelni annak eldöntéséhez, hogy a 6.2.2.5.3.1 pontban felsorolt követelményeknek az illetékes hatóság számára elfogadható

módon megfelel-e.

A gyártót értesíteni kell az auditálás eredményéről. Az értesítésnek tartalmaznia kell az auditálás következtetéseit és az esetleg szükséges javításokat.

Az illetékes hatóság számára elfogadható módon időszakos auditálást kell végezni, annak biztosítására, hogy a minőségbiztosítási rendszert a gyártó fenntartja és alkalmazza. Az időszakos auditálás jegyzőkönyvét a gyártónak át kell adni.

#### **6.2.2.5.3.3** A minőségbiztosítási rendszer fenntartása

A gyártónak a minőségbiztosítási rendszert a jóváhagyott állapotban fenn kell tartania, hogy megfelelő és hatékony legyen.

A gyártónak a minőségbiztosítási rendszert jóváhagyó illetékes hatóságot minden tervezett változásról értesítenie kell. A javasolt változtatásokat értékelni kell annak eldöntésére, hogy a módosított minőségbiztosítási rendszer továbbra is megfelel-e a 6.2.2.5.3.1 pont előírásainak.

#### **6.2.2.5.4** Jóváhagyási eljárás

*Első típusjóváhagyás*

##### **6.2.2.5.4.1** Az első típusjóváhagyás a gyártó minőségbiztosítási rendszerének jóváhagyásából és a gyártandó nyomástartó tartály típusjóváhagyásából áll. Az első típusjóváhagyás iránti kérelemnek a 6.2.2.5.4.2 – 6.2.2.5.4.6 és a 6.2.2.5.4.9 pont előírásainak kell megfelelnie.

##### **6.2.2.5.4.2** Ha egy gyártó valamely nyomástartó tartályra vonatkozó szabvány és a RID előírásai szerinti nyomástartó tartályt kíván gyártani, akkor rendelkeznie kell a jóváhagyás országának illetékes hatósága által a 6.2.2.5.4.9 pontban leírt eljárás szerint kiadott gyártási típusbizonyítvánnyal legalább egy nyomástartó tartály típusra. A bizonyítvány megszerzéséhez kérelmet kell benyújtania, és a kapott bizonyítványt meg kell őriznie. Ha annak az országnak az illetékes hatósága kéri, amelyben a tartályt használják, akkor a bizonyítványt a rendelkezésére kell bocsátani.

##### **6.2.2.5.4.3** Minden gyártó üzemre külön kérelmet kell benyújtani, aminek a következőket kell tartalmaznia:

- a) a gyártó nevét és székhelyét, és ezenkívül, ha a kérelmet meghatalmazott képviselő nyújtja be, annak nevét és címét;
- b) a gyártó üzem címét (ha az előzőektől eltér);
- c) a minőségbiztosítási rendszerért felelős személy(ek) nevét és beosztását;
- d) a nyomástartó tartály rendeltetését és a nyomástartó tartályra vonatkozó szabványt;
- e) ha egy hasonló kérelmet egy másik illetékes hatóság már elutasított, akkor az elutasítás részleteit;
- f) a gyártási típust jóváhagyó vizsgáló szervezet megnevezését;
- g) a gyártó üzemre a 6.2.2.5.3.1 pontban meghatározott dokumentációt; és
- h) a típusjóváhagyáshoz szükséges műszaki dokumentációt, ami lehetővé teszi annak megállapítását, hogy a nyomástartó tartály a vonatkozó gyártási szabvány előírásainak megfelel-e. A műszaki dokumentációnak a tervezésre és a gyártási eljárásokra kell kiterjednie, és az értékeléshez szükséges mértékben legalább a következőket kell tartalmaznia:



- i) a nyomástartó tartályra vonatkozó gyártási szabványt, az esetleges alkatrészeket és szerkezeti részegységeket ábrázoló tervrajzokat;
- ii) a tervrajzok és a nyomástartó tartály tervezett használatának megértéséhez szükséges leírásokat és magyarázatokat;
- iii) a gyártási eljárás pontos meghatározásához szükséges szabványok felsorolását;
- iv) a tervezési számításokat és a felhasznált anyagok műszaki jellemzőit; és
- v) a típusjóváahagyás vizsgálati jegyzőkönyvét, amely tartalmazza a 6.2.2.5.4.9 pont szerint végrehajtott vizsgálatok eredményeit.

**6.2.2.5.4.4** A 6.2.2.5.3.2 pont szerinti első auditálást az illetékes hatóság számára elfogadható módon kell végezni.

**6.2.2.5.4.5** Ha az illetékes hatóság nem adja meg a jóváahagyást a gyártónak, az elutasítást írásban részletesen meg kell indokolnia.

**6.2.2.5.4.6** A jóváahagyást követően az első típusjóváahagyási kérelemhez a 6.2.2.5.4.3 pont szerint benyújtott adatokban bekövetkező változásokat az illetékes hatósággal közölni kell.

*További típusjóváahagyások*

**6.2.2.5.4.7** A további típusjóváahagyás iránti kérelemnek a 6.2.2.5.4.8 és a 6.2.2.5.4.9 pont előírásainak kell megfelelnie, feltéve, hogy a gyártó rendelkezik első típusjóváahagyással. Ilyen esetben a gyártó 6.2.5.6.3 pont szerinti minőségbiztosítási rendszerének, amelyet az első típusjóváahagyás során kellett jóváhagyni, az új gyártási típusra is alkalmazhatónak kell lennie.

**6.2.2.5.4.8** A kérelemnek a következőket kell tartalmaznia:

- a) a gyártó nevét és székhelyét, és ezenkívül, ha a kérelmet meghatalmazott képviselő nyújtja be, annak nevét és címét;
- b) ha egy hasonló kérelmet egy másik illetékes hatóság már elutasított, akkor az elutasítás részleteit;
- c) annak bizonyítékát, hogy rendelkezik az első típusjóváahagyással; és
- d) a 6.2.2.5.4.3 h) pontban leírt műszaki dokumentációt.

*A gyártási típusjóváahagyás eljárása*

**6.2.2.5.4.9** A vizsgáló szervezetnek:

- a) meg kell vizsgálnia a műszaki dokumentációt annak ellenőrzésére, hogy:
  - i) a típus megfelel-e a szabványok vonatkozó előírásainak, és
  - ii) a minta sorozatot a műszaki dokumentációnak megfelelően gyártották-e és az a gyártási típust megfelelően képviseli-e;
- b) ellenőriznie kell, hogy a 6.2.2.5.5 pont szerinti gyártásellenőrzéseket elvégezték-e;
- c) a minta sorozatból ki kell választania azokat a nyomástartó tartályokat, amelyeken azután a típusjóváahagyásban előírt vizsgálatok elvégzését felügyelnie kell;
- d) végre kell hajtania vagy hajtatnia a nyomástartó tartályra vonatkozó szabványban meghatározott vizsgálatokat annak eldöntéséhez, hogy:
  - i) a szabványt alkalmazták-e és betartották-e, és



- ii) a gyártó által alkalmazott eljárások kielégítik-e a szabvány követelményeit; és
- e) biztosítani kell, hogy a különböző típusjóváahagyási vizsgálatokat pontosan és szakszerűen végezzék el.

Miután a gyártási típus vizsgálata kielégítő eredménnyel zárult, és a 6.2.2.5.4 pont minden vonatkozó követelménye teljesült, típusjóváahagyási bizonyítványt kell kiállítani, amelyben fel kell tüntetni a gyártó nevét és székhelyét, a vizsgálatok eredményeit és következtetéseit, és a gyártási típus azonosításához szükséges adatokat.

Ha az illetékes hatóság nem adja meg a típusjóváahagyást a gyártónak, az elutasítást írásban kell részletesen megindokolnia.

#### **6.2.2.5.4.10** A jóváahagyott gyártási típus módosítása

A gyártónak

- a) vagy értesítenie kell a jóváahagyott típus módosításáról a jóváahagyást kiadó illetékes hatóságot, ha ez a módosítás a nyomástartó tartályra vonatkozó szabvány értelmében nem eredményez új gyártási típust;
- b) vagy további típusjóváahagyást kell kérnie, ha a módosítás a nyomástartó tartályra vonatkozó szabvány értelmében új gyártási típust eredményez. A kiegészítő jóváahagyást az eredeti típusjóváahagyási bizonyítvány módosításaként kell kiadni.

#### **6.2.2.5.4.11** Bármely másik illetékes hatóság kérésére az illetékes hatóságnak tájékoztatást kell adnia a típusjóváahagyásokról, a jóváahagyások módosításáról és a jóváahagyások visszavonásáról.

#### **6.2.2.5.5** Gyártásellenőrzés és tanúsítás

*Általános követelmények*

Minden egyes nyomástartó tartályt egy vizsgáló szervezetnek vagy megbízottjának kell megvizsgálnia és tanúsítania. A gyártó a gyártás során történő ellenőrzéshez másik vizsgáló szervezetet is választhat, mint amelyik a gyártási típus vizsgálatokat végzi.

Ha a vizsgáló szervezet által elfogadható módon be tudja bizonyítani a gyártó, hogy rendelkezik gyártási műveletektől független, szakképzett, hozzáértő ellenőrökkel, akkor a vizsgálatokat ezek az ellenőrök is elvégezhetik. Ilyen esetben a gyártónak meg kell őriznie az ellenőrök képzésére vonatkozó dokumentációt.

A vizsgáló szervezetnek ellenőriznie kell, hogy a nyomástartó tartályokon a gyártó által végzett ellenőrzések és vizsgálatok teljes mértékben megfelelnek-e a szabványnak és a RID követelményeinek. Ha a vizsgáló szervezet azt állapítja meg, hogy az ellenőrzést, ill. a vizsgálatokat nem megfelelően hajtották végre, akkor a gyártó ellenőrei által végzendő vizsgálatokra vonatkozó engedélyt visszavonhatja.

A vizsgáló szervezet jóváahagyása után a gyártónak nyilatkozatot kell adnia, hogy a tartály megegyezik a jóváahagyott gyártási típussal. A nyomástartó tartály jóváahagyási jelölésének felvitelét úgy kell tekinteni, mint annak igazolását, hogy a nyomástartó tartály megfelel a nyomástartó tartályra vonatkozó szabványoknak, valamint az ezen megfelelőség-értékelési rendszer és a RID előírásainak. A vizsgáló szervezetnek vagy a vizsgáló szervezet felhatalmazása alapján a gyártónak minden egyes jóváahagyott nyomástartó tartályon el kell helyeznie a jóváahagyási jelölést és a vizsgáló szervezet nyilvántartási jelét.

A nyomástartó tartály megtöltése előtt a megfelelőségről tanúsítványt kell kiállítani, amit a gyártónak és a vizsgáló szervezetnek alá kell írnia.

**6.2.2.5.6** *Okiratok*

A gyártási típus bizonyítványokat és a megfelelőségi tanúsítványokat a gyártónak és a vizsgáló szervezetnek legalább 20 évig meg kell őriznie.

**6.2.2.6** *A nyomástartó tartályok időszakos vizsgálatának jóváhagyási rendszere***6.2.2.6.1** *Meghatározások*

Ezen bekezdés alkalmazásában:

A *jóváhagyási rendszer* a nyomástartó tartályok időszakos vizsgálatát végző szervezet (továbbiakban: időszakos vizsgálatot végző szervezet) illetékes hatóság általi jóváhagyásának rendszere, beleértve az ilyen szervezet minőségbiztosítási rendszerének jóváhagyását is.

**6.2.2.6.2** *Általános követelmények*

*Illetékes hatóság*

**6.2.2.6.2.1** Az illetékes hatóságnak jóváhagyási rendszert kell kialakítania annak érdekében, hogy a nyomástartó tartályok időszakos vizsgálata megfeleljen a RID előírásainak. Ha a nyomástartó tartályok időszakos vizsgálatát végző szervezetet jóváhagyó illetékes hatóság nem a nyomástartó tartály gyártását jóváhagyó ország illetékes hatósága, akkor a nyomástartó tartályon fel kell tüntetni az időszakos vizsgálatot jóváhagyó országnak a jelét is (lásd a 6.2.2.7 bekezdést).

Az időszakos vizsgálatot jóváhagyó ország illetékes hatóságának azon ország megfelelő hatósága kérésére, amelyben a nyomástartó tartályt használják, bizonyítania kell, hogy megfelel ennek a jóváhagyási rendszernek, ill. rendelkezésére kell bocsátania az időszakos vizsgálatok során készült dokumentumokat.

A jóváhagyó ország illetékes hatósága a jóváhagyási rendszernek való nem megfelelésre utaló bizonyítékok alapján visszavonhatja a 6.2.2.6.4.1 pont szerinti jóváhagyási bizonyítványt.

**6.2.2.6.2.2** Az illetékes hatóság feladatait ezen jóváhagyási rendszerben részben vagy egészben átruházhatja.

**6.2.2.6.2.3** Az illetékes hatóságnak biztosítania kell, hogy az időszakos vizsgálat végzésére jóváhagyott szervezetek és azonosító jelölésük érvényes jegyzéke rendelkezésre álljon.

*Időszakos vizsgálatot végző szervezet*

**6.2.2.6.2.4** Az időszakos vizsgálatot végző szervezetet az illetékes hatóságnak kell jóváhagynia és a következő feltételeknek kell megfelelnie:

- a) szervezetbe integrált, alkalmas, hozzáértő, szakképzett és gyakorlott személyzettel kell rendelkeznie, hogy műszaki feladatait megfelelő módon végezhesse;
- b) alkalmas és elegendő berendezésnek és felszerelésnek kell rendelkezésére állnia;
- c) részrehajlás nélkül kell működnie, és minden olyan hatástól mentesnek kell lennie, ami ebben akadályozhatná;
- d) biztosítania kell az információk üzleti titokként való kezelését;
- e) egyértelműen el kell különítenie az időszakos vizsgálatok végzésének szervezeti funkcióit és az ezzel nem kapcsolatos tevékenységet;

- f) a 6.2.2.6.3 pont szerinti, dokumentált minőségbiztosítási rendszert kell működtetnie;
- g) a 6.2.2.6.4 pontban foglaltak szerint kell a jóváhagyás iránt folyamodnia;
- h) biztosítania kell, hogy az időszakos vizsgálatok a 6.2.2.6.5 pont szerint történjenek; és
- i) a 6.2.2.6.6 pontban foglaltak szerinti célszerű és megfelelő jegyzőkönyvezési és okirat nyilvántartási rendszert kell működtetnie.

**6.2.2.6.3** *Az időszakos vizsgálatot végző szervezet minőségbiztosítási rendszere és auditálása*

**6.2.2.6.3.1** *Minőségbiztosítási rendszer*

A minőségbiztosítási rendszernek az időszakos vizsgálatot végző szervezet által alkalmazott minden elemre, követelményre és előírásra ki kell terjednie. Ezt szisztematikusan és rendezett módon kell dokumentálni írásban rögzített alapelvek, eljárások és utasítások formájában.

A minőségbiztosítási rendszernek a következőket kell tartalmaznia:

- a) a szervezeti felépítés és a felelőségek megosztásának leírása;
- b) a vizsgálatra, minőségellenőrzésre, minőségbiztosításra és eljárás végrehajtásra vonatkozó, megfelelő utasítások;
- c) minőségellenőrzési nyilvántartás, pl. vizsgálati jegyzőkönyvek, vizsgálati eredmények, hitelesítési adatok és bizonyítványok;
- d) vezetői felülvizsgálatok a 6.2.2.6.3.2 pont szerinti auditálás alapján a minőségbiztosítási rendszer hatékony működésének biztosításához;
- e) a dokumentáció ellenőrzési és karbantartási eljárása;
- f) a nem megfelelő minőségű nyomástartó tartályok ellenőrzésének, kiszűrésének módja; és
- g) az érintett személyekre vonatkozó képzési program és minősítési eljárás.

**6.2.2.6.3.2** *Auditálás*

Az időszakos vizsgálatot végző szervezetet és minőségbiztosítási rendszerét ki kell értékelni annak eldöntéséhez, hogy a RID követelményeinek az illetékes hatóság számára elfogadható módon megfelel-e.

Az auditálást az első jóváhagyási eljárás (lásd a 6.2.2.6.4.3 pontot) részeként kell elvégezni. Auditálásra lehet szükség a jóváhagyás módosítása során is (lásd a 6.2.2.6.4.6 pontot).

Az illetékes hatóság számára elfogadható módon időszakos auditálást kell végezni annak biztosítására, hogy az időszakos vizsgálatot végző szervezet továbbra is megfeleljen a RID követelményeinek.

Az időszakos vizsgálatot végző szervezetet értesíteni kell az auditálás eredményéről. Az értesítésnek tartalmaznia kell az auditálás következtetéseit és az esetleg szükséges javításokat.

**6.2.2.6.3.3** *A minőségbiztosítási rendszer fenntartása*

Az időszakos vizsgálatot végző szervezetnek a minőségbiztosítási rendszert a jóváhagyott állapotban fenn kell tartania, hogy folyamatosan megfelelő és hatékony legyen.

Az időszakos vizsgálatot végző szervezetnek a minőségbiztosítási rendszert jóváhagyó

illetékes hatóságot a 6.2.2.6.4.6 pont szerinti jóváhagyás módosítási eljárás értelmében minden tervezett változásról értesítenie kell.

**6.2.2.6.4** *Az időszakos vizsgálatot végző szervezetek jóváhagyásának eljárása*

*Első jóváhagyás*

**6.2.2.6.4.1** Ha egy szervezet valamely nyomástartó tartályra vonatkozó szabvány és a RID előírásai szerinti nyomástartó tartály időszakos vizsgálatát kívánja végezni, akkor rendelkeznie kell az illetékes hatóság által kiadott jóváhagyási bizonyítvánnyal, annak megszerzéséhez kérelmet kell benyújtania, és a kapott bizonyítványt meg kell őriznie.

Ha annak az országnak az illetékes hatósága kéri, amelyben a tartályt használják, akkor az írásbeli jóváhagyást a rendelkezésére kell bocsátani.

**6.2.2.6.4.2** Minden időszakos vizsgálatot végző szervezetre külön kérelmet kell benyújtani, aminek a következőket kell tartalmaznia:

- a) az időszakos vizsgálatot végző szervezet nevét és székhelyét, és ezenkívül, ha a kérelmet meghatalmazott képviselő nyújtja be, annak nevét és címét;
- b) minden időszakos vizsgálatot végző telephely címét;
- c) a minőségbiztosítási rendszerért felelős személy(ek) nevét és beosztását;
- d) a nyomástartó tartály rendeltetését, az időszakos vizsgálatok végzésének módját és a nyomástartó tartályra vonatkozó szabványt, amelyeket a minőségbiztosítási rendszerben figyelembe vettek;
- e) minden telephelyre, a berendezésekre és a minőségbiztosítási rendszerre a 6.2.2.6.3.1 pontban meghatározott dokumentációt;
- f) az időszakos vizsgálatot végző személyzet képzésére és minősítésére vonatkozó dokumentációt; és
- g) ha egy hasonló kérelmet egy másik illetékes hatóság már elutasított, akkor az elutasítás részleteit.

**6.2.2.6.4.3** Az illetékes hatóságnak:

- a) meg kell vizsgálnia a műszaki dokumentációt annak ellenőrzésére, hogy megfelel-e a vonatkozó nyomástartó tartály szabványok és a RID előírásainak; és
- b) el kell végeznie a 6.2.2.6.3.2 pont szerinti auditálást annak ellenőrzésére, hogy a vizsgálatokat a vonatkozó nyomástartó szabványok és a RID előírásainak megfelelően, az illetékes hatóság által elfogadott módon végzik.

**6.2.2.6.4.4** Miután az auditálás kielégítő eredménnyel zárult, és a 6.2.2.6.4 pont minden vonatkozó követelménye teljesült, jóváhagyási bizonyítványt kell kiállítani, amelyben fel kell tüntetni az időszakos vizsgálatot végző szervezet nevét, nyilvántartási jelét, minden telephely címét és a jóváhagyott tevékenység azonosításához szükséges adatokat (pl. a nyomástartó tartályok rendeltetését, az időszakos vizsgálati módszereket és a nyomástartó tartály szabványokat).

**6.2.2.6.4.5** Ha az illetékes hatóság nem adja meg a jóváhagyást az időszakos vizsgálatot végző szervezetnek, az elutasítást írásban részletesen meg kell indokolnia.

*Az időszakos vizsgálatot végző szervezet jóváhagyásának módosítása*

**6.2.2.6.4.6** A jóváhagyást követően az időszakos vizsgálatot végző szervezetnek közölnie kell a

jóváagyást kiadó illetékes hatósággal az első jóváagyási kérelemhez a 6.2.2.6.4.2 pont szerint benyújtott adatokban bekövetkező változásokat. A változásokat értékelni kell annak meghatározására, hogy kielégítik-e a vonatkozó nyomástartó tartály szabványok és a RID előírásait. Ennek során szükség lehet a 6.2.2.6.3.2 pont szerinti auditálásra. Az illetékes hatóságnak ezen változásokat írásban kell elfogadnia vagy elutasítania, és szükség esetén módosított jóváagyási bizonyítványt kell kiadnia.

**6.2.2.6.4.7** Bármely másik illetékes hatóság kérésére az illetékes hatóságnak tájékoztatást kell adnia az első jóváagyásokról, a jóváagyások módosításáról és a jóváagyások visszavonásáról.

**6.2.2.6.5** *Időszakos vizsgálat és tanúsítás*

Az időszakos vizsgálati jelölés felvitelét egy nyomástartó tartályra úgy kell tekinteni, mint annak igazolását, hogy a nyomástartó tartály megfelel a nyomástartó tartályra vonatkozó szabványoknak és a RID előírásainak. Az időszakos vizsgálatot végző szervezetnek minden jóváagyott nyomástartó tartályon el kell helyeznie az időszakos vizsgálati jelölést és saját nyilvántartási jelét (lásd a 6.2.2.7.6 pontot).

A nyomástartó tartály megtöltése előtt az időszakos vizsgálatot végző szervezetnek tanúsítványt kell kiállítania arról, hogy a nyomástartó tartály az időszakos vizsgálaton megfelelt.

**6.2.2.6.6** *Okiratok*


A nyomástartó tartályok időszakos vizsgálatára vonatkozó tanúsítványokat (megfelelőség és nem megfelelőség esetén egyaránt), beleértve a vizsgáló berendezések helyét, az időszakos vizsgálatot végző szervezetnek a legalább 15 évig meg kell őriznie.

A nyomástartó tartály tulajdonosának a tanúsítványt a következő időszakos vizsgálatig kell megőriznie, kivéve, ha a nyomástartó tartályt a használatból véglegesen kivonják.

**6.2.2.7** *Az újratölthető, UN nyomástartó tartályok jelölése*

Az újratölthető, UN nyomástartó tartályokon jól olvashatóan és maradandóan fel kell tüntetni a jóváagyási jelölést, valamint az üzemi és a gyártási jelölést. A jelöléseket tartósan (pl. beütéssel, bevéséssel vagy maratással) kell a nyomástartó tartályon elhelyezni. A jelölések a nyomástartó tartály vállrészén, a tetején vagy a nyakrészén, vagy a nyomástartó tartályhoz tartósan hozzáerősített alkatrészen (pl. hegesztett galléron vagy a zárt mélyhűtő tartály külső burkolatára hegesztett korrózióálló táblán) helyezhetők el. Az „UN” csomagolóeszköz jelölés kivételével a jelölések legkisebb mérete a 140 mm vagy annál nagyobb átmérőjű nyomástartó tartályok esetén 5 mm, ill. a 140 mm-nél kisebb átmérőjű nyomástartó tartályok esetén 2,5 mm. Az „UN” csomagolóeszköz jelölés legkisebb mérete a 140 mm vagy annál nagyobb átmérőjű nyomástartó tartályok esetén 10 mm, ill. a 140 mm-nél kisebb átmérőjű nyomástartó tartályok esetén 5 mm.

**6.2.2.7.1** A következő jóváagyási jelöléseket kell feltüntetni:

- a) az Egyesült Nemzetek jelét a csomagolóeszközön:  ;

Ezt a jelet csak annak tanúsítására szabad használni, hogy a csomagolóeszköz megfelel a 6.1, a 6.2, a 6.3, a 6.5, ill. a 6.6 fejezetben található vonatkozó előírásoknak. Ez a jel nem használható azokon a nyomástartó tartályokon, amelyek csak a 6.2.3 – 6.2.5 szakaszok követelményeinek felelnek meg (lásd a 6.2.3.9 bekezdést);

- b) a tervezéshez, a gyártáshoz és a vizsgálathoz használt műszaki szabványok számát (pl. ISO 9809-1);

- c) a jóváhagyó állam jelét a nemzetközi forgalomban résztvevő gépjárművek államjelzésével<sup>2)</sup>;

**Megjegyzés:** A jóváhagyó államnak azt az államot kell tekinteni, amely azt szervezetet hagyta jóvá, amelyik az adott nyomástartó tartályt a gyártás során vizsgálta.

- d) a jelölést engedélyező ország illetékes hatósága által bejegyzett vizsgáló szervezet azonosító jelét vagy bélyegzőjét;
- e) az üzembe helyezés előtti vizsgálat végrehajtásának évét (négy számjeggyel), ferde vonallal elválasztva a hónapot (két számjeggyel) (pl. 2005/03).

**6.2.2.7.2** A következő üzemi jelöléseket kell feltüntetni:

- f) a próbanyomást bar-ban kifejezve, ami elé a „PH” betűket kell írni, a nyomásérték után a „BAR” mértékegységet is ki kell írni;
- g) az üres nyomástartó tartály tömegét, beleértve minden tartósan felszerelt szerkezeti alkatrészt (pl. nyakgyűrűt, talpgyűrűt stb.) kilogrammban kifejezve, ami után a „KG” mértékegységet is ki kell írni. Ez a tömeg nem tartalmazza a szelep, a szelepszapka vagy a szelepvédő, az esetleges bevonat tömegét, sem acetilénél a porózus anyag tömegét. A tömeget az utolsó jegyre felfelé kerekített három értékes számjegyre kell megadni. Az 1 kg-nál könnyebb palackok esetén az üres tömeget az utolsó jegyre felfelé kerekített két értékes számjegyre kell megadni. Az UN 1001 oldott acetilén és az UN 3374 oldószermentes acetilén esetén legalább egy tizedesjegyet, az 1 kg-nál könnyebb nyomástartó tartályoknál legalább két tizedesjegyet kell feltüntetni;
- h) a nyomástartó tartály szavatolt legkisebb falvastagságát mm-ben kifejezve, ami után a „MM” mértékegységet is ki kell írni. Ez a jelölés nem szükséges 1 l víztérfogatú nyomástartó tartályokra, a kompozit palackokra és a zárt mélyhűtő tartályokra;
- i) a sűrített gázokhoz, az UN 1001 oldott acetilénhez és az UN 3374 oldószermentes acetilénhez használt nyomástartó tartályokon az üzemi nyomást bar-ban kifejezve, ami elé a „PW” rövidítést kell írni; zárt mélyhűtő tartályok esetén a megengedett legnagyobb üzemi nyomást, ami elé az „MAWP” rövidítést kell írni;
- j) a cseppfolyósított gázokhoz és a mélyhűtött, cseppfolyósított gázokhoz használt nyomástartó tartályokon a víztérfogatot literben kifejezve, az utolsó jegyre lefelé kerekített három értékes számjegyre, ami után az „L” mértékegységet is ki kell írni. Ha a legkisebb vagy névleges víztérfogat egész szám, a tizedesvessző utáni számjegyek elhagyhatók;
- k) az UN 1001 oldott acetilénhez használt nyomástartó tartályokon az üres tartály, a töltés alatt is rajta levő szerelvények és alkatrészek, az esetleges bevonat, valamint a porózus anyag, az oldószer és a telítési gáz tömegének összegét kg-ban kifejezve, az utolsó jegyre lefelé kerekített három értékes számjegyre, ami után a „KG” mértékegységet is ki kell írni. Legalább egy tizedesjegyet fel kell tüntetni, az 1 kg-nál könnyebb nyomástartó tartályoknál a tömeget az utolsó jegyre lefelé kerekített két értékes számjegyre kell megadni;
- l) az UN 3374 oldószermentes acetilénhez használt nyomástartó tartályokon az üres tartály, a töltés alatt is rajta levő szerelvények és alkatrészek, az esetleges bevonat, valamint a porózus anyag tömegének összegét kg-ban kifejezve, az utolsó jegyre lefelé kerekített három értékes számjegyre, ami után a „KG” mértékegységet is ki kell írni. Legalább egy tizedesjegyet fel kell tüntetni, az 1 kg-nál könnyebb nyomástartó tartályoknál a tömeget az utolsó jegyre lefelé kerekített két értékes számjegyre kell

2) A közúti közlekedésről szóló Bécsi Egyezmény (Bécs, 1968) által előírt államjelzés a nemzetközi forgalomban résztvevő gépjárművekre.

megadni.


**6.2.2.7.3** A következő gyártási jelöléseket kell feltüntetni:

- m) a palack menet azonosítását (pl. 25E). Ez a jelölés nem szükséges a zárt mélyhűtő tartályokra;
- n) a gyártó illetékes hatóság által bejegyzett jelét. Ha nem ugyanabban az országban gyártják, mint ahol jóváhagyják, akkor a gyártó jele elé a gyártási ország jelét kell írni a nemzetközi forgalomban résztvevő gépjárművek államjelzésével<sup>3)</sup>. Az ország jelét és a gyártó jelét szóközzel vagy ferde vonallal kell elválasztani;
- o) a gyártó által kiadott sorozatszámot;
- p) a hidrogénes elridegedés veszélyével járó gázok szállítására szolgáló, acélból készült nyomástartó tartályok és acél béléssel ellátott, kompozit nyomástartó tartályok esetén az acél összeférhetőségét jelölő „H” betűt (lásd az ISO 11114-1:1997 szabványt).

**6.2.2.7.4** Az előzőekben felsorolt jelöléseket három csoportba kell elrendezni:

- a felső csoportban a gyártási jelöléseket kell feltüntetni a 6.2.2.7.3 pontban megadott sorrendben, egymás után;
- a középső csoportban a 6.2.2.7.2 pontban felsorolt üzemi jelöléseket kell feltüntetni, és ha az üzemi nyomás (i) feltüntetése is szükséges, akkor azt közvetlenül a próbanyomás (f) előtt kell feltüntetni;
- az alsó csoportban a jóváhagyási jelöléseket kell feltüntetni a 6.2.2.7.1 pontban megadott sorrendben.

Példa a palack jelölésére:

(m)	(n)	(o)	(p)	
25E	D MF	765432	H	
(i)	(f)	(g)	(j)	(h)
PW200	PH300BAR	62.1KG	50L	5.8MM
(a)	(b)	(c)	(d)	(e)
	ISO 9809-1	F	IB	2000/12

**6.2.2.7.5** Az oldalfalon kívüli helyeken egyéb jelölések is elhelyezhetők, amennyiben kis feszültségnek kitett helyre viszik fel és méretük, ill. mélységük nem eredményez veszélyes feszültség halmozódást. Zárt mélyhűtő tartályok esetén ezek a jelölések a külső burkolatra erősített különálló táblán is feltüntethetők. Ezek a jelölések azonban nem lehetnek az előírt jelölésekkel ellentétesek.

**6.2.2.7.6** Az előző jelöléseken kívül azokat az újratölthető, nyomástartó tartályokat, amelyek kielégítik a 6.2.2.4 bekezdés időszakos vizsgálati követelményeit, a következő jelölésekkel kell ellátni:

- a) az időszakos vizsgálatot végző szervezetet felhatalmazó országot azonosító betű(k). Ez a jelölés nem szükséges, ha ezt a szervezetet a gyártást engedélyező ország illetékes hatósága hatalmazta fel;

3) A közúti közlekedésről szóló Bécsi Egyezmény (Bécs, 1968) által előírt államjelzés a nemzetközi forgalomban résztvevő gépjárművekre.



- b) az illetékes hatóság által az időszakos vizsgálat elvégzésére felhatalmazott szervezet nyilvántartási jele;
- c) az időszakos vizsgálat végrehajtásának évét (két számjeggyel), és ferde vonallal elválasztva a hónapot (két számjeggyel) (pl. 05/12). Az év jelölésére négy számjegy is használható (pl. 2005/12).

Ezeket a jelöléseket a megadott sorrendben egymás után kell feltüntetni.

**6.2.2.7.7** Acetilén palackoknál az illetékes hatóság hozzájárulásával az utolsó időszakos vizsgálat dátuma és a vizsgálatot végző szervezet bélyegzője a palackhoz erősített olyan galléra is beüthető, amelyet a szelep rögzít a palackra. A gallért úgy kialakítani, hogy az csak a szelepnek a palackról való leszerelésével legyen eltávolítható.

**6.2.2.8** *A nem újratölthető, UN nyomástartó tartályok jelölése*

A nem újratölthető, UN nyomástartó tartályokat jól olvashatóan és maradandóan el kell látni a jóváhagyási jelöléssel, valamint a gázra és a nyomástartó tartályra vonatkozó különleges jelöléssel. A jelöléseket tartósan (pl. betűsablonnal, beütéssel, bevéséssel vagy maratással) kell a nyomástartó tartályon elhelyezni. A jelölések – a betűsablonnal felvitt jelölés kivételével – elhelyezhetők a nyomástartó tartály vállrészén, a tetején vagy a nyakrészén, vagy a nyomástartó tartályhoz tartósan hozzáerősített alkatrészén (pl. hegesztett galléron). Az „UN” csomagolóeszköz jelölésén és a „TILOS ÚJRATÖLTENI” feliraton kívül a többi jelölés legkisebb mérete a 140 mm vagy annál nagyobb átmérőjű nyomástartó tartályok esetén 5 mm, ill. a 140 mm-nél kisebb átmérőjű nyomástartó tartályok esetén 2,5 mm.

Az „UN” csomagolóeszköz jelölés legkisebb mérete a 140 mm vagy annál nagyobb átmérőjű nyomástartó tartályok esetén 10 mm, ill. a 140 mm-nél kisebb átmérőjű nyomástartó tartályok esetén 5 mm.

A „TILOS ÚJRATÖLTENI” felirat mérete legalább 5 mm.

**6.2.2.8.1** A 6.2.2.7.1 – 6.2.2.7.3 pontokban felsorolt jelöléseket kell alkalmazni a g), h) és m) pont kivételével. Az o) pont szerinti sorozatszám helyett fel lehet tüntetni a gyártási tétel számát. Ezen kívül a „TILOS ÚJRATÖLTENI” feliratot is el kell helyezni legalább 5 mm magas betűkkel írva.

**6.2.2.8.2** A 6.2.2.7.4 pont követelményeit be kell tartani.

**Megjegyzés:** *A nem újratölthető, nyomástartó tartályokon, méreteikre tekintettel, a jelölés bárcával is helyettesíthető.*

**6.2.2.8.3** Az oldalfalon kívüli helyeken egyéb jelölések is elhelyezhetők, amennyiben kis feszültségnek kitett helyre viszik fel és méretük, ill. mélységük nem eredményez veszélyes feszültség halmozódást. Ezek a jelölések azonban nem lehetnek az előírt jelölésekkel ellentétesek.

**6.2.2.9** *A megfelelőség-értékelésre és az időszakos vizsgálatra vonatkozó egyenértékű eljárás*

A következő eljárások alkalmazása esetén a 6.2.2.5 és a 6.2.2.6 bekezdés követelményei az UN nyomástartó tartályokra teljesítettnek tekinthetők:

Eljárás	Illetékes szervezet
Típusjóváhagyás (1.8.7.2)	Xa
A gyártás felügyelete (1.8.7.3)	Xa vagy IS
Üzembe helyezés előtti vizsgálat (1.8.7.4)	Xa vagy IS



Időszakos vizsgálat (1.8.7.5)	Xa vagy Xb vagy IS
-------------------------------	--------------------

Xa illetékes hatóságot, ill. megbízottját vagy az 1.8.6.4 bekezdésnek megfelelő és az EN ISO/IEC 17020:2004 szabvány szerint akkreditált, A típusú vizsgáló szervezetet jelent.

Xb az 1.8.6.4 bekezdésnek megfelelő és az EN ISO/IEC 17020:2004 szabvány szerint akkreditált, B típusú vizsgáló szervezetet jelent.

IS a kérelmezőnek az 1.8.6.4 bekezdésnek megfelelő és az EN ISO/IEC 17020:2004 szabvány szerint akkreditált, A típusú vizsgáló szervezet által felügyelt üzemi vizsgálóhelyét jelenti. Az üzemi vizsgálóhelynek függetlennek kell lennie a tervezési, gyártási, javítási és karbantartási tevékenységektől.

### 6.2.3 A nem-UN nyomástartó tartályokra vonatkozó általános követelmények

#### 6.2.3.1 Tervezés és gyártás

**6.2.3.1.1** Ha egy nyomástartó tartályt, ill. zárószerkezetét nem a 6.2.2 szakasz követelményei szerint terveznek, gyártanak, vizsgálnak és hagynak jóvá, akkor a 6.2.1 szakasz általános követelményei (e szakasz követelményei szerint módosítva vagy kiegészítve) és a 6.2.4, ill. 6.2.5 szakasz követelményei szerint kell tervezni, gyártani, vizsgálni és jóváhagyni.

**6.2.3.1.2** Hacsak lehetséges, a falvastagságot számítással kell meghatározni, szükség esetén kísérleti szilárdsági vizsgálatral összekapcsolva. Egyéb esetben a falvastagság kísérleti úton is meghatározható.

A külső falnál és a teherviselő részeknél alkalmas szilárdsági számításokat kell végezni a nyomástartó tartályok biztonságának eléréséhez.

A nyomás elviseléséhez szükséges legkisebb falvastagságot számítással kell meghatározni, különösen figyelembe véve:

- a tervezési nyomást, ami nem lehet a próbanyomásnál kisebb;
- a tervezési hőmérsékletet, elfogadható biztonsági tényező figyelembevételével;
- a legnagyobb feszültséget és szükség esetén a feszültség halmozódásokat;
- az anyag tulajdonságaival összefüggő egyéb tényezőket.

**6.2.3.1.3** Hegesztett nyomástartó tartályokhoz csak olyan hibátlanul hegeszthető anyagok használhatók fel, amelyek ütőszilárdsága  $-20\text{ °C}$  környezeti hőmérsékleten szavatolható.

**6.2.3.1.4** Zárt mélyhűtő tartályoknál a 6.2.1.1.8.1 pont szerint megállapítandó ütőszilárdságot a 6.8.5.3 bekezdés szerint kell vizsgálni.

**6.2.3.2** (fenntartva)

#### 6.2.3.3 Üzemi szerelvények

**6.2.3.3.1** Az üzemi szerelvényeknek a 6.2.1.3 bekezdés előírásainak kell megfelelniük.

##### 6.2.3.3.2 Nyílások

A gázhordókon töltő- és ürítőnyílások, valamint a szintjelző, nyomásmérő vagy nyomáscsökkentő szerkezet csatlakoztatásához további nyílások is lehetnek. A biztonságos üzemeltetés érdekében a nyílások száma a lehető legkevesebb legyen. A gázhordók

vizsgálónyílással is elláthatók, amelyet hatékony zárószervezettel kell zárni.

#### **6.2.3.3.3 Szerelvények**

- a) Ha a palack gördítést akadályozó szerkezettel van ellátva, ezt a szerkezetet nem szabad a szelepvédő sapkával egybeépíteni.
- b) A gördíthető gázhordókat gördítőabronccsal kell ellátni vagy más módon kell védeni a gördülés során bekövetkező sérülésektől (pl. korrózióálló fémbevonat felszórásával a nyomástartó tartály külső felületére).
- c) A palackkötegeket olyan szerkezettel kell ellátni, amely biztonságos kezelésüket és szállításukat lehetővé teszi.
- d) Ha szintjelző, nyomásmérő vagy nyomáscsökkentő szerkezet van felszerelve, akkor ezeket a 4.1.6.8 bekezdésben a szelepekre előírt módon kell védeni.

#### **6.2.3.4 Üzembe helyezés előtti vizsgálat**

**6.2.3.4.1** Az új nyomástartó tartályokat a gyártás során és az üzembe helyezés előtt a 6.2.1.5 bekezdés követelményei szerint kell vizsgálni, azzal az eltéréssel, hogy a 6.2.1.5.1 g) pont helyett a következőt kell alkalmazni:

- g) folyadéknomás-próbára. A nyomástartó tartálynak a tartós deformáció és repedések bekövetkezése nélkül el kell viselnie a próbanyomást.

**6.2.3.4.2** Az alumínium-ötvözet nyomástartó tartályokra vonatkozó különleges előírások

- a) A 6.2.1.5.1 pontban előírt vizsgálatokon kívül vizsgálni kell a nyomástartó tartályfal belsejének kristályközi korróziójának lehetőségét, amennyiben réztartalmú alumínium-ötvözetet vagy olyan magnézium- vagy mangántartalmú alumínium-ötvözetet használnak, amelynek magnéziumtartalma meghaladja a 3,5%-ot, vagy mangántartalma 0,5%-nál kevesebb.
- b) Az alumínium-réz ötvözet vizsgálatát a gyártónak az új ötvözetnek az illetékes hatóság részéről történő engedélyezése alkalmával kell végrehajtania, és ezt követően a gyártás során minden öntésnél meg kell ismételni.
- c) Az alumínium-magnézium ötvözet vizsgálatát a gyártónak az új ötvözetnek és a gyártási eljárásnak az illetékes hatóság által történő engedélyezése alkalmával kell végrehajtania. Az ötvözet összetételében vagy a gyártási eljárásban bekövetkezett változás esetén a vizsgálatot meg kell ismételni.

#### **6.2.3.5 Időszakos vizsgálat**

**6.2.3.5.1** Az időszakos vizsgálatokat a 6.2.1.6.1 pont szerint kell végrehajtani.

**Megjegyzés:** A típusjóváhagyást kiadó ország illetékes hatósága hozzájárulása esetén az UN 1965 szénhidrogén-gáz keverék, cseppfolyósított, m.n.n. szállítására szolgáló, 6,5 l-nél kisebb űrtartalmú, hegesztett acélpalackok folyadéknomás-próbája egyenértékű vizsgálati módszerrel helyettesíthető.

**6.2.3.5.2** A zárt mélyhűtő tartályokat az illetékes hatóság által felhatalmazott szervezet által, a 4.1.4.1 bekezdés P203 csomagolási utasítása szerinti gyakorisággal időszakos vizsgálatnak kell alávetni a külső állapot, a nyomáscsökkentő szerkezetek állapota és működése ellenőrzése céljából, valamint a legnagyobb üzemi nyomás 90%-át kitevő nyomással tömörségi próbának kell alávetni. A tömörségi próbát a nyomástartó tartályban levő gázzal vagy inert

gázzal kell végrehajtani. Az ellenőrzés nyomásmérővel vagy vákuum-méréssel végezhető. A hőszigetelést nem kell eltávolítani.

#### **6.2.3.6** *A nyomástartó tartályok engedélyezése*

**6.2.3.6.1** Az 1.8.7 szakasz szerinti megfelelőség-értékelési eljárást és időszakos vizsgálatokat a következő táblázat szerinti illetékes szervezetnek kell végeznie:

Eljárás	Illetékes szervezet
Típusjóváhagyás (1.8.7.2)	Xa
A gyártás felügyelete (1.8.7.3)	Xa vagy IS
Üzembe helyezés előtti vizsgálat (1.8.7.4)	Xa vagy IS
Időszakos vizsgálat (1.8.7.5)	Xa vagy Xb vagy IS

A szelepek és a közvetlen biztonsági funkcióval rendelkező egyéb tartozékok megfelelőség-értékelését a tartálytól függetlenül is el lehet végezni, de a megfelelőség-értékelési eljárásnak legalább olyan szigorúnak kell lennie, mint amelyet a nyomástartó tartályra alkalmaztak, amelyre a tartozékokat szerelik.

Xa illetékes hatóságot, ill. megbízottját vagy az 1.8.6.4 bekezdésnek megfelelő és az EN ISO/IEC 17020:2004 szabvány szerint akkreditált, A típusú vizsgáló szervezetet jelent.

Xb az 1.8.6.4 bekezdésnek megfelelő és az EN ISO/IEC 17020:2004 szabvány szerint akkreditált, B típusú vizsgáló szervezetet jelent.

IS a kérelmezőnek az 1.8.6.4 bekezdésnek megfelelő és az EN ISO/IEC 17020:2004 szabvány szerint akkreditált, A típusú vizsgáló szervezet által felügyelt üzemi vizsgálóhelyét jelenti. Az üzemi vizsgálóhelynek függetlennek kell lennie a tervezési, gyártási, javítási és karbantartási tevékenységektől.

**6.2.3.6.2** Ha a jóváhagyó ország nem valamely COTIF Tagállam vagy valamely ADR Szerződő Fél, akkor a 6.2.1.7.2 pontban említett illetékes hatóság valamely COTIF Tagállam vagy valamely ADR Szerződő Fél illetékes hatósága.

#### **6.2.3.7** *A gyártóra vonatkozó előírások*

**6.2.3.7.1** Az 1.8.7 szakasz vonatkozó követelményeit kell betartani.

#### **6.2.3.8** *A vizsgáló szervezetekre vonatkozó előírások*

Az 1.8.6 szakasz követelményeit kell betartani.

#### **6.2.3.9** *Az újratölthető nyomástartó tartályok jelölése*

**6.2.3.9.1** A jelölésre a 6.2.2.7 bekezdés előírásait kell betartani, a következő eltérésekkel.

**6.2.3.9.2** A 6.2.2.7.1 a) pontban meghatározott, Egyesült Nemzetek jelét nem szabad használni.

**6.2.3.9.3** A 6.2.2.7.2 j) pont helyett a következőt kell alkalmazni:

j) a víztérfogatot literben kifejezve, ami után az „L” mértékegységet is ki kell írni. A cseppfolyósított gázokhoz használt nyomástartó tartályokon a literben kifejezett

víztérfogatot az utolsó jegyre lefelé kerekített három értékes számjegyre kell megadni.  
Ha a legkisebb vagy névleges víztérfogat egész szám, a tizedesvessző utáni számjegyek elhagyhatók.

- 6.2.3.9.4** A 6.2.2.7.2 g) és h) pont, valamint a 6.2.2.7.3 m) pont szerinti jelölés nem szükséges az UN 1965 szénhidrogén-gáz keverék, cseppfolyósított, m.n.n. gázokhoz használt nyomástartó tartályokra.
- 6.2.3.9.5** Ha a 6.2.2.7.6 c) pont szerint kell dátumot feltüntetni, a hónap feltüntetése nem szükséges azoknál a gázoknál, amelyekre a vizsgálati időköz 10 év vagy annál nagyobb (lásd a 4.1.4.1 bekezdés P200 és P203 csomagolási utasítását).
- 6.2.3.9.6** A 6.2.2.7.6 pont szerinti jelölés a palackhoz erősített olyan, alkalmas anyagból készült gallérra is beüthető, amelyet a szelepnek a palackra való felszerelésekor rögzítenek, és amely gallér csak a szelepnek a palackról való leszerelése után távolítható el.
- 6.2.3.10** *A nem újratölthető nyomástartó tartályok jelölése*
- 6.2.3.10.1** A jelölésre a 6.2.2.8 bekezdés előírásait kell betartani, azzal az eltéréssel, hogy a 6.2.2.7.1 a) pontban meghatározott, Egyesült Nemzetek jelét nem szabad használni.

**6.2.4 Szabvány szerint tervezett, gyártott és vizsgált nyomástartó tartályok**

**Megjegyzés:** A szabványokban megnevezett azon személyeknek, ill. szervezeteknek, akikre a RID szerint felelősség hárul, meg kell felelniük a RID követelményeinek.

A következő táblázatban felsorolt szabványokat a nyomástartó tartály gyártási idejétől függően kell alkalmazni a 6.2 fejezetnek a táblázat (3) oszlopában hivatkozott követelményeinek kielégítésére. A szabványokat a (4) oszlop szerinti esetekben kell, ill. az (5) oszlop szerinti esetekben lehet alkalmazni. A 6.2 fejezetnek a táblázat (3) oszlopában hivatkozott követelményei azonban minden esetben elsőbbséget élveznek.

Ha ugyanarra a követelményre több szabvány van kötelezően alkalmazandónak feltüntetve, akkor csak az egyiket kell alkalmazni, de azt teljes egészében, kivéve, ha a következő táblázatban másként van megadva.

Hivatkozás	A dokumentum címe	A vonatkozó bekezdés, ill. pont	Kötelező alkalmazni, ha a nyomástartó tartály gyártási ideje:	Alkalmazható, ha a nyomástartó tartály gyártási ideje:
(1)	(2)	(3)	(4)	(5)
<b>anyagokra</b>				
EN 1797-1:1998	Kriogén tartályok. Gáz és szerkezeti anyag összeférhetősége	6.2.1.2		2001. júl. 1. és 2003. jún. 30. között
EN 1797:2001	Kriogén tartályok. Gáz és szerkezeti anyag összeférhetősége	6.2.1.2	2009. jan. 1-től	2009. jan. 1. előtt
EN ISO 11114-1:1997	Szállítható gázpalackok. Gázpalack és palackszelep szerkezeti anyagainak megfelelése a gáztöltetnek. 1. rész: Fémek	6.2.1.2	2009. jan. 1-től	2009. jan. 1. előtt
EN ISO 11114-2:2000	Szállítható gázpalackok. Gázpalack és palackszelep szerkezeti anyagainak megfelelése a gáztöltetnek. 2. rész: Nemfémes anyagok	6.2.1.2	2009. jan. 1-től	2009. jan. 1. előtt
EN ISO 11114-4:2005 (az 5.3 fejezet C módszer kivételével)	Szállítható gázpalackok. A palack- és a szelepanyagok összeférhetősége a gáztartalommal. 4. rész: A hidrogénridegedésnek ellenálló féanyagok kiválasztásának vizsgálati módszerei	6.2.1.2	2009. jan. 1-től	2009. jan. 1. előtt
EN 1252-1:1998	Kriogén tartályok. Alapanyagok. 1. rész: Szívóssági követelmények -80 °C-nál kisebb hőmérsékletekhez	6.2.1.2		2001. júl. 1. és 2003. jún. 30. között
<b>jelölésre</b>				
EN 1442:1998 + AC:1999	Szállítható, újratölthető hegesztett acélpalackok cseppfolyósított szénhidrogéngázhoz (LPG-hez). Tervezés és szerkezeti kialakítás	6.2.2.7		2003. júl. 1. előtt
EN 1251-1:2000	Kriogén tartályok. Szállítható, vákuumszigetelésű, legfeljebb 1000 l űrtartalmú tartályok. 1. rész: Alapvető követelmények	6.2.2.7		2003. júl. 1. előtt
EN 1089-1:1996	Szállítható gázpalackok. A gázpalackok megjelölése (az LPG kivételével). 1. rész: Bélyegző jel	6.2.2.7		2003. júl. 1. előtt
<b>tervezésre és gyártásra</b>				
84/525/EGK Irányelv, I Melléklet, 1-3. rész	A Tanács irányelve a tagállamok varrat nélküli acél gázpalackokra vonatkozó jogszabályainak közelítéséről, megjelent: EK Hivatalos Lap, L300, 1984. 11. 19.	6.2.3.1 és 6.2.3.4	2009. jan. 1-től	2009. jan. 1. előtt

Hivatkozás	A dokumentum címe	A vonatkozó bekezdés, ill. pont	Kötelező alkalmazni, ha a nyomástartó tartály gyártási ideje:	Alkalmazható, ha a nyomástartó tartály gyártási ideje:
(1)	(2)	(3)	(4)	(5)
84/526/EGK Irányelv, I Melléklet, 1-3. rész	A Tanács irányelve a tagállamok varrat nélküli, ötvözetlen alumíniumból és alumínium-ötvözetből készült gázpalackokra vonatkozó jogszabályainak közelítéséről, megjelent: EK Hivatalos Lap, L300, 1984. 11. 19.	6.2.3.1 és 6.2.3.4	2009. jan. 1-től	2009. jan. 1. előtt
84/527/EGK Irányelv, I Melléklet, 1-3. rész	A Tanács irányelve a tagállamok hegesztett, ötvözetlen acél gázpalackokra vonatkozó jogszabályainak közelítéséről, megjelent: EK Hivatalos Lap, L300, 1984. 11. 19.	6.2.3.1 és 6.2.3.4	2009. jan. 1-től	2009. jan. 1. előtt
EN 1442:1998 + AC: 1999	Szállítható, újratölthető hegesztett acélpalackok cseppfolyósított szénhidrogéngázhoz (LPG-hez). Tervezés és szerkezeti kialakítás	6.2.3.1 és 6.2.3.4		2001. júl. 1. és 2007. jún. 30. között
EN 1442:1998 + A2:2005	Szállítható, újratölthető hegesztett acélpalackok cseppfolyósított szénhidrogéngázhoz (LPG-hez). Tervezés és szerkezeti kialakítás	6.2.3.1 és 6.2.3.4	2009. jan. 1. és 2010. dec. 31. között*	2009. jan. 1. előtt
* Kivéve, ha ugyanarra a célra másik szabvány alkalmazása engedélyezett az (5) oszlopban az ugyanakkor gyártott nyomástartó tartályokra.				
EN 1442:2006 + A1:2008	Szállítható, újratölthető hegesztett acélpalackok cseppfolyósított szénhidrogéngázhoz (LPG-hez). Tervezés és szerkezeti kialakítás	6.2.3.1 és 6.2.3.4	2011. jan. 1-től	2011. jan. 1. előtt
EN 1800:1998 + AC: 1999	Szállítható gázpalackok. Acetilén-palackok. Alapkövetelmények és fogalommeghatározások	6.2.1.1.9	2009. jan. 1. és 2010. dec. 31. között*	2009. jan. 1. előtt
* Kivéve, ha ugyanarra a célra másik szabvány alkalmazása engedélyezett az (5) oszlopban az ugyanakkor gyártott nyomástartó tartályokra.				
EN 1800:2006	Szállítható gázpalackok. Acetilén-palackok. Alapkövetelmények, fogalommeghatározások és típusvizsgálat	6.2.1.1.9	2011. jan. 1-től	2011. jan. 1. előtt
EN 1964-1:1999	Szállítható gázpalackok. Legalább 0,5 l, de legfeljebb 150 l űrtartalmú, újratölthető, szállítható, varrat nélküli, acél gázpalackok tervezési és szerkezeti előírásai. 1. rész: 1100 MPa-nál kisebb $R_m$ értékű acélból készült, varrat nélküli palackok	6.2.3.1 és 6.2.3.4	2009. jan. 1-től	2009. jan. 1. előtt

Hivatkozás	A dokumentum címe	A vonatkozó bekezdés, ill. pont	Kötelező alkalmazni, ha a nyomástartó tartály gyártási ideje:	Alkalmazható, ha a nyomástartó tartály gyártási ideje:
(1)	(2)	(3)	(4)	(5)
EN 1975:1999 (a 6. melléklet kivételével)	Szállítható gázpalackok. Alumíniumból és alumínium-ötvözetből készült, varrat nélküli, legalább a 0,5 l és legfeljebb 150 l űrtartalmú, újratölthető, szállítható gázpalackok tervezési és szerkezeti előírásai	6.2.3.1 és 6.2.3.4		2005. júl. 1. előtt
EN 1975:1999 +A1:2003	Szállítható gázpalackok. Alumíniumból és alumínium-ötvözetből készült, varrat nélküli, legalább a 0,5 l és legfeljebb 150 l űrtartalmú, újratölthető, szállítható gázpalackok tervezési és szerkezeti előírásai	6.2.3.1 és 6.2.3.4	2009. jan. 1-től	2009. jan. 1. előtt
EN ISO 11120:1999	Gázpalackok. A 150 l – 3000 l űrtartalmú, újratölthető, varrat nélküli acélpalackok sűrített gáz szállítására. Kialakítás, kivitelezés és vizsgálat	6.2.3.1 és 6.2.3.4	2009. jan. 1-től	2009. jan. 1. előtt
EN 1964-3:2000	Szállítható gázpalackok. Legalább 0,5 l, de legfeljebb 150 l űrtartalmú, újratölthető, szállítható, varrat nélküli, acél gázpalackok tervezési és szerkezeti előírásai.  3. Rész: 1100 MPa-nál kisebb $R_m$ értékű korrózióálló acélból készült varrat nélküli palackok	6.2.3.1 és 6.2.3.4	2009. jan. 1-től	2009. jan. 1. előtt
EN 12862:2000	Szállítható gázpalackok. Újratölthető, szállítható, alumínium ötvözetből készült, hegesztett gázpalackok tervezési és szerkezeti előírásai	6.2.3.1 és 6.2.3.4	2009. jan. 1-től	2009. jan. 1. előtt
EN 1251-2:2000	Kriogén tartályok. Szállítható, vákuumszigetelésű, legfeljebb 1000 l űrtartalmú tartályok. 2. rész: Tervezés, gyártás, ellenőrzés és vizsgálat	6.2.3.1 és 6.2.3.4	2009. jan. 1-től	2009. jan. 1. előtt
EN 12257:2002	Szállítható gázpalackok. Palástfelületen erősített, varrat nélküli kompozitpalackok	6.2.3.1 és 6.2.3.4	2009. jan. 1-től	2009. jan. 1. előtt
EN 12807:2001 (az A melléklet kivételével)	Szállítható, újratölthető, forrasztott acél gázpalackok cseppfolyósított szénhidrogéngázhoz (LPG-hez). Tervezés és szerkezeti kialakítás	6.2.3.1 és 6.2.3.4	2009. jan. 1-től	2009. jan. 1. előtt

Hivatkozás	A dokumentum címe	A vonatkozó bekezdés, ill. pont	Kötelező alkalmazni, ha a nyomástartó tartály gyártási ideje:	Alkalmazható, ha a nyomástartó tartály gyártási ideje:
(1)	(2)	(3)	(4)	(5)
EN 1964-2:2001	Szállítható gázpalackok. Legalább 0,5 l, de legfeljebb 150 l űrtartalmú, újratölthető, szállítható, varrat nélküli, acél gázpalackok tervezési és szerkezeti előírásai. 2. Rész: Legalább 1100 MPa $R_m$ értékű acélból készült, varrat nélküli palackok	6.2.3.1 és 6.2.3.4	2009. jan. 1-től	2009. jan. 1. előtt
EN 13293:2002	Szállítható gázpalackok. Szállítható, újratölthető, varrat nélküli, mangántartalmú normalizált szénacélból készült gázpalackok tervezési és szerkezeti előírásai sűrített, cseppfolyósított és oldott gázokhoz legfeljebb 0,5 l, illetve szén-dioxid gázhoz legfeljebb 1 l űrtartalomig	6.2.3.1 és 6.2.3.4	2009. jan. 1-től	2009. jan. 1. előtt
EN 13322-1:2003	Szállítható gázpalackok. Újratölthető, hegesztett acélpalackok. Tervezés és szerkezeti kialakítás. 1. rész: Ötvözetlen acél	6.2.3.1 és 6.2.3.4		2007. júl. 1. előtt
EN 13322-1:2003 + A1:2006	Szállítható gázpalackok. Újratölthető, hegesztett acélpalackok. Tervezés és szerkezeti kialakítás. 1. rész: Ötvözetlen acél	6.2.3.1 és 6.2.3.4	2009. jan. 1-től	2009. jan. 1. előtt
EN 13322-2:2003	Szállítható gázpalackok. Újratölthető, hegesztett acélpalackok. Tervezés és szerkezeti kialakítás. 2. rész: Korrózióálló acél	6.2.3.1 és 6.2.3.4		2007. júl. 1. előtt
EN 13322-2:2003 + A1:2006	Szállítható gázpalackok. Újratölthető, hegesztett acélpalackok. Tervezés és szerkezeti kialakítás. 2. rész: Korrózióálló acél	6.2.3.1 és 6.2.3.4	2009. jan. 1-től	2009. jan. 1. előtt
EN 12245:2002	Szállítható gázpalackok. Teljes felületen erősített kompozitpalackok	6.2.3.1 és 6.2.3.4	2009. jan. 1-től	2009. jan. 1. előtt
EN 12205:2001	Szállítható gázpalackok. Nem újratölthető, fém gázpalackok	6.2.3.1 és 6.2.3.4	2009. jan. 1-től	2009. jan. 1. előtt
EN 13110:2002	Szállítható, újratölthető, hegesztett alumíniumpalackok cseppfolyósított szénhidrogéngázokhoz (LPG-hez). Tervezés és szerkezeti kialakítás	6.2.3.1, 6.2.3.4 és 6.2.3.9	2009. jan. 1-től	2009. jan. 1. előtt



Hivatkozás	A dokumentum címe	A vonatkozó bekezdés, ill. pont	Kötelező alkalmazni, ha a nyomástartó tartály gyártási ideje:	Alkalmazható, ha a nyomástartó tartály gyártási ideje:
(1)	(2)	(3)	(4)	(5)
EN 14427:2004	Szállítható, újratölthető, teljes felületen erősített kompozitpalackok cseppfolyósított szénhidrogén-gázokhoz (LPG-hez). Tervezés és szerkezeti kialakítás <i><b>Megjegyzés:</b> Ezt a szabványt csak a nyomáscsökkentő szeleppel ellátott palackokra kell alkalmazni.</i>	6.2.3.1, 6.2.3.4 és 6.2.3.9		2007. júl. 1. előtt
EN 14427:2004 + A1:2005	Szállítható, újratölthető, teljes felületen erősített kompozitpalackok cseppfolyósított szénhidrogén-gázokhoz (LPG-hez). Tervezés és szerkezeti kialakítás <i><b>Megjegyzés:</b></i> <i>1. Ezt a szabványt csak a nyomáscsökkentő szeleppel ellátott palackokra kell alkalmazni.</i> <i>2. Az 5.2.9.2.1 és 5.2.9.3.1 pontban mindkét palackot alá kell vetni repesztési próbának, ha a keletkezett sérülés legalább akkora, mint a kizárási feltétel.</i>	6.2.3.1, 6.2.3.4 és 6.2.3.9	2009. jan. 1-től	2009. jan. 1. előtt
EN 14208:2004	Szállítható gázipalackok. Legfeljebb 1000 l űrtartalmú, hegesztett, nyomástartó, gázszállító hordók előírásai. Tervezés és szerkezeti kialakítás	6.2.3.1, 6.2.3.4 és 6.2.3.9	2009. jan. 1-től	2009. jan. 1. előtt
EN 14140:2003	Szállítható, újratölthető, hegesztett acélpalackok cseppfolyósított szénhidrogén-gázokhoz (LPG-hez). Választható tervezés és szerkezeti kialakítás	6.2.3.1, 6.2.3.4 és 6.2.3.9	2009. jan. 1. és 2010. dec. 31. között*	2009. jan. 1. előtt
* Kivéve, ha ugyanarra a célra másik szabvány alkalmazása engedélyezett az (5) oszlopban az ugyanakkor gyártott nyomástartó tartályokra.				
EN 14140:2003 + A1:2006	LPG-berendezések és -tartozékok. Szállítható, újratölthető, hegesztett acélpalackok cseppfolyósított szénhidrogén-gázokhoz (LPG-hez). Választható tervezés és szerkezeti kialakítás	6.2.3.1, 6.2.3.4 és 6.2.3.9	2011. jan. 1-től	2011. jan. 1. előtt
EN 13769:2003	Szállítható gázipalackok. Palackkötegek. Tervezés, gyártás, azonosítás és vizsgálat	6.2.3.1, 6.2.3.4 és 6.2.3.9		2007. júl. 1. előtt

Hivatkozás	A dokumentum címe	A vonatkozó bekezdés, ill. pont	Kötelező alkalmazni, ha a nyomástartó tartály gyártási ideje:	Alkalmazható, ha a nyomástartó tartály gyártási ideje:
(1)	(2)	(3)	(4)	(5)
EN 13769: 2003 + A1:2005	Szállítható gázpalackok. Palackkötegek. Tervezés, gyártás, azonosítás és vizsgálat	6.2.3.1, 6.2.3.4 és 6.2.3.9	2009. jan. 1-től	2009. jan. 1. előtt
EN 14638-1:2006	Szállítható gázpalackok. Legfeljebb 150 l űrtartalmú, újratölthető, hegesztett gyűjtőedények. 1. rész: Kísérleti módszerekkel igazolt tervezés szerint készült, hegesztett, ausztenites rozsdamentes acélpalackok	6.2.3.1 és 6.2.3.4	2011. jan. 1-től	2011. jan. 1. előtt
EN 14893: 2006 + AC:2007	LPG-berendezések és -tartozékok. 150 l és 1000 l közötti űrtartalmú, szállítható, hegesztett nyomástartó acélhordók cseppfolyósított szénhidrogéngázhoz (LPG-hez)	6.2.3.1 és 6.2.3.4	2011. jan. 1-től	2011. jan. 1. előtt
<b>zárószervezetekre</b>				
EN 849:1996 (az A melléklet kivételével)	Szállítható gázpalackok. Palackszelepek. Műszaki követelmény és típusvizsgálat	6.2.3.1		2003. júl. 1. előtt
EN 849:1996 + A2:2001	Szállítható gázpalackok. Palackszelepek. Műszaki követelmény és típusvizsgálat	6.2.3.1		2007. júl. 1. előtt
EN ISO 10297: 2006	Szállítható gázpalackok. Palackszelepek. Műszaki követelmény és típusvizsgálat	6.2.3.1	2009. jan. 1-től	2009. jan. 1. előtt
EN 13152: 2001	Cseppfolyósított szénhidrogéngáz palackja szelepének előírásai és vizsgálata. Önelzáró szelepek	6.2.3.3		2005. júl. 1. és 2010. dec. 31. között
EN 13152: 2001 + A1:2003	Cseppfolyósított szénhidrogéngáz palackja szelepének előírásai és vizsgálata. Önelzáró szelepek	6.2.3.3	2011. jan. 1-től	2011. jan. 1. előtt
EN 13153: 2001	Cseppfolyósított szénhidrogéngáz palackja szelepének előírásai és vizsgálata. Kézi működtetésű szelepek	6.2.3.3		2005. júl. 1. és 2010. dec. 31. között
EN 13153: 2001 + A1:2003	Cseppfolyósított szénhidrogéngáz palackja szelepének előírásai és vizsgálata. Kézi működtetésű szelepek	6.2.3.3	2011. jan. 1-től	2011. jan. 1. előtt
<b>időszakos vizsgálatra</b>				
EN 1251-3:2000	Kriogén tartályok. Szállítható, vákuumszigetelésű, legfeljebb 1000 l űrtartalmú tartályok. 3. rész: Üzemeltetési követelmények	6.2.3.5	2009. jan. 1-től	2009. jan. 1. előtt

Hivatkozás	A dokumentum címe	A vonatkozó bekezdés, ill. pont	Kötelező alkalmazni, ha a nyomástartó tartály gyártási ideje:	Alkalmazható, ha a nyomástartó tartály gyártási ideje:
(1)	(2)	(3)	(4)	(5)
EN 1968:2002 (a B melléklet kivételével)	Szállítható gázpalackok. Acélból készült, varrat nélküli gázpalackok időszakos ellenőrzése és vizsgálata	6.2.3.5		2007. júl. 1. előtt
EN 1968:2002 + A1:2005 (a B melléklet kivételével)	Szállítható gázpalackok. Acélból készült, varrat nélküli gázpalackok időszakos ellenőrzése és vizsgálata	6.2.3.5	2009. jan. 1-től	2009. jan. 1. előtt
EN 1802:2002 (a B melléklet kivételével)	Szállítható gázpalackok. Alumíniumötvözetből készült, varrat nélküli gázpalackok időszakos ellenőrzése és vizsgálata	6.2.3.5	2009. jan. 1-től	2009. jan. 1. előtt
EN 12863:2002	Szállítható gázpalackok. Oldott acetilén-palack időszakos felülvizsgálata és karbantartása <i>Megjegyzés: Ebben a szabványban az „üzembe helyezés előtti vizsgálaton” egy új acetilén palack végső jóváhagyását követő első időszakos vizsgálatát kell érteni</i>	6.2.3.5		2007. júl. 1. előtt
EN 12863:2002 + A1:2005	Szállítható gázpalackok. Oldott acetilén-palack időszakos felülvizsgálata és karbantartása <i>Megjegyzés: Ebben a szabványban az „üzembe helyezés előtti vizsgálaton” egy új acetilén palack végső jóváhagyását követő első időszakos vizsgálatát kell érteni.</i>	6.2.3.5	2009. jan. 1-től	2009. jan. 1. előtt
EN 1803:2002 (a B melléklet kivételével)	Szállítható gázpalackok. Ötvözetlen acélból készült, hegesztett gázpalackok időszakos ellenőrzése és vizsgálata	6.2.3.5	2009. jan. 1-től	2009. jan. 1. előtt
EN ISO 11623:2002 (a 4. cikk kivételével)	Szállítható gázpalackok. Kompozitpalackok időszakos ellenőrzése és vizsgálata	6.2.3.5	2009. jan. 1-től	2009. jan. 1. előtt
EN 14189:2003	Szállítható gázpalackok. Palackszelepek felülvizsgálata és karbantartása gázpalackok időszakos felülvizsgálatakor	6.2.3.5	2009. jan. 1-től	2009. jan. 1. előtt
EN 14876:2007	Szállítható gázpalackok. Hegesztett, nyomástartó acélhordók időszakos ellenőrzése és vizsgálata	6.2.3.5	2011. jan. 1-től	2011. jan. 1. előtt
EN 14912:2005	LPG-berendezések és -tartozékok. Az LPG-palackszelepek ellenőrzése és karbantartása a palackok időszakos ellenőrzésekor	6.2.3.5	2011. jan. 1-től	2011. jan. 1. előtt

#### 6.2.5 Nem szabvány szerint tervezett, gyártott és vizsgált nyomástartó tartályokra vonatkozó követelmények

Az illetékes hatóság elismerhet olyan, azonos biztonsági szintet eredményező műszaki szabályzatot, amely célja a tudományos és műszaki haladás követése, vagy amely olyan szakterületre vonatkozik, amelyre a 6.2.2, ill. a 6.2.4 szakaszban nem szerepel szabvány, ill. olyan részterületet érint, amellyel a 6.2.2, ill. a 6.2.4 szakaszban szereplő szabvány nem foglalkozik.

Az elismert szabályzatok jegyzékét az illetékes hatóságnak meg kell küldenie az OTIF Titkárságának. A jegyzéknek tartalmaznia kell szabályzat(ok) címét, dátumát, tárgyát és elérhetőségének részleteit. A Titkárság a jegyzékeket a honlapján nyilvánosságra hozza.

A 6.2.1 és a 6.2.3 szakasz követelményeit és a következő követelményeket azonban ki kell elégíteni.

**Megjegyzés :** *E szakasz vonatkozásában a 6.2.1 szakaszban hivatkozott műszaki szabvány alatt a műszaki szabályzat értendő.*

##### 6.2.5.1 Szerkezeti anyagok

A következő előírásokban példák találhatók a felhasználható anyagokra, amelyek kielégítik a 6.2.1.2 bekezdés szerkezeti anyagokra vonatkozó követelményeit:

- a) szénacél a sűrített, a cseppfolyósított, a mélyhűtött, cseppfolyósított gázokhoz, az oldott gázokhoz, valamint a nem a 2 osztályba tartozó anyagokhoz, amelyeket a 4.1.4.1 bekezdés P200 csomagolási utasítás 3 táblázata sorol fel;
- b) ötvöztött acél (különleges acél), nikkel és nikkelötvözet (pl. monel) a sűrített, a cseppfolyósított, a mélyhűtött, cseppfolyósított gázokhoz, az oldott gázokhoz, valamint a nem a 2 osztályba tartozó anyagokhoz, amelyeket a 4.1.4.1 bekezdés P200 csomagolási utasítás 3 táblázata sorol fel;
- c) réz:
  - i) az 1A, az 1O, az 1F és az 1TF osztályozási kód alá tartozó gázokhoz, ha töltési nyomásuk 15 °C-ra vonatkoztatva nem haladja meg a 2 MPa-t (20 bar-t);
  - ii) a 2A osztályozási kód gázaihoz és ezenkívül az UN 1033 dimetil-éterhez, az UN 1037 etil-kloridhoz, az UN 1063 metil-kloridhoz, az UN 1079 kén-dioxidhoz, az UN 1085 vinil-bromidhoz, az UN 1086 vinil-kloridhoz, valamint az UN 3300 etilén-oxid és szén-dioxid keverékhez 87%-nál nagyobb etilén-oxid tartalommal;
  - iii) a 3A, a 3O és a 3F osztályozási kód alá tartozó gázokhoz;
- d) alumíniumötvözet: lásd a 4.1.4.1 bekezdésben a P200 csomagolási utasítás 10) bekezdésének „a” különleges előírását;
- e) kompozit anyagok a sűrített, a cseppfolyósított, a mélyhűtött, cseppfolyósított gázokhoz, valamint az oldott gázokhoz;
- f) műanyagok a mélyhűtött, cseppfolyósított gázokhoz; és
- g) üveg a 3A osztályozási kód gázaihoz, az UN 2187 szén-dioxid, mélyhűtött, cseppfolyósított, ill. szén-dioxid keverékek, mélyhűtött, cseppfolyósított gázok kivételével, valamint a 3O osztályozási kód gázaihoz.

##### 6.2.5.2 Üzemi szerelvények

(fenntartva)

### 6.2.5.3 *Fémről készült palackok, nagypalackok, gázhordók és palackkötegek*

A próbanyomás hatására a fémbe keletkező feszültség a tartály leginkább igénybe vett helyén nem haladhatja meg az  $R_e$  szavatolt legkisebb folyáshatár 77%-át.

Folyáshatáron azt a feszültséget kell érteni, amelynek hatására a próbatest mérési jelei között 2 ezrelékes (0,2%-os), illetve ausztenites acélokban 1%-os maradó nyúlás jön létre.

**Megjegyzés:** A fémlemezről készült szakítópróbatest tengelyének merőlegesnek kell lennie a hengerlés irányára. A szakadási nyúlás méréséhez olyan kör keresztmetszetű szakítópálcát kell használni, amelyen a két jel közötti „l” távolság a „d” átmérő ötszöröse ( $l = 5d$ ). Négyzet keresztmetszetű szakítópálca esetén a jelek közötti távolságot a következő képlettel kell számítani:  

$$l = 5,65 \sqrt{F_0}$$
, ahol  $F_0$  a szakítópálca eredeti keresztmetszeti területe.

A nyomástartó tartályokat és zárószerveket olyan alkalmas anyagból kell gyártani, amely  $-20\text{ °C}$  és  $+50\text{ °C}$  között ellenáll a ridegtörésnek és a feszültség alatti korróziós repedésnek.

A hegesztéseket szakszerűen kell elkészíteni, és teljesen biztonságosnak kell lenniük.

### 6.2.5.4 *Kiegészítő előírások azokra az alumíniumötvözet nyomástartó tartályokra, amelyeket sűrített gázokhoz, cseppfolyósított gázokhoz, oldott gázokhoz, gázmintákhoz (olyan túlnyomás nélküli gázokhoz, amelyekre különleges előírások érvényesek), valamint (az aeroszolok és a gázpatronok kivételével) a túlnyomás alatti gázt tartalmazó tárgyakhoz használnak*

#### 6.2.5.4.1 Az alumíniumötvözetből készült nyomástartó tartályok anyagának az alábbi követelményeknek kell megfelelnie:

	A	B	C	D
Szakítószilárdság, $R_m$ , MPa (N/mm <sup>2</sup> )	49 – 186	196 – 372	196 – 372	343 – 490
Folyáshatár, $R_e$ , MPa (N/mm <sup>2</sup> ) ( $l = 0,2\%$ maradandó nyúlásnál)	10 – 167	59 – 314	137 – 334	206 – 412
Szakadási nyúlás ( $l = 5d$ ) %-ban	12 – 40	12 – 30	12 – 30	11 – 16
Hajlítási próba (a hajlítótüske átmérője $d = n \cdot e$ , ahol $e$ a mintalemez vastagsága)	$n=5$ ( $R_m \leq 98$ ) $n=6$ ( $R_m > 98$ )	$n=6$ ( $R_m \leq 325$ ) $n=7$ ( $R_m > 325$ )	$n=6$ ( $R_m \leq 325$ ) $n=7$ ( $R_m > 325$ )	$n=7$ ( $R_m \leq 392$ ) $n=8$ ( $R_m > 392$ )
Aluminium Association sorozatszám <sup>a)</sup>	1 000	5 000	6 000	2 000

a) Lásd az „Aluminium Standards and Data” 5. kiadását, 1976. január, közzétette az Aluminium Association, 750, 3<sup>rd</sup> Avenue, New York.

A tényleges tulajdonságok az adott ötvözet összetételétől és a nyomástartó tartály végleges megmunkálásától függenek, azonban bármilyen ötvözetet is használjanak, a falvastagságot a következő képletek egyikével kell kiszámítani:

$$e = \frac{P_{MPa} D}{\frac{2R_e}{1,3} + P_{MPa}} \text{ vagy } e = \frac{P_{bar} D}{\frac{20R_e}{1,3} + P_{bar}}$$

ahol

$e$  = nyomástartó tartály legkisebb falvastagsága, mm;

$P_{MPa}$  = a próbanyomás, MPa;

$P_{bar}$  = a próbanyomás, bar;

$D$  = a tartály névleges külső átmérője, mm;

$R_e$  = a szavatolt minimális folyáshatár, MPa (= N/mm<sup>2</sup>) 0,2%-os maradó nyúlásnál.

Az előző képletekben szereplő szavatolt minimális folyáshatár ( $R_e$ ) nem lehet nagyobb, mint a szavatolt minimális szakítószilárdság ( $R_m$ ) 0,85-szorosa bármilyen alumíniumötvözet esetén.

**Megjegyzés: 1.** A táblázatban felsorolt minőségi adatok azokon a tapasztalatokon alapulnak, amelyeket eddig a nyomástartó tartályok gyártásához használt következő anyagokkal szereztek:

A oszlop: nem ötvözött, 99,5% tisztaságú alumínium;

B oszlop: alumínium- és magnéziumötvözetek;

C oszlop: alumínium-szilícium-magnézium ötvözetek, pl.: ISO/  
R209-Al-Si-Mg (Aluminium Association 6351)

D oszlop: alumínium-réz-magnézium ötvözetek.

2. A szakadási nyúlást kör keresztmetszetű szakítópálcán mérik, amelyen a két jel közötti „l” távolság a „d” átmérő ötszöröse ( $l=5d$ ). Négyzetű keresztmetszetű szakítópálcák esetén a jelek közötti távolságot a következő képlettel kell kiszámítani:  $l = 5,65\sqrt{F_0}$

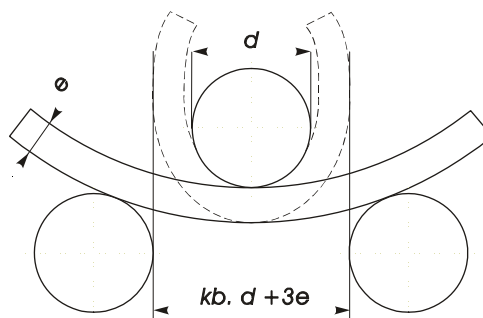
ahol  $F_0$  a szakítópálca kezdeti keresztmetszete.

3. a) A hajlítási próbát (lásd az ábrát) olyan próbatesteken kell végrehajtani, amelyeket a palástból két egyforma  $3e$ , de legalább 25 mm széles körgyűrű kivágásával nyernek. A próbatesteknek csak a széleken szabad megmunkáltaknak lenniük.

b) A hajlítási próbát egy  $d$  átmérőjű tüskével és két támasztó hengerrel kell végrehajtani, amelyek egymástól  $d+3e$  távolságra vannak. A próba során a belső felületeknek nem szabad egymástól nagyobb távolságra eltávolodni, mint a tüske átmérője.

c) A próbatesteken nem szabad repedéseknek mutatkozniuk, ha a tüske körül egészen addig behajlanak, ameddig a belső felületük közti távolság nem haladja meg a tüske átmérőjét.

d) A tüske átmérője és a próbatest vastagsága közötti  $n$  aránynak meg kell felelnie a táblázatban meghatározott értéknek.



A hajlítási próba vázlatja

**6.2.5.4.2** Kisebb minimális nyúlásérték azzal a feltétellel engedhető meg, hogy olyan kiegészítő vizsgálati eljárással, amelyet a nyomástartó tartály gyártási országának illetékes hatósága engedélyez, bizonyítják, hogy a tartály a szállítás tekintetében ugyanazt a biztonságot nyújtja, mint azok a tartályok, amelyeket 6.2.5.4.1 pont táblázatának értékei szerint gyártottak (lásd az EN 1975:1999 +A1:2003 szabványt is).

**6.2.5.4.3** A nyomástartó tartályok falának a legvékonyabb részen a következő vastagságúnak kell lennie:

- legalább 1,5 mm, ha a nyomástartó tartály átmérője 50 mm-nél kisebb;
- legalább 2 mm, ha a nyomástartó tartály átmérője 50 mm és 150 mm között van;
- legalább 3 mm, ha a nyomástartó tartály átmérője 150 mm-nél nagyobb.

**6.2.5.4.4** A tartályfenékek keresztmetszetének félkör, ellipszis vagy kosárv alakúnak kell lennie, és a nyomástartó tartály palástjával azonos biztonságot kell nyújtania.

#### **6.2.5.5** *Kompozit nyomástartó tartályok*

A kompozit palackoknál, nagypalackoknál, gázhordóknál és kompozit anyagok felhasználásával készült palackkötegeknél a kialakításnak olyannak kell lennie, hogy a repesztő- és próbanyomás hányadosa legalább a következő legyen:

- köpenyrészen bevont nyomástartó tartályoknál 1,67;
- a teljes felületen bevont nyomástartó tartályoknál 2,00.

#### **6.2.5.6** *Zárt mélyhűtő tartályok*

A mélyhűtött, cseppfolyósított gázokhoz használt zárt mélyhűtő tartályok kialakítására a következő követelményeket kell alkalmazni:

**6.2.5.6.1** Nemfém anyagok használata esetén a nyomástartó tartálynak és szerelvényeinek a legkisebb üzemi hőmérsékleten a ridegtöréssel szemben ellenállónak kell lennie.

**6.2.5.6.2** A nyomáscsökkentő szerkezeteket úgy kell kialakítani, hogy még a legkisebb üzemi hőmérsékleten is kifogástalanul működjenek. Az ilyen hőmérsékleten való megbízható működést vagy minden egyes szerkezeten, vagy ugyanilyen típusú szerkezetekből vett mintán végzett próbával kell megállapítani, ill. ellenőrizni.

**6.2.5.6.3** A nyomástartó tartályok nyílásait és nyomáscsökkentő szerkezeteit úgy kell kialakítani, hogy azok a folyadék kifröccsenését megakadályozzák.

### **6.2.6** *Az aeroszolonokra, a gázzal töltött kisméretű tartályokra (gázpatronokra) és a gyúlékony cseppfolyósított gázt tartalmazó üzemanyagcella kazettákra vonatkozó általános követelmények*

#### **6.2.6.1** *Tervezés és gyártás*

**6.2.6.1.1** A csak egyféle gázt vagy gázkeveréket tartalmazó UN 1950 aeroszolonokat, valamint UN 2037 gázzal töltött kisméretű tartályokat (gázpatronokat) fémből kell gyártani. Ezt a követelményt nem kell alkalmazni az UN 1011 butánt tartalmazó aeroszolonokra és gázzal töltött kisméretű tartályokra (gázpatronokra) 100 ml úrtartalomig. Az UN 1950 számú egyéb aeroszolonokat fémből, műanyagból vagy üvegből kell gyártani. A legalább 40 mm külső átmérőjű fémtartályok fenekének homorúnak kell lennie.



- 6.2.6.1.2** A fémtartályok űrtartalma 1000 ml-nél, a műanyag és üvegtartályoké 500 ml-nél nagyobb nem lehet.
- 6.2.6.1.3** Minden tartálymintadarabot (aeroszokat és gázpatronokat) üzembe helyezés előtt a 6.2.6.2 bekezdés szerinti folyadéknomás-próbának kell alávetni.
- 6.2.6.1.4** Az UN 1950 aeroszok kibocsátószelepeinek és porlasztószerkezetének és az UN 2037 gázpatronok szelepeinek olyannak kell lennie, hogy a tartályok tömör zárását és véletlen kinyílása elleni védelmét biztosítsa. Olyan szelepek és porlasztószerkezetek, amelyek csak belső nyomásra zárnak, nem alkalmazhatók.
- 6.2.6.1.5** A belső nyomás 50 °C-on nem haladhatja meg sem a próbanyomás kétharmadát, sem az - 1,32 MPa-t (13,2 bar-t). Az aeroszokat és a kisméretű gáztartályokat (gázpatronokat) úgy kell megöltetni, hogy a folyadék fázis 50 °C-on ne haladja meg űrtartalmuk 95%-át.
- 6.2.6.2** *Folyadéknomás-próba*
- 6.2.6.2.1** A próba során alkalmazott belső nyomásnak (próbanyomásnak) az 50 °C-on fennálló belső nyomás 1,5 szeresének, de legalább 1 MPa-nak (10 bar-nak) kell lennie.
- 6.2.6.2.2** A folyadéknomás-próbát minden tartálytípusból legalább öt üres tartályon el kell végezni:
- a) az előírt próbanyomásig, amely mellett semmiféle szivárgásnak vagy maradandó alakváltozásnak nem szabad fellépnie;
  - b) szivárgás vagy szétrepedés bekövetkeztéig; amennyiben a tartály fenéke homorú, annak kell először engednie (kidomborodnia), és a tartály csak akkor szivároghat vagy repedhet szét, ha a nyomás eléri vagy meghaladja a próbanyomás 1,2-szeresét.
- 6.2.6.3** *Tömörégi (szivárgásmentességi) próba*
- 6.2.6.3.1** *Gázzal töltött kisméretű tartályok (gázpatronok) és gyúlékony cseppfolyósított gázt tartalmazó üzemanyagcella kazetták*
- 6.2.6.3.1.1** Minden tartálynak, ill. üzemanyagcella kazettának ki kell állnia a forró vizes fürdőben végzett tömörégi (szivárgás-mentességi) próbát.
- 6.2.6.3.1.2** A fürdő hőmérsékletét és a próba időtartamát úgy kell megválasztani, hogy az egyes tartályok, ill. üzemanyagcella kazetták belsejében fellépő nyomás legalább 90 %-át elérje annak a nyomásnak, amely 55 °C hőmérsékleten kialakulna. Ha azonban a tartalom hőre érzékeny, vagy a tartály, ill. üzemanyagcella kazetta olyan műanyagból készült, amely az ily módon végrehajtott próba hőmérsékleténél meglágyulna, akkor a vizsgálatot 20...30 °C hőmérsékletű fürdőben kell végrehajtani. Ezenfelül minden 2000 darab közül egy darabon a vizsgálatot 55 °C-on kell végezni.
- 6.2.6.3.1.3** A vizsgálat során a tartályon, ill. üzemanyagcella kazettán semmiféle szivárgásnak vagy maradandó alakváltozásnak nem szabad bekövetkeznie, kivéve a műanyag tartálynál, ill. üzemanyagcella kazettánál a lágyulás miatt bekövetkező alakváltozást, feltéve, hogy nem szivárog.
- 6.2.6.3.2** *Aeroszol csomagolások*
- Minden aeroszol csomagolásnak ki kell állnia a forró vizes fürdőben végzett tömörégi (szivárgásmentességi) próbát, vagy egy jóváhagyott, egyéb vízfürdős vizsgálatot.



**6.2.6.3.2.1** Forró vizes fürdőben végzett próba

**6.2.6.3.2.1.1** A fürdő hőmérsékletét és a próba időtartamát úgy kell megválasztani, hogy a belső nyomás elérje azt a nyomást, amely 55 °C hőmérsékleten kialakulna (vagy amely 50 °C hőmérsékleten alakulna ki, ha a folyékony fázis 50 °C-on nem haladja meg az aeroszol csomagolás űrtartalmának 95%-át). Ha azonban a tartalom hőre érzékeny, vagy az aeroszol csomagolás olyan műanyagból készült, amely az ily módon végrehajtott próba hőmérsékleténél meglágyulna, akkor a vizsgálatot 20....30 °C hőmérsékletű fürdőben kell végrehajtani, de ezenfelül minden 2000 darab közül egy darabon a magasabb hőmérsékleten kell a vizsgálatot elvégezni

**6.2.6.3.2.1.2** A vizsgálat során az aeroszol csomagoláson semmiféle szivárgásnak vagy maradandó alakváltozásnak nem szabad bekövetkeznie, kivéve a műanyag aeroszol csomagolásnál a lágyulás miatt bekövetkező alakváltozást, feltéve, hogy nem szivárog.

**6.2.6.3.2.2** Egyéb módszerek

Az illetékes hatóság jóváhagyásával egyéb módszerek is használhatók, ha azonos biztonsági szintet eredményeznek, feltéve, hogy a 6.2.6.3.2.2.1, a 6.2.6.3.2.2.2 és a 6.2.6.3.2.2.3 pont követelményeit betartják.

**6.2.6.3.2.2.1** Minőségbiztosítási rendszer

Az aeroszol csomagolások töltőjének és aeroszol csomagolások szerkezeti elemei gyártójának rendelkeznie kell minőségbiztosítási rendszerrel. A minőségbiztosítási rendszerben olyan eljárást kell fogantatni, amely biztosítja, hogy minden aeroszol csomagolást, amely szivárog vagy alakváltozást szenvedett, selejtnek minősítsenek és nem adják fel szállításra.

A minőségbiztosítási rendszernek a következőket kell tartalmaznia:

- a) a szervezeti felépítés és a felelőségek megosztásának leírása;
- b) a vizsgálatra, minőségellenőrzésre, minőségbiztosításra és eljárás végrehajtásra vonatkozó, megfelelő utasítások;
- c) minőségellenőrzési nyilvántartás, pl. vizsgálati jegyzőkönyvek, vizsgálati eredmények, hitelesítési adatok és bizonyítványok;
- d) vezetői felülvizsgálatok a minőségbiztosítási rendszer hatékony működésének biztosításához;
- e) a dokumentáció ellenőrzési és karbantartási eljárása;
- f) a nem megfelelő minőségű aeroszol csomagolások ellenőrzésének, kiszűrésének módja;
- g) az érintett személyekre vonatkozó képzési program és minősítési eljárás; és
- h) a végtermék sérülésmentességét biztosító eljárás.

Az illetékes hatóság számára elfogadható módon első alkalommal és időszakosan auditálást kell végezni. Az auditálásnak biztosítania kell, hogy a jóváhagyott rendszer alkalmas és hatékony legyen és az is maradjon. Az illetékes hatóságot a jóváhagyott rendszert érintő minden javasolt változtatásról előzetesen értesíteni kell.

**6.2.6.3.2.2.2** Az aeroszol csomagolás töltés előtti nyomás- és tömörségi próbája

Minden üres aeroszol csomagolást legalább akkora nyomásnak kell kitenni, mint az a

legnagyobb nyomás, amely a megtöltött aeroszol csomagolásban 55 °C-on várhatóan kialakul (vagy amely 50 °C hőmérsékleten alakulna ki, ha a folyékony fázis 50 °C-on nem haladja meg az aeroszol csomagolás űrtartalmának 95%-át). Ez a nyomás azonban nem lehet kisebb, mint az aeroszol csomagolás méretezési nyomásának kétharmada. Azt az aeroszol csomagolást, amely a próbanyomáson  $3,3 \times 10^{-2}$  mbar·l·s<sup>-1</sup> mértékben vagy annál erősebben szivárog, eltorzul vagy más sérülést szenved, ki kell selejtezni.

#### 6.2.6.3.2.2.3 Az aeroszol csomagolás töltés utáni vizsgálata

Töltés előtt a töltőnek biztosítania kell, hogy a peremező berendezés megfelelően legyen beállítva és az előírt hajtóanyagot használják.

Minden megtöltött aeroszol csomagolás tömegét meg kell mérni, ill. a tömörségét meg kell vizsgálni. A tömörség vizsgáló berendezésnek elegendő pontosságúnak kell lennie ahhoz, hogy legalább a 20 °C-on  $2 \times 10^{-3}$  mbar·l·s<sup>-1</sup> mértékű szivárgást tudja érzékelni.

Azt az aeroszol csomagolást, amely szivárog, eltorzult vagy túl van töltve, ki kell selejtezni.

#### 6.2.6.3.3 Az olyan, gyógyszerészeti terméket és nem-gyúlékony gázt tartalmazó aeroszol és kisméretű tartály (gázpatron), amelynek sterilnek kell lennie, és amelyet a vízfürdős vizsgálat kedvezőtlenül befolyásolna, az illetékes hatóság hozzájárulásával mentesül a 6.2.6.3.1 és a 6.2.6.3.2 pont előírásai alól, amennyiben:

- a) az állami egészségügyi szervek engedélyével és ha az illetékes hatóság előírja, az Egészségügyi Világszervezet (WHO)<sup>4)</sup> által kiadott helyes gyártási gyakorlatot (Good Manufacturing Practice – GMP) követve gyártották;
- b) azonos biztonságot lehet elérni azzal, hogy a gyártó más tömörségi- illetve nyomáspróbát alkalmaz, mint pl. a hélium érzékelést és olyan vízfürdős vizsgálatot, amelyet minden gyártási tételből 2000 darabonként legalább egy darabot tartalmazó, véletlenszerűen kiválasztott mintán végeznek.

#### 6.2.6.4 Hivatkozás a szabványokra

Ezen szakasz követelményei a következő szabványok alkalmazása esetén teljesítettnek tekinthetők:

- UN 1950 aeroszolonokra: a 94/1/EK<sup>5)</sup> Bizottsági Irányelvvel módosított 75/324/EGK<sup>6)</sup> Tanácsi Irányelv melléklete;
- az UN 2037 gázzal töltött kisméretű tartályokra (gázpatronokra), amelyek UN 1965 szénhidrogén-gáz keverék, cseppfolyósított, m.n.n.-t tartalmaznak: EN 417:2003 „Nem újratölthető fém gázpatronok cseppfolyósított szénhidrogén gázokhoz, szeleppel vagy szelep nélkül, szállítható berendezésekhez – Gyártás, vizsgálat és jelölés” szabvány.

4) WHO kiadvány: „Gyógyszerészeti minőségbiztosítás. Irányelvek és hasonló dokumentumok gyűjteménye, 2. kötet: Helyes gyártási gyakorlat és vizsgálat” („Quality assurance of pharmaceuticals. A compendium of guidelines and related materials. Volume 2: Good manufacturing practices and inspection”).

5) A Bizottság 1994. január 6-i 94/1/EK Irányelve a Tanács 75/324/EGK Irányelvének módosításáról (Az EK Hivatalos Lapja, L 23 szám, 1994. 01.28.).

6) A Tanács 1975. május 20-i 75/324/EGK Irányelve a tagállamok aeroszolonokra vonatkozó jogszabályainak közelítéséről (Az EK Hivatalos Lapja, L 147 szám, 1975. 06.09.).

## 6.3 fejezet

### A 6.2 osztály „A” kategóriába tartozó fertőző anyagaihoz használt csomagolóeszközök gyártására és vizsgálatára vonatkozó követelmények

*Megjegyzés:* E fejezet követelményei nem vonatkoznak a 6.2 osztály anyagainak szállítására használt, a 4.1.4.1 bekezdés P621 csomagolási utasítása szerinti csomagolóeszközökre.

#### 6.3.1 Általános előírások

6.3.1.1 E fejezet követelményei az „A” kategóriába tartozó fertőző anyagok szállítására használt csomagolóeszközökre vonatkoznak.

#### 6.3.2 A csomagolóeszközökre vonatkozó követelmények

6.3.2.1 A csomagolóeszközökre vonatkozó követelmények – 6.1.4 szakaszban meghatározottak szerint – a jelenleg használt csomagolásokon alapulnak. A tudományos és műszaki haladás figyelembevételének érdekében az ezen fejezetben található csomagolóeszközöktől eltérő jellemzőjű csomagolóeszközök is használhatók, amennyiben ezek ugyanolyan hatékonyságúak, az illetékes hatóság által elfogadhatók és képesek sikeresen elviselni a 6.3.5 szakaszban leírt próbákat. A RID-ben leírtaktól eltérő vizsgálati módszerek is használhatók, amennyiben egyenértékűek és az illetékes hatóság elfogadja.

6.3.2.2 A csomagolóeszközöket az illetékes hatóság szerint megfelelő minőségbiztosítási program alapján kell gyártani és vizsgálni annak biztosítására, hogy minden egyes csomagolóeszköz kielégítse a jelen fejezet követelményeit.

*Megjegyzés:* Az alkalmazható eljárás(ok)ra megfelelő útmutatást ad az ISO 16106:2006 szabvány: „Csomagolás. Veszélyes áruk szállítási csomagolása. Veszélyes áruk csomagolásai, közepes méretű szállítótartályok (IBC-k) és nagyméretű csomagolások. Útmutató az ISO 9001 alkalmazásához”.

6.3.2.3 A csomagolóeszköz gyártójának és forgalmazójának információt kell nyújtania a követendő eljárásokra és a zároszerkezetek (beleértve a szükséges tömítéseket) típusára és méreteire és minden más alkatrésze, ami annak biztosításához szükséges, hogy a szállításra előkészített küldeménydarab képes legyen az e fejezet vonatkozó igénybevételi próbáinak elviselésére.

#### 6.3.3 A csomagolóeszközök típusát jelölő kód

6.3.3.1 A csomagolóeszközök típusát jelölő kódok a 6.1.2.7 bekezdésben találhatók.

6.3.3.2 A csomagolási kódot egy „U” vagy „W” betű követheti. Az „U” betű a 6.3.5.1.6 pont előírásainak megfelelő különleges csomagolóeszközre utal. A „W” betű azt jelenti, hogy a csomagolóeszköz, bár a kód által jelzett típus alá tartozik, de a 6.1.4 szakaszban előírtaktól eltérően gyártották, és a 6.3.2.1 bekezdés előírásai értelmében egyenértékűnek tekinthető.


#### 6.3.4 Jelölés

*Megjegyzés:* 1. A jelölés arra utal, hogy a csomagolóeszköz, amelyen a jelölés van, megfelel a sikeresen bevizsgált gyártási típusnak és megfelel a jelen fejezet előírásainak, amelyek a csomagolóeszköz gyártására, nem pedig annak használatára vonatkoznak.

2. A jelölésnek az a célja, hogy megkönnyítse a csomagolóeszköz gyártók, felújítók és felhasználók, a szállítást/fuvarozást végzők és a szabályozó hatóságok feladatainak teljesítését.
3. A jelölés nem mindig ad teljes felvilágosítást a vizsgálati szintekről és egyéb részletekről, holott szükséges lehet ezek figyelembe vétele is, ezeknek a vizsgálati jegyzőkönyvben, jelentésekben vagy a vizsgálatokat sikeresen kiállt csomagolóeszközök nyilvántartásában kell utána nézni.

**6.3.4.1** Minden csomagolóeszközön, amelyet a RID szerinti használatra szánnak, rajta kell lenni a jelölésnek, amelynek tartósnak, jól láthatónak és a csomagolóeszközhöz képest olyan méretűnek kell lennie, hogy könnyen olvasható legyen. A 30 kg bruttó tömeget meghaladó küldeménydaraboknál a jelölést vagy annak megismétlését a csomagolóeszköz tetejére vagy egyik oldalára kell felvinni. A betűknek, számoknak és szimbólumoknak legalább 12 mm magasnak kell lenniük, kivéve a 30 liter vagy 30 kg, ill. annál kisebb csomagolóeszközöket, amelyeknek legalább 6 mm magasnak kell lenniük és az 5 liter vagy 5 kg, ill. annál kisebb csomagolóeszközöket, ahol megfelelő méretűnek kell lenniük.

**6.3.4.2** A jelen szakasz és a 6.3.5 szakasz követelményeit kielégítő csomagolóeszközöket a következő jelölésekkel kell ellátni:

- a) az Egyesült Nemzetek jele a csomagolóeszközön:  ;
- Ezt a jelet csak annak tanúsítására szabad használni, hogy a csomagolóeszköz megfelel a 6.1, a 6.2, a 6.3, a 6.5, ill. a 6.6 fejezetben található vonatkozó előírásoknak.
- b) a csomagolóeszköz típusát a 6.1.2 szakasz szerint jelölő kód;
- c) a „CLASS 6.2” szöveg;
- d) a gyártási év (az utolsó két számjegy);
- e) annak az államnak a jele, amely a jelölés alkalmazását engedélyezte, a nemzetközi forgalomban résztvevő gépjárművek államjelzésével<sup>7)</sup>;
- f) a gyártó neve vagy jele, vagy a csomagolóeszköznek az illetékes hatóság által megállapított egyéb azonosító jele;
- g) a 6.3.5.1.6 bekezdés követelményeit kielégítő csomagolóeszközöknél az előző b) pont szerint előírt jelölés után közvetlenül egy „U” betűt kell írni.

**6.3.4.3** A jelölést a 6.3.4.2 bekezdés a) – g) pontjai szerinti sorrendben kell felvinni; az ezekben a pontokban előírt jelölés elemeket egyértelműen el kell választani egymástól, pl. ferde vonallal vagy szóközzel, hogy könnyen azonosíthatók legyenek. Példaként lásd a 6.3.4.4 bekezdést.

Az illetékes hatóság által engedélyezett kiegészítő jelölések nem zavarhatják a 6.3.4.1 bekezdés szerinti jelölés részek pontos azonosíthatóságát.

**6.3.4.4** *Példa a csomagolóeszköz jelölésére*



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a 6.3.4.2 a), b), c) és d) szerint  
a 6.3.4.2 e) és f) szerint

7) A közúti közlekedésről szóló Bécsi Egyezmény (Bécs, 1968) által előírt államjelzés a nemzetközi forgalomban résztvevő gépjárművekre.

**6.3.5            A csomagolóeszközök vizsgálati követelményei****6.3.5.1            A vizsgálatok végrehajtása és gyakorisága**

**6.3.5.1.1**        Minden egyes csomagolóeszköz gyártási típusát a jelölés felvitelét engedélyező illetékes hatóság által meghatározott eljárás szerint, az e szakaszban előírt vizsgálatoknak kell alávetni, és ugyanek az illetékes hatóságnak jóvá kell hagyni.

**6.3.5.1.2**        A csomagolóeszközök gyártási típusának sikeresen ki kell állnia az e fejezetben előírt vizsgálatokat, mielőtt az adott típusú csomagolóeszközt használatba vennék. A csomagolóeszköz gyártási típusát a tervezési méret, az anyag és falvastagság, a gyártási és összeállítási mód határozza meg, de beleérthetők a különféle felületkezelések. Egy gyártási típus tartalmazza azokat a csomagolóeszközöket is, amelyek a gyártási típustól csupán kisebb szerkezeti magasságukban térnek el.

**6.3.5.1.3**        A vizsgálatokat a gyártásból vett mintákon az illetékes hatóság által meghatározott időközönként meg kell ismételni.

**6.3.5.1.4**        A vizsgálatokat minden olyan módosítás után is meg kell ismételni, ami megváltoztatja a csomagolóeszköz szerkezetét, anyagát vagy gyártási módját.

**6.3.5.1.5**        Az illetékes hatóság engedélyezheti azon csomagolóeszközök szelektív vizsgálatát, amelyek csak kismértékben térnek el egy bevizsgált típustól, pl. kisebb nettó tömegű elsődleges tartályokat tartalmaznak; vagy amelyek, pl. hordók és ládák esetén a külső méret(ek)et tekintve valamivel kisebbek.

**6.3.5.1.6**        Bármely típusú elsődleges tartály elhelyezhető és szállítható egy másodlagos csomagolásban anélkül, hogy a merev falú külső csomagolóeszközzel együtt vizsgálták volna, feltéve, ha:

- a) a merev falú külső csomagolóeszköz törékeny (pl. üveg) elsődleges tartályokkal a 6.3.5.2.2 bekezdés szerinti vizsgálatokat sikeresen kiállta;
- b) a elsődleges tartályok együttes össztömege nem haladhatja meg az előző a) pont szerinti ejtőpróbánál használt elsődleges tartályok össztömegének felét;
- c) az elsődleges tartályok között és az elsődleges tartályok és a másodlagos csomagolóeszközök külseje között a párnázóanyag vastagsága nem lehet kisebb az eredetileg vizsgált csomagolásban alkalmazott vastagságnál; ha az eredeti vizsgálatnál csak egy elsődleges tartály volt, akkor az elsődleges tartályok közötti párnázóanyag vastagsága az eredeti vizsgálatnál az elsődleges tartály és a másodlagos csomagolóeszköz külseje közötti vastagságnál nem lehet kisebb. Ha az ejtőpróbánál alkalmazott elsődleges tartályoknál kevesebb vagy kisebb elsődleges tartályokat használnak, akkor az ebből adódó hézagokat ki kell tölteni elegendő mennyiségű párnázóanyaggal;
- d) a merev falú külső csomagolóeszköz – üres állapotban vizsgálva – sikeresen kiállta a 6.1.5.6 bekezdésben leírt halmazolási próbát. Az „azonos küldeménydarabok össztömegét” az előző a) pontban az ejtőpróbánál alkalmazott csomagolóeszközök össztömege alapján kell meghatározni;
- e) a folyadékot tartalmazó elsődleges tartályokat teljesen körül kell venni felszívóképes anyaggal, amely a elsődleges tartályok teljes folyadéktartalmának felszívására elegendő mennyiségű;
- f) ha a merev falú külső csomagolóeszközt folyadékot tartalmazó elsődleges tartályokhoz használják és nem szivárgásmentes, ill. szilárd anyagot tartalmazó elsődleges tartályokhoz használják és nem portömör, akkor szivárgásmentes bélés, műanyag zsák vagy egyéb azonos hatékonyságú eszköz alkalmazásával biztosítani kell, hogy a

folyadékot, ill. szilárd anyagot szivárgás esetén is megtartsa;

- g) a 6.3.4.2 a) – f) pontban előírt jelöléseken kívül a csomagolóeszközöket a 6.3.4.2 g) pont szerinti jelöléssel is el kell látni.

**6.3.5.1.7** Az illetékes hatóság bármikor előírhatja, hogy a jelen szakasz előírásainak megfelelő próbákkal igazolják, hogy a sorozatban gyártott csomagolóeszközök megfelelnek a gyártási típus követelményeinek.

**6.3.5.1.8** Amennyiben a vizsgálat eredményeit nem befolyásolja és az illetékes hatóság hozzájárul, ugyanazon a mintán több vizsgálat is végezhető.

### 6.3.5.2 A csomagolóeszközök előkészítése a próbákhoz

**6.3.5.2.1** Minden csomagolóeszköz próbadarabját úgy kell előkészíteni, mint a szállításra, azzal a különbséggel, hogy a folyékony vagy szilárd fertőző anyagot vízzel vagy, ha  $-18\text{ }^{\circ}\text{C}$ -on történő kondicionálás van előírva, víz/fagyásgátló keverékkel kell helyettesíteni. Minden elsődleges tartályt ürtartalmának legalább 98%-áig kell megtölteni.

**Megjegyzés:** A víz alatt értendők a  $-18\text{ }^{\circ}\text{C}$ -on végzett vizsgálatához használt, legalább 0,95 relatív sűrűségű víz/fagyásgátló oldatok is.

### 6.3.5.2.2 Előírt vizsgálatok és próbadarabok száma

#### A csomagolóeszköz típusa szerint előírt vizsgálatok

A csomagolóeszköz típusa <sup>a)</sup>			Előírt vizsgálatok					
merek falú külső csomagoló-eszköz	elsődleges tartály		vízpermet	alacsony hőmérsékletű kondicionálás	ejtés	kiegészítő ejtés	átlyukasztás	halmazolás
	műa-nyag	egyéb						
	6.3.5.3.6.1	6.3.5.3.6.2	6.3.5.3	6.3.5.3.6.3	6.3.5.4	6.1.5.6		
a próba-darabok száma	a próba - darabok száma	a próba-darabok száma	a próba - darabok száma	a próba - darabok száma	a próba - darabok száma	a próba - darabok száma		
Papírlemez láda	x		5	5	10	Egy próbadarab, ha a csomagoló-eszközben szárazjég használatos	2	Három próbadarab , ha a 6.3.5.1.6 pont különleges előírása szerinti, „U” -betűvel jelölt csomagolóeszköz vizsgálatnak
		x	5	0	5		2	
Papírlemez hordó	x		3	3	6		2	
		x	3	0	3		2	
Műanyag láda	x		0	5	5		2	
		x	0	5	5		2	
Műanyag hordó, kanna	x		0	3	3		2	
		x	0	3	3		2	
Egyéb láda	x		0	5	5		2	
		x	0	0	5		2	
Egyéb hordó, kanna	x		0	3	3		2	
		x	0	0	3		2	

a) „A csomagolóeszköz típusa” a csomagolóeszköz csoportosítása a csomagolóeszköz fajtája és anyagának jellemzői szerint a vizsgálatok céljából

**Megjegyzés:** 1. Ha az elsődleges tartály két- vagy többféle anyagból készült, a megfelelő vizsgálatot a sérülékenyebb anyag határozza meg.  
2. A vizsgálat, ill. a vizsgálatához szükséges kondicionálás kiválasztásánál a másodlagos csomagolóeszköz anyagát nem kell figyelembe venni.

A táblázat magyarázata

Ha a vizsgálandó csomagolóeszköz külső papírlemez láda műanyag elsődleges tartállyal, akkor az ejtés előtt öt próbadarabot kell vízpermet próbának (lásd a 6.3.5.3.6.1 pontot) alávetni, valamint ugyancsak az ejtés előtt másik öt darabot  $-18^{\circ}\text{C}$ -on kondicionálni kell (lásd a 6.3.5.3.6.2 pontot). Ha a csomagolóeszközben szárazjég használatos, további egy próbadarabot kell ötször leejteni a 6.3.5.3.6.3 pontban leírt kondicionálás után.

A szállításra előkészített csomagolóeszközöket a 6.3.5.3 és a 6.3.5.4 bekezdésben felsorolt vizsgálatoknak kell alávetni. A külső csomagolóeszközöknél a táblázat fejléce a következőkre vonatkozik:

- papírlemezre vagy hasonló anyagra, melynek szilárdságát a nedvesség gyorsan befolyásolhatja;
- műanyagra, ami alacsony hőmérsékleten rideggé válhat; és
- egyéb anyagra, mint pl. fémre, aminek minőségét a hőmérséklet és a nedvesség nem befolyásolja.

### **6.3.5.3** *Ejtőpróba*

**6.3.5.3.1** A próbadarabokat szabadon le kell ejteni a 6.1.5.3.4 pont szerinti, rugalmatlan, vízszintes, sima, masszív és szilárd felületre 9 m magasságból.

**6.3.5.3.2** Láda formájú minta esetén öt próbadarabot kell leejteni, mindegyiket a következő helyzetekben:

- a) laposan a fenéklapra,
- b) laposan a tetőlapra,
- c) laposan a leghosszabb oldallapra,
- d) laposan a legrövidebb oldallapra,
- e) valamelyik sarokra.

**6.3.5.3.3** Hordó alakú minta esetén három próbadarabot kell leejteni, mindegyiket a következő helyzetekben:

- a) átlósan a felső peremre oly módon, hogy a tömegközéppont függőlegesen a felütközési pont felett legyen,
- b) átlósan a fenékperemre,
- c) laposan a palástra.

**6.3.5.3.4** Bár a próbadarabot a megkívánt helyzetben kell elengedni, elfogadható, ha aerodinamikai okokból a felütközés nem ebben a helyzetben történik.

**6.3.5.3.5** A megfelelő ejtési sorozatot követően az elsődleges tartály(ok)ból semmi sem szivároghat ki és azoknak a másodlagos csomagolásban a felszívóképes anyag által védve kell maradniuk.

**6.3.5.3.6** *A próbadarabok előkészítése az ejtőpróba*

**6.3.5.3.6.1** Vízpermet próba papírlemez esetén

Papírlemez külső csomagolóeszköz esetén: A mintát legalább 1 órán át ki kell tenni vízpermetnek, ami kb. 5 cm/óra intenzitású esőnek felel meg. Ezután alá kell vetni a 6.3.5.3.1 pontban leírt próbának.



**6.3.5.3.6.2** Alacsony hőmérsékletű kondicionálás műanyagok esetén

Műanyag elsődleges tartályok és külső csomagolóeszközök esetén: A mintát  $-18^{\circ}\text{C}$ -os vagy még alacsonyabb hőmérsékletű atmoszférában kell kondicionálni legalább 24 órán át és azután az ezen atmoszférából való eltávolítást követően 15 percen belül alá kell vetni a 6.3.5.3.1 pontban leírt próbának. Ha a próbadarab szárazjeget tartalmaz, a kondicionálás időtartama 4 órára csökkenthető.

**6.3.5.3.6.3** Kiegészítő ejtőpróba szárazjeget tartalmazó csomagolóeszközökre

Ha a csomagolóeszköznek szárazjeget kell tartalmaznia, a 6.3.5.3.1 és a 6.3.5.3.6.1, ill. 6.3.5.3.6.2 pontban előírt próbán kívül kiegészítő vizsgálatot kell végezni. Egy próbadarabot addig kell tárolni, amíg a szárazjég teljes mennyisége szublimál és azután a 6.3.5.3.2 pontban leírtak közül abban a helyzetben kell leejteni, amelyikben a legnagyobb valószínűséggel következik be a csomagolóeszköz sérülése.

**6.3.5.4** *Átlyukasztási próba***6.3.5.4.1** *7 kg vagy annál kisebb bruttó tömegű küldeménydarabok*

A próbadarabot vízszintes, kemény felületre kell állítani. Legalább 7 kg tömegű, 38 mm átmérőjű és a felütközési végén legfeljebb 6 mm-es sugárral lekerekített végű hengeres acélrudat kell ráejteni függőlegesen szabadeséssel a próbadarab felütközési felületétől a rúd felütközési végéig mért 1 m magasságból. Az első próbadarabot fenéklapjára kell állítani. Egy második próbadarabot az első alkalommal választott helyzetre merőlegesen kell elhelyezni. Az acélrúddal minden esetben az elsődleges tartály ütését kell megcélozni. Az egyes ütések követően a másodlagos csomagolásba való behatolás elfogadható, amennyiben az elsődleges tartály(ok)ból nem következett be szivárgás.

**6.3.5.4.2** *7 kg-nál nagyobb bruttó tömegű küldeménydarabok*

A próbadarabokat egy hengeres acélrúd végére kell ejteni. A rudat függőlegesen egy vízszintes, kemény felületbe kell befogni. A rúd átmérője 38 mm kell legyen és a felső végének lekerekítési sugara nem haladhatja meg a 6 mm-t. A rúdnek a felületből legalább annyira kell kiállnia, mint az elsődleges tartály(ok) közepe és a külső csomagolás legkülső felülete közötti távolság, de legalább 200 mm-re. Egy próbadarabot „fejjel lefelé” (vagyis olyan helyzetben, hogy a felső felülete van legalul) függőlegesen szabadeséssel a rúd felső végétől mért 1 m magasságból kell a rúdra ejteni. A második próbadarabot ugyanezen magasságból az első ejtésnél alkalmazott helyzethez képest merőlegesen kell ejteni. A küldeménydarabokat minden esetben úgy kell elhelyezni, hogy az acélrúd be tudjon hatolni az elsődleges tartály(ok)ba. Az egyes ütések követően a másodlagos csomagolóeszköz átlukadása elfogadható, ha az elsődleges tartály(ok)ból nem következik be szivárgás.

**6.3.5.5** *Vizsgálati jegyzőkönyv***6.3.5.5.1** A vizsgálatokról legalább a következő adatokat tartalmazó, jegyzőkönyvet kell írásba foglalni, amit a csomagolóeszköz felhasználói számára hozzáférhetővé kell tenni:

1. A vizsgálatot végző szerv neve és címe;
2. A vizsgálatot kérő neve és címe (ha szükséges);
3. A vizsgálati jegyzőkönyv egyedi azonosítója;
4. A vizsgálat ideje és a vizsgálati jegyzőkönyv kelte;
5. A csomagolóeszköz gyártója;



6. A csomagolóeszköz típus leírása (pl. méretek, anyagok, zárószerkezetek, falvastagság stb.), beleértve a gyártási módszert (pl. üreges test fúvás), ami rajzzal és/vagy fényképpel kiegészíthető;
7. Legnagyobb ürtartalom;
8. A vizsgálat alatti tartalom;
9. A vizsgálatok leírása és eredményei;
10. A vizsgálati jegyzőkönyvet alá kell írni, az aláíró nevét és beosztását fel kell tüntetni.

**6.3.5.5.2**

A vizsgálati jegyzőkönyvnek megállapítást kell tartalmaznia arra nézve, hogy a szállításra előkészített csomagolás ezen fejezet megfelelő rendelkezéseivel összhangban került vizsgálatra és más csomagolási módszerek vagy alkotórészek használata azt érvénytelenné teheti. A vizsgálati jegyzőkönyv egy példányát az illetékes hatóság rendelkezésére kell bocsátani.

## 6.4 fejezet

### **A 7 osztály küldeménydarabjainak és anyagainak gyártására, vizsgálatára és jóváhagyására vonatkozó követelmények**

**6.4.1** (fenntartva)

#### **6.4.2 Általános követelmények**

**6.4.2.1** A küldeménydarabot úgy kell megtervezni a tömegére, térfogatára és alakjára vonatkozólag, hogy könnyen és biztonságosan kezelhető és szállítható legyen, továbbá, hogy a szállítás alatt a szállítóeszközön vagy azon belül megfelelően rögzíteni lehessen.

**6.4.2.2** A kivitelnek olyannak kell lennie, hogy a küldeménydarabon bármely emelő szerelvény rendeltetésszerű használat közben ne romoljon el, és ha a meghibásodás mégis bekövetkezik, az ne rontsa a küldeménydarabnak azt a képességét, hogy megfeleljen a többi RID előírásnak. A kivitelnél figyelembe kell venni a hirtelen emelés miatt szükséges biztonsági tényezőket.

**6.4.2.3** Az emelő szerelvényeket, ill. a küldeménydarab külső felületén lévő minden olyan tartozékot, amit a küldeménydarab emelésére lehet használni, úgy kell megtervezni, hogy azok vagy elbírják a küldeménydarab tömegét a 6.4.2.2 bekezdés előírásainak megfelelően, vagy eltávolíthatónak kell lenniük, vagy úgy kell kialakítani, hogy a szállítás idejére használatra alkalmatlanná lehessen tenni.

**6.4.2.4** Amennyire csak lehetséges, a csomagolást úgy kell tervezni és elkészíteni, hogy a külső felületeken kiálló kiemelkedések ne legyenek, és könnyen lehessen a szennyezettségtől mentesíteni.

**6.4.2.5** Amennyire lehetséges, a küldeménydarab külső burkolatát úgy kell tervezni, hogy az a vizet ne gyűjtse össze és ne tartsa meg.

**6.4.2.6** Bármely, a szállítás idejére a küldeménydarabhoz mellékelt szerkezet, amely nem része a küldeménydarabnak, nem csökkentheti annak biztonságát.

**6.4.2.7** A küldeménydarabnak a tartályok zárószerkezeteinek bármilyen meghibásodása vagy a küldeménydarab egészének sérülése nélkül ellen kell tudnia állni a normális szállítási feltételek között valószínűleg fellépő gyorsulási, rezgési vagy rezonancia hatásoknak. Különösen a csavarokat, csavaranyákat és más biztonsági szerkezeteket kell úgy tervezni, hogy többszöri, megismételt használat után is megelőzhető legyen lazulásuk vagy nem szándékos kinyílásuk.

**6.4.2.8** A csomagolás anyagainak és bármely alkatrészének vagy szerkezetének fizikailag és kémiaiilag összeférhetőnek kell lennie egymással és a radioaktív tartalommal. Figyelembe kell venni viselkedésüket besugárzás hatására is.

**6.4.2.9** Minden olyan szelepet, amelyen keresztül a radioaktív tartalom kiszabadulni képes, illetéktelen működtetéssel szemben védetté kell tenni.

**6.4.2.10** A küldeménydarab tervezésekor figyelembe kell venni a normális szállítási feltételek mellett valószínűleg előforduló környezeti hőmérsékleteket és nyomásokat.

**6.4.2.11** A más veszélyes tulajdonságokkal is rendelkező radioaktív anyagoknál a küldeménydarab

tervezésekor ezeket a veszélyes tulajdonságokat számításba kell venni; lásd a 2.1.3.5.3 és a 4.1.9.1.5 pontot.

**6.4.2.12** A csomagolóeszköz gyártójának és forgalmazójának információt kell nyújtania a követendő eljárásokra és a zárószervezetek (beleértve a szükséges tömítéseket) típusára és méreteire és minden más alkatrészre, ami annak biztosításához szükséges, hogy a szállításra előkészített küldeménydarab képes legyen az e fejezet vonatkozó igénybevételi próbáinak elviselésére.

**6.4.3** (fenntartva)

**6.4.4 Az engedményes küldeménydarabokra vonatkozó követelmények**

Az engedményes küldeménydarabnak a 6.4.2 szakaszban meghatározott követelményeket kell kielégítenie.

**6.4.5 Az ipari küldeménydarabokra vonatkozó követelmények**

**6.4.5.1** Az *IP-1*, *IP-2* és *IP-3* típusú küldeménydaraboknak a 6.4.2 szakasz és a 6.4.7.2 bekezdés követelményeit kell kielégíteniük.

**6.4.5.2** Az *IP-2* típusú küldeménydarab esetében, ha alávetnék a 6.4.15.4 és a 6.4.15.5 bekezdésben meghatározott vizsgálatoknak, akkor nem következhet be:

- a) a radioaktív tartalom elvesztése vagy szétszóródása; és
- b) a küldeménydarab bármely külső felületén a legnagyobb sugárzási szint 20%-nál nagyobb mértékű növekedése.

**6.4.5.3** Az *IP-3* típusú küldeménydarabnak a 6.4.7.2 – 6.4.7.15 bekezdésben meghatározott minden követelményt ki kell elégítenie.

**6.4.5.4 Alternatív követelmények az *IP-2* és *IP-3* típusú küldeménydarabokra**

**6.4.5.4.1** Egy küldeménydarab *IP-2* típusú küldeménydarabként akkor használható, ha:

- a) eleget tesz a 6.4.5.1 bekezdés követelményeinek;
- b) úgy tervezték, hogy megfeleljen a 6.1 fejezetben az I vagy II csomagolási csoportra előírt követelményeknek; és
- c) ha alávetnék a 6.1 fejezetben a I vagy II csomagolási csoportra előírt vizsgálatoknak, akkor nem következne be:
  - i) a radioaktív tartalom elvesztése vagy szétszóródása; és
  - ii) a küldeménydarab bármely külső felületén a legnagyobb sugárzási szint 20%-nál nagyobb mértékű növekedése.

**6.4.5.4.2** A mobil tartány *IP-2* vagy *IP-3* típusú küldeménydarabként is használható, ha:

- a) eleget tesz a 6.4.5.1 bekezdés követelményeinek;
- b) úgy tervezték, hogy megfeleljen a 6.7 fejezetben előírt követelményeknek, és képes 265 kPa próbanyomás elviselésére; és
- c) úgy tervezték, hogy bármilyen kiegészítő árnyékolással van is ellátva, a normális

kezelési és szállítási feltételek között ellenáll a statikus és dinamikus hatásoknak, és nem következhet be a mobil tartány bármely külső felületén a legnagyobb sugárzási szint 20%-nál nagyobb mértékű növekedése.

**6.4.5.4.3** A mobil tartányokon kívül más tartányt is lehet *IP-2* vagy *IP-3* típusú küldeménydarabként a 4.1.9.2.4 táblázatban előírtak szerint *LSA-I* és *LSA-II* folyékony anyagok és gázok szállítására használni, ha:

- a) eleget tesz a 6.4.5.1 bekezdés követelményeinek;
- b) úgy tervezték, hogy megfeleljen a 6.8 fejezetben előírt követelményeknek; és
- c) úgy tervezték, hogy bármilyen kiegészítő árnyékolással van is ellátva, a normális kezelési és szállítási feltételek között ellenáll a statikus és dinamikus hatásoknak, és nem következhet be tartány bármely külső felületén a legnagyobb sugárzási szint 20%-nál nagyobb mértékű növekedése.

**6.4.5.4.4** Tartósan zárt kialakítású konténerek is használhatók *IP-2* vagy *IP-3* típusú küldeménydarabként, ha:

- a) a radioaktív tartalom csak szilárd anyag;
- b) kielégítik a 6.4.5.1 bekezdés követelményeit; és
- c) tervezésük olyan, hogy megfeleljenek az ISO 1496-1:1990 „1. sorozat Teherkonténerek – Meghatározások és Vizsgálatok – Első rész: Általános teherkonténerek” szabványban meghatározott követelményeknek, kivéve a méreteket és a terhelési határokat. Ezeket úgy kell tervezni, hogy ha alávetnék az ezen előírásban meghatározott próbáknak és a normális szállítási körülmények mellett előforduló gyorsulásoknak, nem következne be:
  - i) a radioaktív tartalom elvesztése vagy szétszóródása; és
  - ii) a konténer bármely külső felületén a legnagyobb sugárzási szint 20%-nál nagyobb mértékű növekedése.

**6.4.5.4.5** A fém IBC-k is használhatók *IP-2* vagy *IP-3* típusú küldeménydarabként, ha:

- a) kielégítik 6.4.5.1 bekezdés előírásait; és
- b) a kivételük megfelel a 6.5 fejezetben az I vagy II csomagolási csoportra vonatkozó követelményeknek és ha alávetnék a 6.5 fejezetben előírt vizsgálatoknak, de az ejtési próbát olyan helyzetben végeznék, hogy a legnagyobb sérülést szenvedje, nem következne be:
  - i) a radioaktív tartalom elvesztése vagy szétszóródása; és
  - ii) az IBC bármely külső felületén a legnagyobb sugárzási szint 20%-nál nagyobb mértékű növekedése.

#### **6.4.6 Az urán-hexafluoridot tartalmazó küldeménydarabokra vonatkozó követelmények**

**6.4.6.1** Az urán-hexafluoridhoz tervezett küldeménydaraboknak ki kell elégíteniük a RID máshol található azon előírásait, amelyek az anyag radioaktív és hasadó tulajdonságai miatt vonatkoznak rájuk. A 6.4.6.4 bekezdésben engedélyezett kivétellel a 0,1 kg vagy annál több urán-hexafluoridot az ISO 7195:1993 „Az urán-hexafluorid (UF<sub>6</sub>) csomagolása a szállításához” szabvány és a 6.4.6.2 és a 6.4.6.3 bekezdés előírásainak megfelelően kell csomagolni és szállítani.

**6.4.6.2** Minden küldeménydarabot, amelyet 0,1 kg vagy annál több urán-hexafluorid tartalomra terveztek, úgy kell kialakítani, hogy kielégítse a következő előírásokat:

- a) az ISO 7195:1993 szabványban meghatározott szivárgás és elfogadhatatlan feszültség fellépése nélkül elviselje a 6.4.21.5 bekezdésben meghatározott szerkezeti vizsgálatot;
- b) az urán-hexafluorid elvesztése vagy kiszóródása nélkül elviselje 6.4.15.4 bekezdésben meghatározott szabadejtési próbát;
- c) a biztonsági tartály törése nélkül elviselje a 6.4.17.3 bekezdésben meghatározott hőpróbát.

**6.4.6.3** A 0,1 kg vagy annál több urán-hexafluoridot tartalmazó küldeménydarabokat nem szabad nyomás csökkentő szerkezetekkel ellátni.

**6.4.6.4** A 0,1 kg vagy annál több urán-hexafluorid tartalomra tervezett küldeménydarabok az illetékes hatóság engedélyével akkor is szállíthatók, ha:

- a) a küldeménydarabokat az ISO 7195:1993 szabványtól eltérő nemzeti vagy nemzetközi szabványok szerint tervezték, azonban a biztonság szintje azonos;
- b) a küldeménydarabokat úgy tervezték, hogy szivárgás és elfogadhatatlan feszültség fellépése nélkül elviseljék a 2,76 MPa-nál kisebb próbanyomást, mint azt a 6.4.21.5 bekezdés előírja; vagy
- c) a 9000 kg vagy ennél több urán-hexafluorid tartalomra tervezett küldeménydaraboknál a küldeménydarab nem elégtí ki a 6.4.6.2 c) pont előírásait.

Egyébként a 6.4.6.1 – 6.4.6.3 bekezdés követelményeit kell kielégíteni.

#### **6.4.7 Az A típusú küldeménydarabokra vonatkozó követelmények**

**6.4.7.1** Az A típusú küldeménydarabok kivitelének olyannak kell lennie, hogy megfeleljen a 6.4.2 szakasz általános követelményeinek, valamint a 6.4.7.2 – 6.4.7.17 bekezdésben meghatározott követelményeknek.

**6.4.7.2** A küldeménydarab legkisebb külső mérete nem lehet 10 cm-nél kisebb.

**6.4.7.3** A küldeménydarab külső oldalán megfelelő szerkezetnek (pl. ólomzárnak) kell lennie, amely nem könnyen törhető össze, és amelynek sértetlen állapota bizonyítja, hogy a küldeménydarabot nem nyitották fel.

**6.4.7.4** Minden rögzítő szerelvénynek a küldeménydarabon olyan kialakításúnak kell lennie, hogy a szerelvényekben ébredő erők se normális szállítási körülmények, se baleseti körülmények esetén ne okozzák azt, hogy a küldeménydarab a továbbiakban nem felel meg a RID előírásainak.

**6.4.7.5** A küldeménydarab tervezésekor  $-40\text{ °C} \dots +70\text{ °C}$  hőmérséklet-tartományt kell alapul venni a csomagolás alkotóelemeihez. Figyelembe kell venni a folyadéktartalom fagyási hőmérsékletét és a csomagolás anyagainak e hőmérséklet-tartományban bekövetkező lehetséges károsodását.

**6.4.7.6** A tervezési és a gyártási technikának meg kell felelnie a belföldi és a nemzetközi előírásoknak vagy más olyan követelményeknek, amelyek az illetékes hatóság számára elfogadhatóak.

**6.4.7.7** A konstrukciónak tartalmaznia kell egy kényszerrögzítő szerkezettel biztonságosan lezárt

biztonsági tartályt, amely nem tud véletlenül vagy a küldeménydarabban esetleg keletkező nyomás hatására kinyílni.

- 6.4.7.8** A különleges formájú radioaktív anyag úgy tekinthető, mint a biztonsági tartály egyik alkotóeleme.
- 6.4.7.9** Ha a biztonsági tartály a küldeménydarab egy önálló egységét képezi, annak alkalmasnak kell lennie arra, hogy a csomagolás bármely más részétől független kényszerrögzítő szerkezettel biztonságosan lezárható legyen.
- 6.4.7.10** A biztonsági tartály bármely alkatrészének tervezésekor, ahol szükséges, figyelembe kell venni a folyadékok és más megtámadható anyagok radiolitikus bomlását, valamint a kémiai reakció és radiolízis általi gázfejlődést.
- 6.4.7.11** A biztonsági tartálynak meg kell őriznie radioaktív tartalmát a környezeti nyomás 60 kPa-ig történő csökkenése során is.
- 6.4.7.12** Minden szelepet, amely nem nyomáscsökkentő szelep, burkolattal kell védeni, hogy a szelepből jövő bármely szivárgást megtartsa.
- 6.4.7.13** Azt a sugárárnyékolást, amelyik egy olyan elemét veszi körül a küldeménydarabnak, amely a biztonsági tartály része, úgy kell tervezni, hogy megakadályozza ennek az elemnek nem szándékos kikerülését az árnyékolásból. Ahol a sugárárnyékolás és benne az ilyen elem különálló szerkezetet képez, a sugárárnyékolást el kell látni kényszerrögzítésű biztonságos zárószerkezettel, amely független a csomagolás bármely más részétől.
- 6.4.7.14** A küldeménydarabot úgy kell kialakítani, hogy ha a 6.4.15 szakaszban meghatározott vizsgálatoknak alávetnék, nem következne be:
- a) a radioaktív tartalom elvesztése vagy szétszóródása; és
  - b) a küldeménydarab bármely külső felületén a legnagyobb sugárzási szint 20%-nál nagyobb mértékű növekedése.
- 6.4.7.15** A folyékony radioaktív anyagokhoz használatos küldeménydarab tervezésénél biztosítani kell, hogy legyen elegendő üres tér a tartalom hőmérséklet-változásának és a töltés során fellépő, ill. az egyéb erőhatások kiegyenlítésére.

***Folyékony anyagot tartalmazó A típusú küldeménydarab***

- 6.4.7.16** A folyékony radioaktív anyagot tartalmazó A típusú küldeménydarabnak továbbá meg kell felelnie:
- a) az előző 6.4.7.14 a) pontban meghatározott követelményeknek, ha a küldeménydarabot alávetik a 6.4.16 szakaszban meghatározott vizsgálatoknak; és
  - b) a következők egyikének:
    - i) annyi felszívóképes anyaggal kell ellátni, amennyi a folyadéktartalom kétszeresét képes felszívni. Az ilyen felszívóképes anyagot alkalmas módon kell elhelyezni, hogy szivárgás esetén a folyékony anyaggal érintkezni tudjon; vagy
    - ii) olyan biztonsági tartállyal kell ellátni, amely egy elsődleges, belső és egy másodlagos, külső visszatartó elemből készült, amely biztosítja a folyadéktartalom megtartását a másodlagos, külső részben abban az esetben, ha az elsődleges, belső alkatrész kilyukadna.

***Gázokat tartalmazó A típusú küldeménydarab***

**6.4.7.17** Annak a küldeménydarabnak, amelyet gázok számára terveztek, meg kell akadályoznia a radioaktív tartalom elvesztését vagy szétterjedését, ha a küldeménydarabot alávetnék a 6.4.16 szakaszban meghatározott vizsgálatoknak. A trícium gáz vagy nemesgázok befogadására tervezett A típusú küldeménydarabot mentesíteni kell ez alól a követelmény alól.

**6.4.8 A B(U) típusú küldeménydarabokra vonatkozó követelmények**

**6.4.8.1** A B(U) típusú küldeménydarabokat úgy kell tervezni, hogy kielégítsék a 6.4.2 szakaszban meghatározott követelményeket, továbbá a 6.4.7.2 – 6.4.7.15 bekezdés követelményeit, kivéve a 6.4.7.14 a) pontban meghatározottakat, és ezenkívül kielégítsék a 6.4.8.2 – 6.4.8.15 bekezdésben meghatározott követelményeket.

**6.4.8.2** A küldeménydarabot úgy kell megtervezni, hogy a 6.4.8.5 és a 6.4.8.6 bekezdésben meghatározott környezeti feltételek mellett a radioaktív tartalom által a küldeménydarabon belül fejlesztett hő 6.4.15 szakasz szerinti normális szállítási feltételek között oly módon nem befolyásolhatja kedvezőtlenül a küldeménydarabot, hogy az a zártságra és sugárnyékolásra vonatkozó követelményeket ne teljesítse, ha a küldeménydarab egy hétig felügyelet nélkül marad. Különösen a hő hatására kell figyelmet fordítani, ami:

- a) megváltoztathatja a radioaktív tartalom elhelyezkedését, geometriai alakját vagy fizikai állapotát; vagy ha az anyag fémtokba vagy tartályba van zárva (pl. tokozott fűtőelemek), előidézhetheti a fémtok, tartály vagy a radioaktív anyag deformációját vagy megolvadását; vagy
- b) csökkenti a csomagolás hatékonyságát a sugárnyékoló anyag eltérő hőtágulása, repedése vagy megolvadása miatt; vagy
- c) nedvesség jelenlétében gyorsítja a korróziót.

**6.4.8.3** A küldeménydarabot úgy kell tervezni, hogy a 6.4.8.5 bekezdésben meghatározott környezeti feltételek között és napbesugárzás nélkül a küldeménydarab hozzáférhető felületének hőmérséklete ne haladja meg az 50 °C-ot, kivéve, ha a küldeménydarabot kizárólagos használat mellett szállítják.

**6.4.8.4** A kizárólagos használat mellett szállított küldeménydarab szállítás alatt könnyen hozzáférhető bármely felületének legmagasabb hőmérséklete napbesugárzás nélkül, a 6.4.8.5 bekezdésben meghatározott környezeti körülmények között nem haladhatja meg a 85 °C-ot. Figyelembe vehetők a személyek védelmét szolgáló védőfalak vagy árnyékolások is anélkül, hogy a védőfalat vagy az árnyékolást vizsgálatnak kellene alávetni.

**6.4.8.5** A környezeti hőmérsékletet 38 °C-nak kell feltételezni.

**6.4.8.6** A napbesugárzási körülményeket a 6.4.8.6 táblázatban meghatározottak szerint kell feltételezni.

6.4.8.6 táblázat Napbesugárzási adatok

Eset	A felület alakja és elhelyezkedése	Napi 12 óra napbesugárzás (W/m <sup>2</sup> )
1	Szállítás közben vízszintesen elhelyezkedő és lefelé néző, sík felületek	0
2	Szállítás közben vízszintesen elhelyezkedő és felfelé néző, sík felületek	800
3	Szállítás közben függőlegesen elhelyezkedő felületek	200 <sup>a)</sup>
4	Egyéb (nem vízszintesen elhelyezkedő) lefelé néző felületek	200 <sup>a)</sup>
5	Minden más felület	400 <sup>a)</sup>

a) Szükség esetén szinusz függvényt lehet használni egy felvett elnyelési együtthatóval, és a szomszédos tárgytól származó lehetséges reflexió hatásai elhanyagolhatók.

## 6.4.8.7

Az olyan hővédelemmel rendelkező küldeménydarabot, amely megfelel a 6.4.17.3 bekezdésben ismertetett hőpróba előírásainak, úgy kell kialakítani, hogy a hővédelem hatásos maradjon, ha a küldeménydarabot alávetik a 6.4.15 szakaszban meghatározott vizsgálatnak és a 6.4.17.2 a) és b), ill. a 6.4.17.2 b) és c) pontban meghatározott próbáknak, attól függően, melyik alkalmasabb. A küldeménydarab külsején levő ilyen védelem felszakítás, vágás, kaparás, dörzsölés vagy durva kezelés révén nem válhat hatástalanná.

## 6.4.8.8

A küldeménydarabot úgy kell megtervezni, hogy ha alávetnék:

- a) a 6.4.15 szakaszban meghatározott próbáknak, a radioaktív tartalom vesztesége nem lenne több, mint  $10^{-6}A_2/h$ ; és
- b) a 6.4.17.1, a 6.4.17.2 b) a 6.4.17.3 és a 6.4.17.4 bekezdésben meghatározott vizsgálatoknak, és ezenkívül:
  - i) a 6.4.17.2 c) pontban meghatározott próbának, ha a küldeménydarab tömege nem több, mint 500 kg, külső méretei alapján átlagos sűrűsége nem nagyobb  $1000 \text{ kg/m}^3$ -nél, és radioaktív tartalma – nem különleges formájú radioaktív anyagból – meghaladja a  $1000A_2$  értéket; vagy
  - ii) a 6.4.17.2 a) pontban meghatározott próbának minden más küldeménydarab esetén,

akkor kielégítené a következő követelményeket:

- elegendő árnyékoló hatása maradna, amely biztosítja, hogy a sugárzási szint a küldeménydarab felületétől 1 m távolságban nem haladja meg a  $10 \text{ mSv/h}$  értéket a legnagyobb radioaktív tartalom esetén, amelynek befogadására a küldeménydarabot tervezték; és
- a radioaktív tartalom halmozott vesztesége egy hét alatt 85-kripton esetén nem lenne több, mint  $10A_2$ , ill. minden más radionuklidból  $A_2$ .

Amikor különféle radionuklid keverékek vannak jelen, a 2.2.7.2.2.4 – 2.2.7.2.2.6 pont szerinti módszert kell alkalmazni, kivéve a 85-kripton esetében, ahol  $A_2(i)$  tényleges értékének  $10A_2$  használható. Az előző a) pont szerinti esetben számításba kell venni a 4.1.9.1.2 pont szerinti külső szennyezettségi határokat.

## 6.4.8.9

A  $10^5A_2$ -nél nagyobb aktivitású radioaktív tartalomra tervezett küldeménydarabokat úgy kell kialakítani, hogy ha alávetnék a 6.4.18 szakaszban ismertetett fokozott vízbe merítési próbának, a biztonsági tartály nem repedne meg.



- 6.4.8.10** Az aktivitás-kibocsátás engedélyezett határát a szűrőktől, ill. a mechanikus hűtőrendszertől függetlenül be kell tartani.
- 6.4.8.11** A küldeménydarabban a biztonsági tartályon nem lehet nyomás csökkentő szerkezet, amelyen keresztül a radioaktív tartalom a 6.4.15 és a 6.4.17 szakaszban meghatározott vizsgálatok körülményei között a környezetbe juthatna.
- 6.4.8.12** A küldeménydarabot úgy kell kialakítani, hogy ha a legnagyobb üzemi nyomáson alávetnék a 6.4.15 és a 6.4.17 szakaszban meghatározott vizsgálatoknak, a biztonsági tartályban a feszültség nem érne el olyan értéket, amely a küldeménydarabot olyan módon befolyásolná hátrányosan, hogy az nem tudná a vonatkozó követelményeket teljesíteni.
- 6.4.8.13** A küldeménydarab legnagyobb normális üzemi nyomása nem haladhatja meg a 700 kPa (túlnyomás) értéket.
- 6.4.8.14** A kis mértékben diszpergálódó radioaktív anyagot tartalmazó küldeménydarabot úgy kell kialakítani, hogy bármely, a kis mértékben diszpergálódó radioaktív anyaghoz hozzátett, de annak részét nem képező szerkezet, ill. a csomagolóeszköz bármely belső eleme ne befolyásolja kedvezőtlenül a kis mértékben diszpergálódó radioaktív anyag viselkedését.
- 6.4.8.15** A küldeménydarabot  $-40...+38\text{ }^{\circ}\text{C}$  környezeti hőmérsékletre kell tervezni.

**6.4.9 A  $B(M)$  típusú küldeménydarabokra vonatkozó követelmények**

- 6.4.9.1** A  $B(M)$  típusú küldeménydaraboknak meg kell felelniük a 6.4.8.1 bekezdésben a  $B(U)$  típusú küldeménydarabokra vonatkozó követelményeknek, azzal a kivétellel, hogy azoknál a küldeménydaraboknál, amelyeket kizárólag meghatározott országokba vagy meghatározott országok között szállítanak, az ezen országok illetékes hatóságainak engedélyével a 6.4.7.5, a 6.4.8.5, a 6.4.8.6 és a 6.4.8.9 – 6.4.8.15 bekezdésben megadottaktól eltérő körülmények feltételezhetők. A 6.4.8.9 – 6.4.8.15 bekezdésben a  $B(U)$  típusú küldeménydarabokra meghatározott követelményeket azonban – amennyire csak lehetséges – be kell tartani.
- 6.4.9.2** A  $B(M)$  típusú küldeménydarabok szállítás alatti szakaszos szellőztetése engedélyezhető, amennyiben a szellőztetés működésének ellenőrzési gyakorlata az érintett illetékes hatóság számára elfogadható.

**6.4.10 A  $C$  típusú küldeménydarabokra vonatkozó követelmények**

- 6.4.10.1** A  $C$  típusú küldeménydarabokat úgy kell kialakítani, hogy megfeleljenek a 6.4.2 szakaszban meghatározott követelményeknek, a 6.4.7.2 – 6.4.7.15 bekezdés követelményeinek, kivéve a 6.4.7.14 a) pontot, a 6.4.8.2 – 6.4.8.6, a 6.4.8.10 – 6.4.8.15, továbbá a 6.4.10.2 – 6.4.10.4 bekezdésben meghatározott követelményeknek.
- 6.4.10.2** A küldeménydarabnak meg kell felelnie a 6.4.8.8 b) és a 6.4.8.12 bekezdésben szereplő vizsgálatokra előírt értékelési kritériumoknak  $0,33\text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$  hővezetéssel és  $38\text{ }^{\circ}\text{C}$  hőmérséklettel jellemezhető környezetbe történő beágyazást követően, az egyensúly beállta után. Az értékelés során kiindulási körülményként azt kell feltételezni, hogy a küldeménydarab mindenféle hőszigetelése sértetlen marad, a küldeménydarab legnagyobb normál üzemi nyomáson van és a környezeti hőmérséklet  $38\text{ }^{\circ}\text{C}$ .
- 6.4.10.3** A küldeménydarabot úgy kell kialakítani, hogy ha az a legnagyobb normál üzemi nyomáson lenne és alávetnék:
- a) a 6.4.15 szakaszban meghatározott próbáknak, akkor a radioaktív tartalom vesztesége

legfeljebb  $10^{-6}A_2/h$  lenne; és

- b) a 6.4.20.1 bekezdésben meghatározott próbának, kielégítené a következő követelményeket:
- i) elegendő mértékű árnyékolása maradna ahhoz, hogy a sugárzási szint a küldeménydarab felületétől 1 m távolságban ne legyen több, mint 10 mSv/h a legnagyobb radioaktív tartalom esetében, aminek megtartására a küldeménydarabot tervezték; és
  - ii) a radioaktív tartalom halmozott vesztesége egy hét alatt 85-kripton esetén nem lenne több, mint  $10A_2$ , illetve minden más radionuklid esetén  $A_2$ .

Amikor különféle radionuklidok keverékei vannak jelen, a 2.2.7.2.2.4 – 2.2.7.2.2.6 pont előírásait kell alkalmazni, kivéve a 85-kripton esetében, ahol  $A_{2(i)}$  értékű  $10A_2$  használható. Az előző a) pont szerinti esetben számításba kell venni a 4.1.9.1.2 bekezdés szerinti külső szennyezettségi határokat.

**6.4.10.4** A küldeménydarabot úgy kell kialakítani, hogy a 6.4.18 szakaszban ismertetett fokozott vízbe merítési próba elvégzése után a biztonsági tartály ne repedjen meg.

#### **6.4.11 A hasadóanyagot tartalmazó küldeménydarabokra vonatkozó követelmények**

**6.4.11.1** A hasadóanyagot úgy kell szállítani, hogy:

- a) a szubkritikus állapot fennmaradjon mind normális szállítási körülmények között, mind baleset esetén; különösen a következő eshetőségekre kell tekintettel lenni:
- i) víz szivárgása a küldeménydarabba vagy a küldeménydarabból;
  - ii) a beépített neutronelnyelők vagy moderátorok hatékonyságának elvesztése;
  - iii) a radioaktív tartalom lehetséges átrendeződése vagy a küldeménydarabon belül, vagy a küldeménydarabból való kiszóródás eredményeként;
  - iv) a távolság csökkenése a küldeménydarabokon belül vagy a küldeménydarabok között;
  - v) a küldeménydarabok vízbe merülése vagy hóba temetődése; és
  - vi) a hőmérséklet-változások; és
- b) megfeleljen:
- i) a hasadóanyagot tartalmazó küldeménydarabokra a 6.4.7.2 bekezdés előírásainak;
  - ii) a RID máshol található előírásainak, amelyek az anyag radioaktív tulajdonságai miatt vonatkoznak rájuk; és
  - iii) a 6.4.11.3 – 6.4.11.12 bekezdésben meghatározott követelményeknek, kivéve, ha a 6.4.11.2 bekezdés mentességet ad ezek alól.

**6.4.11.2** A 2.2.7.2.3.5 pont a) – d) alpontja valamelyikének megfelelő hasadóanyagot nem szükséges olyan küldeménydarabokban szállítani, amely megfelel a 6.4.11.3 – 6.4.11.12 bekezdés előírásainak, ill. az ilyen hasadóanyag mentesül a RID egyéb, hasadóanyagokra vonatkozó követelményei alól. Küldeményenként csak egy fajta mentesítés engedélyezhető.

**6.4.11.3** Ha a kémiai vagy fizikai forma, az izotóp összetétel, a tömeg vagy koncentráció, a moderálási arány vagy sűrűség, vagy a geometriai elrendezés nem ismeretes, a 6.4.11.7 – 6.4.11.12 bekezdés szerinti értékelést kell elvégezni, feltételezve, hogy minden ismeretlen értékű paraméter értéke a legnagyobb neutron sokszorozódást adó érték, amely az ezen értékelésben ismert feltételeknek és paramétereknek felel meg.

- 6.4.11.4** A besugárzott nukleáris üzemanyag esetében a 6.4.11.7 – 6.4.11.12 bekezdés szerinti értékelésnek a demonstrált izotóp összetételen kell alapulnia, amely biztosítja:
- a) a besugárzás története során a legnagyobb neutronsokszorozódást; vagy
  - b) a küldeménydarab értékeléséhez a neutron sokszorozódás óvatos becslését. Besugárzás után, de a szállítást megelőzően mérést kell végezni az izotóp összetétel konzervatív voltának bizonyítására.
- 6.4.11.5** A küldeménydarabnak olyannak kell lennie, hogy miután alávetették a 6.4.15 szakaszban meghatározott vizsgálatnak, egy 10 cm élhosszúságú kocka nem tud belehatolni.
- 6.4.11.6** A küldeménydarabot  $-40\text{ °C} \dots +38\text{ °C}$  környezeti hőmérsékletre kell tervezni, kivéve, ha az illetékes hatóság mást ír elő a küldeménydarab-minta engedélyében.
- 6.4.11.7** Az egyenként szigetelt küldeménydaraboknál azt kell feltételezni, hogy víz tud be- vagy kiszivárogni a küldeménydarab valamennyi üreges részébe, beleértve a biztonsági tartályt. Azonban, ha a kialakítás olyan, hogy egyes üreges részekbe a víz be- vagy kiszivárgásának megakadályozására különleges megoldással rendelkezik – még akkor is, ha emberi tévedés történne –, az ilyen üreges részekre vonatkozóan feltételezni lehet a szivárgásmentességet. Különleges megoldások közé tartozik:
- a) többretegű, megbízható vízszigetelés, amelyek mindegyike hézagmentes maradna, ha a küldeménydarabot alávetnék a 6.4.11.12 b) pontban meghatározott vizsgálatoknak; szigorú minőségellenőrzés a küldeménydarabok gyártása, karbantartása és javítása során; és különleges vizsgálatok valamennyi küldeménydarab szállítás előtti zártságának kimutatására; vagy
  - b) csak a legfeljebb 5 tömeg% urán-235 dúsítású urán-hexafluoridot tartalmazó küldeménydarabokra:
    - i) a küldeménydaraboknál a 6.4.11.12 b) pontban előírt vizsgálatok után nincs fizikai érintkezés a szelep és a csomagolás bármely más része között, kivéve a csatlakozások eredeti pontjait, és ezenkívül a 6.4.17.3 bekezdésben előírt próba után a szelepek szivárgásmentesek maradnak; és
    - ii) a csomagolóeszközök gyártásánál, karbantartásánál és javításánál magas szintű minőségellenőrzés vizsgálatokkal összekapcsolva minden küldeménydarab tömörségének bizonyítására az egyes szállítások előtt.
- 6.4.11.8** Fel kell tételezni, hogy a biztonsági tartályt a közvetlenül körülvevő legalább 20 cm-es vígréteg (vagy ezzel egyenértékű más anyag) által létrehozott reflexió vagy olyan nagyobb járulékos reflexió éri, amelyet a csomagolást körülvevő anyag biztosít. Azonban, ha bizonyítható, hogy a biztonsági tartály a 6.4.11.12 b) pontban leírt vizsgálatok után is a csomagolásban marad, a 6.4.11.9 c) pontban feltételezhető a küldeménydarab legalább 20 cm-es víréteg általi közvetlen reflexiója.
- 6.4.11.9** A küldeménydarabnak szubkritikusnak kell lennie a 6.4.11.7 és a 6.4.11.8 bekezdés körülményei között és a legnagyobb neutron sokszorozódást eredményező küldeménydarab feltételek mellett, ami felléphet
- a) normális szállítási feltételek között (esemény mentes);
  - b) a 6.4.11.11 b) pontban előírt vizsgálatok során;
  - c) a 6.4.11.12 b) pontban előírt vizsgálatok során.
- 6.4.11.10** (fenntartva)

**6.4.11.11** A normális szállítási feltételekre egy  $N$  számot kell képezni oly módon, hogy az  $N$  küldeménydarab ötszöröse az elrendezésre és a küldeménydarab azon feltételeire nézve szubkritikus legyen, amelyek a legnagyobb neutronsokszorozódást eredményezik összhangban a következőkkel:

- a) nincs semmi a küldeménydarabok között és a küldeménydarabok halmazát minden oldalról legalább 20 cm-es reflektáló vízréteg veszi körül; és
- b) küldeménydarabok állapotának feltételezetten vagy demonstráltan olyannak kell lennie, mintha alávetették volna azokat a 6.4.15 szakaszban meghatározott próbáknak.

**6.4.11.12** A szállítás baleseti feltételeire egy  $N$  számot kell képezni oly módon, hogy az  $N$  küldeménydarab kétszerese az elrendezésre és a küldeménydarab azon feltételeire nézve szubkritikus legyen, amelyek a legnagyobb neutronsokszorozódást eredményezik összhangban a következőkkel:

- a) hidrogéntartalmú moderátor van a küldeménydarabok között és a halmazt minden oldalról legalább 20 cm vastag reflektáló vízréteg veszi körül; és
- b) a 6.4.15 szakaszban meghatározott próbákkal, amelyeket a következők közül a jobban korlátozó követ:
  - i) a 6.4.17.2 b) pontban meghatározott próba és vagy a 6.4.17.2 c) pontban meghatározott próba, ha a küldeménydarab tömege nem több, mint 500 kg, külső méretei alapján átlagos sűrűsége nem nagyobb 1000 kg/m<sup>3</sup>-nél, vagy a 6.4.17.2 a) pontban meghatározott próba minden más küldeménydarab esetén; amit a 6.4.17.3 bekezdésben meghatározott próba követ és végül a 6.4.19.1 – 6.4.19.3 bekezdésben meghatározott próbákkal zárul a vizsgálat; vagy
  - ii) a 6.4.17.4 bekezdésben meghatározott próba; és
- c) Ha a hasadóanyag bármely része kiszabadul a biztonsági tartályból a 6.4.11.12 b) pontban leírt próba után, akkor fel kell tételezni, hogy a hasadóanyag az elrendezésben levő minden küldeménydarabból kiszabadul és minden hasadóanyagot olyan konfigurációban és moderációban kell elrendezni, ami a legnagyobb neutron sokszorozódást eredményezi a legalább 20 cm-es vízréteg szoros reflexiójának megfelelő mértékben.

**6.4.11.13** A kritikussági biztonsági mutatószámot ( $CSI$ ) a hasadó anyagot tartalmazó küldeménydarabokra úgy kell meghatározni, hogy 50-et el kell osztani a 6.4.11.11 és a 6.4.11.12 bekezdésben levezetett két  $N$  érték közül a kisebbel (azaz  $CSI = 50/N$ ). A kritikussági biztonsági mutatószám lehet nulla, amennyiben a küldeménydarabok korlátlan száma kritikus alatti (szubkritikus) (azaz  $N$  mindkét esetben ténylegesen végtelen).

## **6.4.12 Vizsgálati eljárások és a megfeleléség bizonyítása**

**6.4.12.1** A 2.2.7.2.3.1.3, a 2.2.7.2.3.1.4, a 2.2.7.2.3.3.1, a 2.2.7.2.3.3.2, a 2.2.7.2.3.4.1, a 2.2.7.2.3.4.2 pontban és a 6.4.2 – 6.4.11 szakaszban előírt követelményeknek való megfelelést a következőkben felsorolt eljárások bármelyikével vagy valamely kombinációjukkal kell bizonyítani:

- a) *LSA-III* anyag vagy különleges formájú radioaktív anyag vagy kis mértékben diszpergálódó radioaktív anyag esetén a mintán, a prototípuson vagy a gyártásból kivett csomagoláson elvégzett vizsgálatokkal, amikor is a vizsgálatokhoz felhasznált mintadarab vagy csomagolás tartalmának, amennyire csak lehetséges hasonlítani kell a radioaktív tartalom várható összetételére, és a vizsgálandó mintadarabot vagy csomagolást úgy kell előkészíteni, ahogyan azt szállításra átadják.

- b) Megfelelő mértékben hasonló esetben korábban elvégzett bizonyítási eljárásra való hivatkozással.
- c) Olyan modelleken végzett vizsgálatokkal, amelyek mérethűen tartalmazzák a vizsgált mintadarab lényeges jellemzőit, olyan esetekben, amikor a mérnöki tapasztalat szerint az ilyen vizsgálatok eredményei tervezési célokra alkalmasak. Amennyiben ilyen modellt használnak, bizonyos vizsgálati paramétereket, mint pl. az átdőfő rúd átmérőjét vagy a halmazolási terhelést, megfelelően módosítani kell.
- d) Számítással vagy ésszerű indokok alapján, amennyiben a számítási eljárások és a paraméterek általánosan elfogadottak, megbízhatók vagy hagyományosak.

**6.4.12.2** Miután a mintadarab, prototípus vagy minta vizsgálata megtörtént, megfelelő értékelési módszert kell alkalmazni annak tanúsítására, hogy a 2.2.7.2.3.1.3, a 2.2.7.2.3.1.4, a 2.2.7.2.3.3.1, a 2.2.7.2.3.3.2, a 2.2.7.2.3.4.1, a 2.2.7.2.3.4.2 pont vizsgálatokra vonatkozó előírásait és a 6.4.2 – 6.4.11 szakasz követelményeit betartották.

**6.4.12.3** Minden mintadarabot a próbák előtt azonosítás céljából meg kell vizsgálni, és a hiányosságokat vagy sérüléseket jegyzőkönyvezni kell a következők szerint:

- a) eltérés a gyártási mintától;
- b) gyártási hibák;
- c) korrózió vagy más elhasználódás; és
- d) külső alakváltozás.

A küldeménydarab biztonsági tartályának egyértelműen azonosíthatónak kell lennie. A mintadarab külső jellegzetességeinek egyértelműen azonosíthatónak kell lennie, hogy a mintadarab bármely részére egyszerűen és világosan hivatkozni lehessen.

**6.4.13 A biztonsági tartály és a sugárárnyékolás sértetlenségének vizsgálata és a biztonsági kritikusság értékelése**

A 6.4.15 – 6.4.21 szakaszban meghatározott minden egyes alkalmazható próba után:

- a) a hibákat és a sérülést azonosítani és jegyzőkönyvezni kell;
- b) meg kell határozni, hogy a biztonsági tartály és a sugárárnyékolás megőrizte-e zártságát a vizsgált küldeménydarabra vonatkozóan a 6.4.2 – 6.4.11 szakaszban előírt mértékben; és
- c) hasadóanyagot tartalmazó küldeménydaraboknál meg kell határozni, hogy a 6.4.11.1 – 6.4.11.12 bekezdésben előírt értékelésnél az egy vagy több küldeménydarabra alkalmazott feltételezések és körülmények érvényesek-e.

**6.4.14 Ütközőlap ejtési vizsgálatokhoz**

A 2.2.7.2.3.3.5 a), a 6.4.15.4, a 6.4.16 a), a 6.4.17.2 és a 6.4.20.2 bekezdésben meghatározott ejtési vizsgálatokhoz az ütközőlapnak olyan jellegű sima, vízszintes felületűnek kell lennie, hogy a mintadarab felütkezése során létrejött elmozdulás vagy alakváltozás által okozott ellenállás növekedése ne növelje észrevehető módon a mintadarab károsodását.

**6.4.15 Vizsgálat a normális szállítási körülmények elviselésének bemutatására**

**6.4.15.1** A vizsgálat vízpermet, szabadejtési, halmazolási és átdőfési próbából áll. A küldeménydarab mintadarabjait alá kell vetni a szabadejtési, halmazolási és átdőfési próbáknak, előtte azonban minden esetben el kell végezni a vízpermet-próbát. Egy mintadarabot lehet használni az összes vizsgálatához, feltéve, hogy a 6.4.15.2 bekezdés követelményei teljesülnek.

**6.4.15.2** A vízpermet-próba és az utána következő vizsgálat közötti időtartamnak annyinak kell lennie, hogy a víz beszívódása a legnagyobb mértékű legyen a mintadarab külsejének észrevehető száradása nélkül. Ha semmi nem szól ellene, akkor ennek az időtartamnak két órának kell lennie, ha a vízpermet egyszerre négy irányból hat. Nem kell szünetet tartani, ha a vízpermet a négy irányból egymás után éri a mintadarabot.

**6.4.15.3** *Vízpermetpróba:* A mintadarabot úgy kell alávetni a vízpermetpróbának, hogy az ki legyen téve legalább egy óra hosszat tartó, óránként mintegy 5 cm intenzitású esőnek megfelelő hatásnak.

**6.4.15.4** *Szabadejtési próba:* a mintadarabot úgy kell az ütközőlapra ejteni, hogy a vizsgálandó – biztonsági szempontból legfontosabb – részeket a legnagyobb károsodás érje.

- A mintadarab legalsó pontjától az ütközőlap felső felületéig mért ejtési magasság nem lehet kevesebb, mint a 6.4.15.4 táblázatban a tömeg függvényében megadott távolság. Az ütközőlapnak olyannak kell lennie, ahogyan a 6.4.14 szakaszban meg van határozva.
- Az 50 kg-nál nem nagyobb tömegű, szögletes, papírlemez vagy fa küldeménydarabok egy külön példányát 0,3 m magasságból mindegyik sarkára le kell ejteni.
- A 100 kg-nál nem nagyobb tömegű hengeres papírlemez küldeménydarabok egy külön példányát 0,3 m magasságból mindkét végén a kör alakú perem minden egyes körnegyedére le kell ejteni.

**6.4.15.4 táblázat Ejtési magasságok a küldeménydarabok normális szállítási körülményeinek vizsgálatához**

A küldeménydarab tömege (kg)	Szabad ejtési magasság (m)
a küldeménydarab tömege < 5 000	1,2
5 000 ≤ a küldeménydarab tömege < 10 000	0,9
10 000 ≤ a küldeménydarab tömege < 15 000	0,6
15 000 ≤ a küldeménydarab tömege	0,3

**6.4.15.5** *Halmazolási próba:* kivéve azokat az eseteket, amikor a csomagolás alakja a halmazolást nem teszi lehetővé, a mintadarabot 24 órán át olyan nyomóterhelés hatásának kell kitenni, amely a következők közül a nagyobb:

- a tényleges küldeménydarab tömegének ötszöröse; és
- a küldeménydarab függőleges vetületi felülete szorozva 13 kPa-lal.

A terhelésnek egyenletesen kell a mintadarab két, egymással szemben levő oldalára hatnia, amelyek közül az egyik az alaplappal legyen, amelyen a küldeménydarab általában nyugszik.



**6.4.15.6** *Átdőfési próba:* A mintadarabot kemény, sík, vízszintes lapra kell helyezni, amelynek nem szabad észrevehető módon elmozdulnia a próba végrehajtása során.

- a) A 3,2 cm-es átmérőjű hengeres, félgömbben végződő, 6 kg tömegű rudat hossz tengelyével függőlegesen úgy kell a mintadarab leggyengébb részének közepére ejteni, hogy ha elég mélyen hatol be, éppen a biztonsági tartályt találja el. A próba végrehajtása során a rúd nem szenvedhet észrevehető alakváltozást.
- b) Az ejtési magasságnak a rúd alsó végétől a mintadarab felső felületén azon pontig, ahová az ejtés irányul, 1 m-nek kell lennie.

**6.4.16** **Folyadékok és gázok szállítására tervezett A típusú küldeménydarabok kiegészítő vizsgálata**

Egyetlen vagy más-más mintadarabot kell a következő próbák mindegyikének alávetni, kivéve, ha a próbák valamelyike bizonyíthatóan szigorúbb a kérdéses mintadarabra, mint a többi. Ez utóbbi esetben egy mintadarabot kell a legszigorúbb próbának alávetni.

- a) *Szabadejtési próba:* A mintadarabot úgy kell az ütközőlapra ejteni, hogy a védelmet a legnagyobb károsodás érje. Az ejtési magasságnak a mintadarab legalsó részétől az ütközőlap felső felületéig 9 m-nek kell lennie. Az ütközőlapnak olyannak kell lennie, ahogy a 6.4.14 szakaszban meg van határozva.
- b) *Átdőfési próba:* A mintadarabot alá kell vetni a 6.4.15.6 bekezdésben meghatározott próbának, azzal az eltéréssel, hogy az ejtési magasságot a 6.4.15.6 b) pontban meghatározott 1 m-ről 1,7 m-re kell növelni.

**6.4.17** **Vizsgálatok a szállítás közben bekövetkező balesetekkel szembeni ellenálló képesség bemutatására**

**6.4.17.1** A mintadarabot a 6.4.17.2 és a 6.4.17.3 bekezdésben meghatározott próbák halmozott hatásának kell alávetni a felsorolás sorrendjében. A próbákat követően vagy ugyanezt vagy egy másik mintadarabot vízbe merítési próbá(k)nak kell alávetni a 6.4.17.4 bekezdésben és ha alkalmazható, a 6.4.18 szakaszban meghatározottak szerint.

**6.4.17.2** *Mechanikai próba:* A mechanikai próba három különböző ejtési vizsgálatból áll. Minden mintadarabot a 6.4.8.8 vagy a 6.4.11.12 bekezdésben meghatározott ejtéseknek kell alávetni. Az ejtési próbák sorrendjét úgy kell megválasztani, hogy a mechanikai vizsgálat befejezése után a mintadarab károsodása az azt követő hőpróba során a legnagyobb mértékű legyen.

- a) Az 1. ejtés során a mintadarabot úgy kell az ütközőlapra ejteni, hogy az a legnagyobb sérülést szenvedje el, és az ejtési magasságnak a mintadarab legalsó pontjától az ütközőlap felső felületéig 9 m-nek kell lennie. Az ütközőlapnak olyannak kell lenni, ahogy a 6.4.14 szakaszban meg van határozva.
- b) A 2. ejtés során a mintadarabot oly módon kell ejteni, hogy abban az ütközőlapra függőlegesen rögzített hegyes rúd a legnagyobb sérülést okozza. Az ejtési magasságnak a mintadarab ütközésre szánt pontja és a rúd felső felülete között 1 m-nek kell lennie. A rúdnak szerkezeti acélból készült, tömör hengeres testnek kell lennie, amelynek átmérője  $15\text{ cm} \pm 0,5\text{ cm}$ , és hosszúsága 20 cm, hacsak hosszabb rúd nem idézhet elő nagyobb károsodást. Ez esetben a legnagyobb károsodást okozó, elegendő hosszúságú rudat kell alkalmazni. A rúd felső végének sík, vízszintes felületűnek kell lennie, szélének lekerekítési sugara ne legyen több, mint 6 mm. Az ütközőlapnak, amelyből a rúd kiemelkedik, a 6.4.14 szakasz szerintinek kell lennie.
- c) A 3. ejtés során a mintadarabot dinamikus összenyomási próbának kell alávetni; a

mintadarabot ütközőlapra kell fektetni, és úgy kell ráejteni 9 m magasból 500 kg tömeget, hogy a mintadarab a legnagyobb károsodást szenvedje el. A tömegnek 1 m x 1 m-es szilárd szerkezeti acél lapnak kell lennie, és vízszintes helyzetben kell leesnie. Az ejtési magasságot a tömeg alsó lapja és a mintadarab legmagasabb pontja között kell mérni. Az ütközőlapnak, amelyen a mintadarab elhelyezkedik, a 6.4.14 szakasz szerintinek kell lennie.

**6.4.17.3** *Hőpróba:* A mintadarabnak 38 °C-os környezeti hőmérsékleten termikus egyensúlyban kell lennie a 6.4.8.6 táblázatban meghatározott napbesugárzási körülmények és a radioaktív tartalomtól a küldeménydarab belsejében történő – a tervezésnél alapul vett – legnagyobb mértékű hőfejlődés feltételei mellett. Alternatívaként ezen paraméterek bármelyike eltérő értékű is lehet a próba előtt és alatt, amennyiben a küldeménydarab megfelelő reakciójának értékelése során ezt figyelembe veszik.

A hőpróbának a következőkből kell állnia:

- a) a mintadarab teljes egészét 30 percig olyan termikus környezetbe kell helyezni, ami legalább akkora hőfluxust biztosít, mint a szénhidrogén-levegő keverék lángja kellően nyugodt környezeti körülmények mellett, legalább 800 °C közepes láng hőmérséklet és legalább 0,9 közepes kisugárzási tényező esetén; a mintát teljesen lánggal körülvéve a felület abszorpciós tényezőjének vagy 0,8-nak vagy olyan értékűnek kell lennie, amelyet a küldeménydarab a meghatározott tűz hatására feltételezhetően mutatna; majd ezt követően
- b) a mintát elegendően hosszú ideig 38 °C-os környezeti hőmérsékletnek kell kitenni, a 6.4.8.6 táblázatban meghatározott napbesugárzási körülményeknek és a radioaktív tartalomtól a küldeménydarab belsejében történő legnagyobb mértékű hőfejlődés feltételei mellett, hogy a hőmérséklet a küldeménydarabban mindenütt csökkenjen és/vagy elérje a kezdeti állandósult körülményeket. Alternatívaként ezen paraméterek bármelyike eltérő értékű is lehet a próba előtt és alatt, amennyiben a küldeménydarab viselkedésének értékelése során ezt megfelelő módon figyelembe veszik.

A próba alatt és után a mintát nem kell mesterségesen hűteni és a minta anyagának esetleges égését hagyni kell természetes módon folytatódni.

**6.4.17.4** *Vízbe merítési próba:* A mintadarabot legalább 15 m vízoszlop nyomásával azonos nyomású víz alatt kell tartani legalább nyolc órán keresztül olyan helyzetben, amelyik a legnagyobb sérüléshez vezet. Ilyen nyomásnak tekinthető a legalább 150 kPa külső nyomás (túlnyomás).

**6.4.18** **Fokozott vízbe merítési próba a  $10^5 A_2$ -nél nagyobb aktivitást tartalmazó  $B(U)$  és  $B(M)$  típusú küldeménydarabokra és  $C$  típusú küldeménydarabokra**

*Fokozott vízbe merítési próba:* A mintadarabot legalább 200 m vízoszlop nyomásával azonos nyomású vízben (víz alatt) kell tartani legalább egy órán keresztül. Ilyen nyomásnak tekinthető a legalább 2 MPa külső nyomás (túlnyomás).

**6.4.19** **Hasadóanyagot tartalmazó küldeménydarabok vízszivárgás-próbája**

**6.4.19.1** Az olyan küldeménydarabokat, amelyeknél a víz beszivárgást és kiszivárgást a legnagyobb reaktivitást eredményezőnek feltételezték a 6.4.11.7 – 6.4.11.12 bekezdés szerinti értékelés céljából, mentesíteni kell a próba alól.

**6.4.19.2** Mielőtt a mintadarabot a következőkben ismertetett vízszivárgási próbának alávetnék, el kell végezni rajta a 6.4.17.2 b) pont szerinti próbát és a 6.4.17.2 a) vagy c) pont szerinti próbát, mint azt a 6.4.11.12 bekezdés előírja, továbbá a 6.4.17.3 bekezdésben előírt próbát.



**6.4.19.3** A mintadarabot legalább 0,9 m vízoszlop nyomásával azonos víznyomás alatt kell tartani legalább nyolc órán keresztül olyan helyzetben, amelynél a legnagyobb szivárgás várható.

**6.4.20 A C típusú küldeménydarabok vizsgálata**

**6.4.20.1** A küldeménydarabokat meghatározott sorrendben alá kell vetni a következő próbáknak:

- a) a 6.4.17.2 a), a 6.4.17.2 c), a 6.4.20.2 és a 6.4.20.3 bekezdésben előírt próbák; és
- b) a 6.4.20.4 bekezdésben előírt próba.

Az a) és b) pont szerinti próbákat nem szükséges ugyanazon a mintadarabon végrehajtani.

**6.4.20.2** *Átlyukasztási/felhasítási próba:* A mintát szerkezeti acélból készült, tömör acéltest károsító hatásának kell kitenni. Az acéltest helyzetének a minta felületéhez képest olyannak kell lennie, hogy a 6.4.20.1 a) pontban meghatározott vizsgálat sorozat eredményeként a legnagyobb sérülés következzen be.

- a) A 250 kg-nál kisebb tömegű küldeménydarabot képviselő mintát az ütközőlapra kell helyezni és ki kell tenni a kiválasztott ütközési pont felett 3 m magasból leeső 250 kg tömegű acéltest hatásának. Ennél a próbánál az acéltestnek 20 cm átmérőjű, 30 cm hosszú hengeres rúdnak kell lennie, amelynek egyenes csonkakúp alakú felütköző végénél az átmérő 2,5 cm, szélének lekerekítési sugara ne legyen több, mint 6 mm. Az ütközőlapnak, amelyre a mintát állítani kell, a 6.4.14 szakasz szerintinek kell lennie;
- b) 250 kg vagy nagyobb tömegű küldeménydarab esetén az acéltestet a felütköző végével felfelé az ütközőlapra kell állítani és a mintát kell ráejteni. Az ejtési magasságnak a minta felütközési pontjától az acéltest felső felületéig mérve 3 m-nek kell lennie. Ehhez a próbához az acéltestnek ugyanolyan jellemzőkkel és méretekkel kell bírnia, mint ahogy az előző a) bekezdésben meg van határozva, azzal az eltéréssel, hogy az acéltest hosszának és tömegének olyannak kell lennie, ami a minta legnagyobb mértékű sérülését okozza. Az ütközőlapnak, amelyre az acéltestet alapjával rá kell állítani, a 6.4.14 szakasz szerintinek kell lennie.

**6.4.20.3** *Fokozott hőpróba:* a próbát a 6.4.17.3 bekezdésben meghatározott körülmények között kell végrehajtani, azzal az eltéréssel, hogy a mintadarabot a termikus környezetnek 60 perc időtartamra kell kitenni.

**6.4.20.4** *Ütőpróba:* a mintát a legnagyobb sérülést okozó helyzetben legalább 90 m/s felütközési sebességgel kell az ütközőlapnak ütköztetni. Az ütközőlapnak a 6.4.14 szakasz szerintinek kell lennie azzal az eltéréssel, hogy az ütközőfelület bármilyen irányban elhelyezhető, ha merőleges a minta pályájára.

**6.4.21 A 0,1 kg vagy annál több urán-hexafluoridot tartalmazó csomagolóeszközök vizsgálata**

**6.4.21.1** Minden csomagolóeszközt és üzemi, ill. szerkezeti szerelvényeit vagy együttesen vagy külön-külön első alkalommal az üzembe helyezés előtt és később időszakonként meg kell vizsgálni. Ezt a vizsgálatot az illetékes hatóság egyetértésével kell végrehajtani és tanúsítani.

**6.4.21.2** Az üzembe helyezés előtti vizsgálat a gyártási típus vizsgálatából, szerkezetvizsgálatból, tömörségvizsgálatból, víztérfogat-meghatározásból és az üzemi szerelvények kielégítő működésének vizsgálatából áll.

**6.4.21.3** Az időszakos vizsgálat szemrevételezésből, szerkezetvizsgálatból, tömörségvizsgálatból és az üzemi szerelvények kielégítő működésének vizsgálatából áll. Az időszakos vizsgálat

határideje legfeljebb öt év. Azokat a csomagolóeszközöket, amelyek ezen ötéves időtartamon belül nem kerültek vizsgálatra, szállítás előtt az illetékes hatóság által jóváhagyott program szerint kell felülvizsgálni. Ezek csak az időszakos vizsgálatra vonatkozó teljes körű program végrehajtása után tölthetők meg ismét.

**6.4.21.4** A gyártási típus vizsgálatnak bizonyítania kell a gyártási típus és a gyártási program előírásainak betartását.

**6.4.21.5** A 0,1 kg vagy annál több urán-hexafluorid befogadására szolgáló csomagolóeszközöket legalább 1,38 MPa nyomással folyadéknomás-próbának kell alávetni, de ha a próbanyomás 2,76 MPa-nál kevesebb, a minta többoldalú jóváhagyást igényel. A csomagolóeszközök ismételt vizsgálatára más, azonos értékű, roncsolásmentes vizsgálat többoldalú jóváhagyás esetén alkalmazható.

**6.4.21.6** A tömörségvizsgálatot olyan eljárással kell végezni, amely biztonsági tartálynál 0,1 Pa·l/s ( $10^{-6}$  bar·l/s) érzékenységgel képes a szivárgás megállapítására.

**6.4.21.7** A csomagolóeszköz víztérfogatát 15 °C-ra vonatkoztatva  $\pm 0,25\%$  pontossággal kell meghatározni. A térfogatot a 6.4.21.8 bekezdésben előírt táblán fel kell tüntetni.

**6.4.21.8** Minden csomagolóeszközt nem korrodáló fémből készült táblát kell tartós módon egy könnyen hozzáférhető helyre erősíteni. A tábla felerősítésének módja nem befolyásolhatja a csomagolóeszköz szilárdságát. A táblára legalább a következő adatokat kell beütéssel vagy más hasonló eljárással felvinni:

- az engedély száma;
- a gyártó sorozatszám;
- legnagyobb üzemi nyomás (túlnyomás);
- próbanyomás (túlnyomás);
- tartalom: urán-hexafluorid;
- űrtartalom literben;
- az urán-hexafluorid töltet megengedett legnagyobb tömege;
- saját tömeg;
- az üzembe helyezés előtti vizsgálat és az utoljára végrehajtott időszakos vizsgálat időpontja (hónap, év);
- a vizsgálatot végző szakértő bélyegzőlenyomata.

#### **6.4.22 A küldeménydarab minták és anyagok engedélyezése**

**6.4.22.1** A 0,1 kg vagy annál több urán-hexafluoridot tartalmazó küldeménydarabok mintáinak engedélyezésénél:

- a) minden mintához, amely kielégíti a 6.4.6.4 bekezdés követelményeit, többoldalú engedély szükséges;
- b) minden mintához, amely kielégíti a 6.4.6.1 – 6.4.6.3 bekezdés előírásait a minta származási országa illetékes hatóságának egyoldalú engedélye szükséges, kivéve ha a RID-ben egyébként többoldalú engedély van előírva.

**6.4.22.2** Minden egyes *B(U)* és *C* típusú küldeménydarab mintához egyoldalú engedély kell, kivéve:

- a) a hasadó anyag küldeménydarab mintáját, ami a 6.4.22.4, a 6.4.23.7 bekezdés és az 5.1.5.2.1 pont hatálya alá esik és amelyhez többoldalú engedély kell; és

- b) a kis mértékben diszpergálódó radioaktív anyag  $B(U)$  típusú küldeménydarab mintáját, amelyhez többoldalú engedély kell.

**6.4.22.3** Minden  $B(M)$  típusú küldeménydarab mintához, beleértve a hasadó anyagot tartalmazót, amely a 6.4.22.4, a 6.4.23.7 bekezdés és az 5.1.5.2.1 pont hatálya alá is esik, és a kis mértékben diszpergálódó radioaktív anyagot tartalmazókat, többoldalú engedély szükséges.

**6.4.22.4** Minden olyan hasadó anyagot tartalmazó küldeménydarab mintához, amely a 6.4.11.2 bekezdés szerint nincs mentesítve a hasadó anyagot tartalmazó küldeménydarabokra vonatkozó előírások alól, többoldalú engedély szükséges.

**6.4.22.5** A különleges formájú radioaktív anyag mintájához egyoldalú engedély kell. A kis mértékben diszpergálódó radioaktív anyag mintájához többoldalú engedély szükséges (lásd a 6.4.23.8 bekezdést is).

**6.4.22.6** Valamely COTIF Tagállamtól származó bármely mintát, amelyhez egyoldalú engedély kell, ezen állam illetékes hatóságának kell engedélyeznie. Amennyiben az az állam, amelyben a küldeménydarabot tervezték, nem COTIF Tagállam a szállítás csak akkor engedélyezett, ha:

- a) ez az állam tanúsítványt állít ki, amely szerint a küldeménydarab megfelel a RID műszaki előírásainak és ezt a tanúsítványt a küldemény által érintett első COTIF Tagállam illetékes hatósága elismeri;
- b) amennyiben nincs semmiféle tanúsítvány mellékelve, a küldeménydarab mintáját a küldemény által érintett első COTIF Tagállam illetékes hatóságai engedélyezik.

**6.4.22.7** Az átmeneti előírások alapján engedélyezett mintákra lásd az 1.6.6 szakaszt.

## **6.4.23 Engedély iránti kérelmek és engedélyek a radioaktív anyagok szállításához**

**6.4.23.1** (fenntartva)

**6.4.23.2** A szállítási engedély iránti kérelemnek tartalmaznia kell:

- a) a szállítási időszakot, amelyre az engedélyt kérik;
- b) a tényleges radioaktív tartalom adatait, a tervezett szállítási módokat, a kocsitípust és a lehetséges vagy tervezett szállítási útvonalat; és
- c) annak részletezését, hogy milyen módon hajtják végre a küldeménydarab-mintának az 5.1.5.2.1 pont szerint kiállított engedélyokiratában nevesített óvrendszabályokat és adminisztratív vagy üzemi ellenőrzéseit.

**6.4.23.3** A külön megegyezés alapján történő szállításra vonatkozó engedély iránti kérelemnek minden olyan információt tartalmaznia kell, ami szükséges az illetékes hatóság meggyőzésére, bizonyítva, hogy a szállítás során az általános biztonság legalább annak megfelel, amely fennállna akkor, ha a RID minden vonatkozó előírását betartották volna.

Az engedély iránti kérelemnek tartalmaznia kell:

- a) felvilágosítást arra, hogy a szállítást milyen vonatkozásban és milyen okokból nem lehet a RID vonatkozó előírásaival teljes összhangban végrehajtani;
- b) adatokat a különleges biztonsági előírásokra vagy különleges adminisztratív vagy üzemi ellenőrzésekre, amelyeket a szállítás során végre kell hajtani, hogy a RID vonatkozó előírásaitól való eltéréseket ellensúlyozzák.

**6.4.23.4** A  $B(U)$  típusú vagy  $C$  típusú küldeménydarab minta engedélyezése iránti kérelemnek tartalmaznia kell:

- a) a tervezett radioaktív tartalom részletes leírását, adatokat annak fizikai és kémiai állapotára és a kibocsátott sugárzás fajtájára;
- b) a gyártási minta részletes leírását, beleértve a teljes körű szerkezeti rajzokat, anyagjegyzéket és az alkalmazandó gyártási eljárást;
- c) jegyzőkönyvet a vizsgálatokról és azok eredményeiről, vagy számítási eljárásról vagy más bizonyítékot arra, hogy a minta a vonatkozó előírásoknak megfelel;
- d) a javasolt üzemelési és karbantartási utasításokat a küldeménydarab használatához;
- e) ha a küldeménydarab 100 kPa túlnyomásonál nagyobb legnagyobb normál üzemi nyomásra van kialakítva, az engedély iránti kérelemnek ki kell térni a biztonsági tartály gyártásához felhasznált anyagokra, azok specifikációira, a mintavételre és az elvégzendő vizsgálatokra;
- f) ha a tervezett radioaktív tartalom besugárzott fűtőelem, a kérelmezőnek a biztonsági vizsgálatokban szereplő minden feltételezést, amely a fűtőelem tulajdonságaira vonatkozik, ki kell fejtenie és igazolnia kell, és le kell írnia az esetleges szállítást megelőző intézkedéseket, mint azt a 6.4.11.4 b) pont előírja;
- g) minden különleges rakodási feltételt, amely a küldeménydarabból a biztonságos hőelvezetéshez szükséges, figyelembe véve az alkalmazásra kerülő különböző szállítási módokat, kocsi- és konténertípusokat;
- h) a küldeménydarabot ábrázoló, 21 x 30 cm-nél nem nagyobb, másolható képet, ami bemutatja a küldeménydarab összeállítását; és
- i) az alkalmazott minőségbiztosítási program specifikációját, mint azt az 1.7.3 szakasz előírja.

**6.4.23.5** A  $B(M)$  típusú küldeménydarab mintára vonatkozó engedély iránti kérelmének a 6.4.23.4 bekezdésben a  $B(U)$  típusú küldeménydarabra előírt adatokon kívül kiegészítésképpen a következőket kell tartalmaznia:

- a) a 6.4.7.5, a 6.4.8.5, a 6.4.8.6 és a 6.4.8.9 – 6.4.8.15 bekezdésben meghatározott azon követelmények felsorolását, amelyeknek a küldeménydarab nem felel meg;
- b) a kiegészítésként tervezett üzemeltetési óvintézkedéseket, amelyeket a szállítás alatt kell végrehajtani, és amelyeket a RID egyébként nem ír elő, de szükségesek ahhoz, hogy a küldeménydarab biztonsága megmaradjon vagy az előző a) pontban felsorolt hiányosságok ellensúlyozásához;
- c) a szállítási módokra vonatkozó bármilyen korlátozás bejelentését, és az esetleges különleges berakási, szállítási, kirakási vagy kezelési eljárásokat; és
- d) a szállítás alatt várhatóan fellépő különböző környezeti feltételeket (hőmérséklet, napsugárzás), amelyeket a tervezés során figyelembe vettek.

**6.4.23.6** A 0,1 kg vagy annál több urán-hexafluoridot tartalmazó küldeménydarabok mintáira vonatkozó engedély kérelemnek tartalmaznia kell minden információt, amely az illetékes hatóságot meggyőzheti arról, hogy a minta megfelel a 6.4.6.1 bekezdés előírásainak és az alkalmazott minőségbiztosítási program leírását, mint azt az 1.7.3 szakasz előírja.

**6.4.23.7** A hasadó anyagot tartalmazó küldeményre vonatkozó engedély kérelemnek tartalmaznia kell

minden információt, amely az illetékes hatóságot meggyőzheti arról, hogy a minta megfelel a 6.4.11.1 bekezdés előírásainak és az alkalmazott minőségbiztosítási program leírását, mint azt az 1.7.3 szakasz előírja.

**6.4.23.8** A különleges formájú radioaktív anyag és a kis mértékben diszpergálódó radioaktív anyag mintára vonatkozó engedély kérelemnek a következőket kell tartalmaznia:

- a) a radioaktív anyag, vagy ha kapszuláról van szó, a tartalom pontos leírását, különösen a fizikai és kémiai állapot megadásával;
- b) az alkalmazott kapszula gyártási típusának pontos leírását;
- c) jelentést az elvégzett vizsgálatokról és azok eredményeiről, vagy a számításokról, amelyek bizonyítják, hogy a radioaktív anyag megfelel az előírásoknak, vagy más bizonyítékot arra, hogy a különleges formájú radioaktív anyag vagy a kis mértékben diszpergálódó radioaktív anyag kielégíti a RID vonatkozó előírásait;
- d) az alkalmazott minőségbiztosítási program leírását, mint azt az 1.7.3 szakasz előírja; és
- e) a különleges formájú radioaktív anyag vagy a kis mértékben diszpergálódó radioaktív anyag feladása során a szállítás előtt elvégezni javasolt teendőket.

**6.4.23.9** Az illetékes hatóság által kiadott minden engedélyokiratot egy azonosító jelöléssel kell ellátni. Ennek a jelölésnek a következő általános alakúnak kell lennie:

Az állam jele/szám/típus kód:

- a) A 6.4.23.10 b) pontban előírtak kivételével annak az államnak a jele, amely az engedélyt kiadta a nemzetközi forgalomban résztvevő gépjárművek államjelzésének formájában<sup>8)</sup>.
- b) A számot az illetékes hatóságnak kell kiadnia és ez meghatározott mintára vagy meghatározott szállításra vonatkozik. A szállítási engedélyhez kiadott jelölésnek egyértelműen kapcsolatban kell lenni a küldeménydarab-minta engedélyéhez kiadott azonosító jelöléssel.
- c) A következő kódokat az engedélyokirat típusának jelölésére a következők szerint kell alkalmazni:

<i>AF</i>	A típusú küldeménydarab-minta hasadóanyagokhoz
<i>B(U)</i>	<i>B(U)</i> típusú küldeménydarab-minta [ <i>B(U)F</i> hasadóanyaghoz]
<i>B(M)</i>	<i>B(M)</i> típusú küldeménydarab-minta [ <i>B(M)F</i> hasadóanyaghoz]
<i>C</i>	<i>C</i> típusú küldeménydarab-minta [ <i>CF</i> hasadóanyaghoz]
<i>IF</i>	Ipari küldeménydarabok hasadóanyagokhoz
<i>S</i>	Különleges formájú radioaktív anyagok
<i>LD</i>	Kis mértékben diszpergálódó radioaktív anyagok
<i>T</i>	Szállítás
<i>X</i>	Külön megegyezés.

Nemhasadó vagy hasadó-engedményes urán-hexafluoridra vonatkozó küldeménydarab-minta esetében, ha az előző kódokat nem használják, a következő kódokat kell használni:

8) Lásd a Közúti közlekedésről szóló Bécsi Egyezményt (Bécs, 1968).

$H(U)$  Egyoldalú engedély

$H(M)$  Többoldalú engedély.

- d) A küldeménydarab mintákra és a különleges formájú radioaktív anyagokra vonatkozó engedélyokiratokban, az 1.6.6.2 és az 1.6.6.3 bekezdés átmeneti előírásai alapján kibocsátott engedélyek kivételével, és a kis mértékben diszpergálódó radioaktív anyagokra vonatkozó engedélyokiratokban a típus kódhoz a „-96” szimbólumot hozzá kell fűzni.

#### 6.4.23.10

Ezeket a kódokat a következőképpen kell alkalmazni:

- a) Minden okiratot és minden küldeménydarabot el kell látni a megfelelő jelöléssel, amely a 6.4.23.9 a), b), c) és d) pontban előírt szimbólumokból áll, azzal a kivétellel, hogy küldeménydaraboknál csak a megfelelő gyártási típuskódot, adott esetben a „-96” szimbólumot is beleértve, kell a második ferde vonal után feltüntetni, azaz a T vagy X nem jelenik meg a küldeménydarab jelölésében. Amennyiben a küldemény-darab mintára és a szállításra vonatkozó engedélyek egyetlen okirattá vannak összefogva, a megfelelő kódokat nem kell megismételni. Például:

A/132/B(M)F-96:  $B(M)$  típusú küldeménydarab hasadóanyaghoz, amelyhez többoldalú engedély szükséges és amelyhez az illetékes ország, Ausztria hatósága a 132 azonosító jelölést adta ki (A küldeménydarabra fel kell vinni és a küldeménydarab-minta engedélyokiratába be kell írni);

A/132/B(M)F-96T: szállítási engedély az előzőekben megjelölt azonosítóval ellátott küldeménydarabra kiadva (Csak az engedélyokiratban kell feltüntetni);

A/137/X: külön megegyezés, melyet Ausztria illetékes hatósága fogadott el és a 137 azonosító jelöléssel látott el. (Csak az engedély-okiratban kell feltüntetni);

A/139/IF-96: hasadóanyagokat tartalmazó ipari küldeménydarab-minta, melyet Ausztria illetékes hatósága engedélyezett és a 139 azonosító jelöléssel látott el (mind a küldeménydarabon, mind a küldeménydarab minta engedélyében fel kell tüntetni); és

A/145/H(U)-96: küldeménydarab minta hasadó engedményes urán-hexa-fluoridra, amelyet Ausztria illetékes hatósága engedélyezett és a 145 azonosító jelöléssel látott el (mind a küldeménydarabon, mind a küldeménydarab minta engedélyében fel kell tüntetni).

- b) Amennyiben egy többoldalú engedély a 6.4.23.16 bekezdés szerint érvényességi záradékkal lett kiadva, csak azt a jelölést kell alkalmazni, amelyet a küldeménydarab-minta származási vagy feladási országa adott ki. Amennyiben egy többoldalú engedélyt a különböző országokban egymásután kiállított engedélyokiratok révén adnak ki, akkor minden engedélyokiratban fel kell tüntetni a megfelelő azonosító jelölést és a küldeménydarabokat, amelynek gyártási típusa ebben a formában engedélyezve lett, el kell látni minden megfelelő azonosító jelöléssel.

Például a küldeménydarab

A/132/B(M)F-96  
CH/28/B(M)F-96

jelölése osztrák eredetre utal, amelyet azután egy további engedélyokirat révén Svájc is engedélyezett. Az esetleges további jelöléseket a küldeménydarabon hasonló módon egymás alatt kell feltüntetni.

- c) Az engedélyokirat felülvizsgálatát a jelölés mellett közvetlenül zárójelben kell feltüntetni. Például az A/132/B(M)F-96(Rev.2) a küldeménydarabra vonatkozó osztrák engedélyokirat második felülvizsgálatát, vagy az A/132/B(M)F-96(Rev.0) a küldeménydarab osztrák engedélyének eredeti okiratát jelenti. Az első alkalommal történő kiadás zárójelben való feltüntetése fakultatív, a Rev.0 helyett más szavak is, pl. „eredeti kiadás” alkalmazhatók. Engedély felülvizsgálati számot csak az eredeti engedélyt kibocsátó ország adhat.
- d) A jelölés végéhez kiegészítő szimbólumok fűzhetők zárójelben (ha ezt az egyes országokban előírják), pl. A/132/B(M)F-96 (SP503).
- e) Nem szükséges, hogy a jelölést a csomagoláson az engedélyokirat minden felülvizsgálatakor megváltoztassák. Az ilyen jellegű jelölésváltoztatás csak akkor szükséges, ha az engedélyokirat felülvizsgálata a küldeménydarab-minta második ferde vonal utáni betű kódjának megváltozásával jár.

**6.4.23.11**

Az illetékes hatóság által a különleges formájú radioaktív anyagokra vagy kis mértékben diszpergálódó radioaktív anyagokra kiadott valamennyi engedélyokiratnak a következő információkat kell tartalmaznia:

- a) az igazolás fajtáját;
- b) az illetékes hatóság által kiadott azonosító jelét;
- c) a kiadás időpontját és az érvényesség időtartamát;
- d) az alkalmazott belföldi és nemzetközi szabályzatok felsorolását, beleértve a NAÜ „Szabályzat a radioaktív anyagok biztonságos szállítására” kiadványát, amelynek alapján a különleges formájú radioaktív anyagot vagy a kis mértékben diszpergálódó radioaktív anyagot engedélyezték;
- e) a különleges formájú radioaktív anyag vagy a kis mértékben diszpergálódó radioaktív anyag azonosítását;
- f) a különleges formájú radioaktív anyag vagy a kis mértékben diszpergálódó radioaktív anyag leírását;
- g) a különleges formájú radioaktív anyag vagy a kis mértékben diszpergálódó radioaktív anyag tervének részletes leírását, amely tartalmazhat rajzokra való hivatkozásokat;
- h) a radioaktív tartalom részletes leírását, amely tartalmazza a szóban forgó aktivitások értékét, és tartalmazhatja a fizikai és kémiai állapotának leírását;
- i) az alkalmazott minőségbiztosítási program részletes leírását, mint az az 1.7.3 szakaszban elő van írva;
- j) a kérelmező által szolgáltatandó, a szállítás előtt végrehajtandó különleges tevékenységekre vonatkozó információkra való hivatkozást;
- k) ha az illetékes hatóság szükségesnek tartja, hivatkozást a kérelmező kilétére;
- l) az igazolást kiállító hivatalnok nevét és aláírását.

**6.4.23.12**

Az illetékes hatóság által a külön megegyezésekről kiadott valamennyi jóváhagyási igazolásnak a következő információkat kell tartalmaznia:

- a) az igazolás fajtáját;
- b) az illetékes hatóság által kiadott azonosító jelet;



- c) a kiadás időpontját és az érvényesség időtartamát;
- d) a szállítási módo(ka)t;
- e) bármilyen korlátozást a szállítási módra, a kocsira, ill. a konténer típusára és szükség esetén az útvonalra vonatkozó utasításokat;
- f) az alkalmazott belföldi és nemzetközi szabályzatok felsorolását, beleértve a NAÜ „Szabályzat a radioaktív anyagok biztonságos szállítására” kiadványát, amelyek alapján a külön megegyezést jóváhagyták;
- g) a következő nyilatkozatot: „Ez az igazolás nem mentesíti a feladót azon előírások teljesítése alól, amelyet bármelyik ország kormánya hozott, amelyen keresztül vagy ahova a küldeménydarabot szállítják”;
- h) hivatkozást egy alternatív radioaktív tartalomra vonatkozó igazolásra, egy illetékes hatóság másik engedélyére, vagy kiegészítő műszaki adatokra vagy információra, ha ezt az illetékes hatóság szükségesnek tartja;
- i) a csomagolás leírását, hivatkozással a tervrajzokra vagy a tervek részletes ismertetésére. Ha az illetékes hatóság megfelelőnek tartja, a küldeménydarab összeállítását mutató, 21 cm x 30 cm-nél nem nagyobb tervrajz másolat csatolása is elfogadható a csomagolás rövid leírásának mellékelésével, amely tartalmazza a gyártási anyagokat, a bruttó tömeget, a főbb külső méreteket és a megjelenést;
- j) az engedélyezett radioaktív tartalom leírását, beleértve a radioaktív tartalom bármilyen korlátozását, amely a csomagolás természetéből nem magától értetődő. Ennek tartalmaznia kell a fizikai és a kémiai tulajdonságok leírását, a vele járó aktivitásokat (beleértve az izotópváltozatok ilyen tulajdonságait, ha ilyenek vannak), a mennyiségeket grammban (hasadóanyagoknál), és azt, hogy különleges formájú anyagról vagy kis mértékben diszpergálódó radioaktív anyagról van-e szó;
- k) a hasadóanyagok számára tervezett küldeménydaraboknál kiegészítésként:
  - i) az engedélyezett radioaktív tartalom részletes leírását;
  - ii) a kritikussági biztonsági mutatószám értékét;
  - iii) hivatkozást olyan dokumentációra, amely bizonyítja a tartalom kritikussági biztonságát;
  - iv) minden különleges sajátosságot, amelynek alapján a víz hiányát feltételezték üres terekben a kritikussági értékelés során;
  - v) a kritikussági értékelésnél figyelembe vett neutron sokszorozódás megengedett változtatását (a 6.4.11.4 b) pont szerint) a tényleges besugárzási tapasztalatok alapján;
  - vi) a környezeti hőmérséklet tartományt, amelyet a külön megegyezés tartalmaz;
- l) a járulékos üzemeltetési intézkedések pontos felsorolását, amelyeket a küldemény - előkészítése, berakása, szállítása, kirakása és kezelése megkíván, beleértve a biztonságos hőelvezetésre vonatkozó minden különleges rakodási előírást;
- m) ha az illetékes hatóság szükségesnek tartja, a külön megegyezés indoklását;
- n) a külön megegyezés alapján történő szállítás miatti intézkedések leírását;
- o) hivatkozást azokra az információkra, amelyeket a kérelmező szolgáltatott a csomagolás használatára vonatkozóan vagy azokra a különleges intézkedésekre, amelyeket a szállítás megkezdése előtt el kell végezni;



- p) nyilatkozatot a tervezéskor feltételezett környezeti körülményekre vonatkozóan, ha azok nem felelnek meg a 6.4.8.5, a 6.4.8.6, illetve a 6.4.8.15 bekezdésben meghatározottaknak;
- q) minden vészhelyzeti intézkedést, amelyet az illetékes hatóság szükségesnek tart;
- r) az alkalmazott minőségbiztosítási program részletes leírását, amint az az 1.7.3 szakaszban elő van írva;
- s) ha az illetékes hatóság szükségesnek tartja, hivatkozást a kérelmező és a szállító kilétére;
- t) az igazolást kiállító hivatalnok nevét és aláírását.

**6.4.23.13**

Az illetékes hatóság által kiadott valamennyi, a szállításra vonatkozó jóváhagyási igazolásnak a következő információkat kell tartalmaznia:

- a) az igazolás fajtáját;
- b) az illetékes hatóság által kiadott azonosító jelet;
- c) a kiadás időpontját és az érvényesség időtartamát;
- d) az alkalmazott nemzeti és nemzetközi szabályzatok felsorolását, beleértve a NAÜ „Szabályzat a radioaktív anyagok biztonságos szállítására” kiadványát, amelyek alapján a szállítást jóváhagyták;
- e) bármilyen korlátozást a szállítási módra, a kocsira, ill. a konténer típusára és szükség esetén az útvonalra vonatkozó utasításokat;
- f) a következő nyilatkozatot: „Ez az igazolás nem mentesíti a feladót azon előírások teljesítése alól, amelyet bármelyik ország kormánya hozott, amelyen keresztül vagy ahova a küldeménydarabot szállítják”;
- g) a járulékos üzemeltetési intézkedések pontos felsorolását, amelyeket a küldemény - előkészítése, berakása, szállítása, kirakása és kezelése megkíván, beleértve a biztonságos hőelvezetésre vonatkozó minden különleges rakodási előírást;
- h) a kérelmező által szolgáltatott információkra való hivatkozást a szállítás előtt végrehajtandó különleges tevékenységekre;
- i) hivatkozást a vonatkozó küldeménydarab minta engedélyokirat(ok)ra;
- j) a tényleges radioaktív tartalom leírását, beleértve a radioaktív tartalom bármilyen korlátozását, amely a csomagolás természetéből nem magától értetődő. Ennek tartalmaznia kell a fizikai és a kémiai tulajdonságok leírását, a vele járó aktivitásokat (beleértve az izotópváltozatok ilyen tulajdonságait, ha ilyenek vannak), a mennyiségeket grammban (hasadóanyagoknál), és azt, hogy különleges formájú anyagról vagy kis mértékben diszpergálódó radioaktív anyagról van-e szó;
- k) minden vészhelyzeti intézkedést, amelyet az illetékes hatóság szükségesnek tart;
- l) az alkalmazott minőségbiztosítási program részletes leírását, amint az az 1.7.3 szakaszban elő van írva;
- m) ha az illetékes hatóság szükségesnek tartja, hivatkozást a kérelmező kilétére;
- n) az igazolást kiállító hivatalnok nevét és aláírását.

**6.4.23.14** Az illetékes hatóság által a küldeménydarab-mintákra kiadott valamennyi jóváhagyási igazolásnak a következő információkat kell tartalmaznia:

- a) az igazolás fajtáját;
- b) az illetékes hatóság által kiadott azonosító jelet;
- c) a kiadás időpontját és az érvényesség időtartamát;
- d) a szállítási mód esetleges korlátozását;
- e) az alkalmazott belföldi és nemzetközi szabályzatok felsorolását, beleértve a NAÜ „Szabályzat a radioaktív anyagok biztonságos szállítására” kiadványát, amelyek alapján a mintát jóváhagyták;
- f) a következő nyilatkozatot: „Ez az engedély nem mentesíti a feladót azon előírások teljesítése alól, amelyet bármely ország kormánya hozott, amelyen keresztül vagy ahova a küldeménydarabot szállítják”;
- g) hivatkozást egy alternatív radioaktív tartalomra vonatkozó igazolásra, egy illetékes hatóság másik engedélyére, vagy kiegészítő műszaki adatokra vagy információra, ha ezt az illetékes hatóság szükségesnek tartja;
- h) nyilatkozatot a szállítás engedélyezéséről, ha az 5.1.5.1.2 pont szerint a szállításhoz engedélyre van szükség, és ha az ilyen nyilatkozat elegendő;
- i) a csomagolóeszköz azonosítóját;
- j) a csomagolás leírását, hivatkozással a rajzokra vagy a tervek részletes ismertetésére. Ha az illetékes hatóság megfelelőnek tartja, a küldeménydarab összeállítását mutató, 21 cm x 30 cm-nél nem nagyobb tervrajz másolat csatolása is elfogadható a csomagolás rövid leírásának mellékelésével, amely tartalmazza a gyártási anyagokat, a bruttó tömeget, a főbb külső méreteket és a megjelenést;
- k) a minta ismertetését hivatkozással a rajzokra;
- l) az engedélyezett radioaktív tartalom leírását, beleértve a radioaktív tartalom bármilyen korlátozását, amely a csomagolás természetéből nem magától értetődő. Ennek tartalmaznia kell a fizikai és a kémiai tulajdonságok leírását, a vele járó aktivitásokat (beleértve az izotópváltozatok ilyen tulajdonságait, ha ilyenek vannak), a mennyiségeket grammban (hasadóanyagoknál), és azt, hogy különleges formájú anyagról vagy kis mértékben diszpergálódó radioaktív anyagról van-e szó;
- m) a biztonsági tartály leírását;
- n) a hasadóanyagokat tartalmazó küldeménydaraboknál kiegészítésként:
  - i) az engedélyezett radioaktív tartalom részletes leírását;
  - ii) a megtartó rendszer leírását;
  - iii) a kritikussági biztonsági mutatószám értékét;
  - iv) hivatkozást olyan dokumentációra, amely bizonyítja a tartalom kritikussági biztonságát;
  - v) minden különleges sajátosságot, amelynek alapján a víz hiányát feltételezték üres terekben a kritikussági értékelés során;
  - vi) a kritikussági értékelésnél figyelembe vett neutron sokszorozódás megengedett változtatását (a 6.4.11.4 b) pont szerint) a tényleges besugárzási tapasztalatok

alapján;

vii) a környezeti hőmérséklet tartományt, amelyet a külön megegyezés tartalmaz;

- o) *B(M)* típusú küldeménydaraboknál a 6.4.7.5, 6.4.8.4, 6.4.8.5, 6.4.8.6 és 6.4.8.9 – 6.4.8.15 bekezdés azon előírásainak felsorolását, amelyeknek a küldeménydarab nem felel meg, és minden olyan kiegészítő információt, ami hasznos lehet más illetékes hatóságok számára;
- p) a 0,1 kg vagy annál több urán-hexafluoridot tartalmazó küldeménydaraboknál a 6.4.6.4 bekezdés rá vonatkozó előírásainak felsorolását (ha van ilyen), és minden olyan kiegészítő információt, ami hasznos lehet más illetékes hatóságok számára;
- q) a járulékos üzemeltetési intézkedések pontos felsorolását, amelyeket a küldemény előkészítése, berakása, szállítása, kirakása és kezelése megkíván, beleértve a biztonságos hőelvezetésre vonatkozó minden különleges rakodási előírást;
- r) hivatkozást azokra az információkra, amelyeket a kérelmező szolgáltatott a csomagolóeszköz használatára vonatkozóan vagy azokra a különleges intézkedésekre, amelyeket a szállítás megkezdése előtt el kell végezni;
- s) nyilatkozatot a tervezéskor feltételezett környezeti feltételekre vonatkozóan, ha azok nem felelnek meg a 6.4.8.5, a 6.4.8.6, illetve a 6.4.8.15 bekezdésben meghatározottaknak;
- t) az alkalmazott minőségbiztosítási program részletes leírását, amint az az 1.7.3 szakaszban elő van írva;
- u) minden vészhelyzeti intézkedést, amelyet az illetékes hatóság szükségesnek tart;
- v) ha az illetékes hatóság szükségesnek tartja, hivatkozást a kérelmező kilétére;
- w) az igazolást kiállító hivatalnok nevét és aláírását.

**6.4.23.15** Az illetékes hatóságot értesíteni kell az általa az 1.6.6.2.1, az 1.6.6.2.2 pont, a 6.4.22.2, a 6.4.22.3 és a 6.4.22.4 bekezdés szerint jóváhagyott minta alapján gyártott minden csomagolóeszköz sorozatszámáról.

**6.4.23.16** A többoldalú engedélyek a minta származási országa vagy a feladási ország illetékes hatóságai által kiadott eredeti engedélyokiratok érvényességi záradékolásával is létrejöhetnek. Ilyen érvényességi záradékolás történhet az eredeti engedélyokiratra vonatkozó egyetértési észrevételezéssel vagy egy külön egyetértési okirat, melléklet, kiegészítés stb. készítésével azon ország illetékes hatósága által, amelyen keresztül vagy amelybe a szállítás történik.

## 6.5 fejezet

### A nagyméretű csomagolóeszközök (IBC-k) gyártására és vizsgálatára vonatkozó előírások

#### 6.5.1 Általános előírások

##### 6.5.1.1 Az előírások hatálya

**6.5.1.1.1** E fejezet előírásai azokra a nagyméretű csomagolóeszközökre (IBC-kre) vonatkoznak, amelyek használata bizonyos veszélyes anyagok szállításához a 3.2 fejezet „A” táblázat 8 oszlopában megadott csomagolási utasítások szerint engedélyezett. A 6.7, ill. a 6.8 fejezet követelményeit kielégítő mobil tartányok, ill. tankkonténerek nem tekinthetők IBC-nek. Az e fejezet követelményeit kielégítő IBC-k nem tekinthetők a RID értelmében vett konténernek. A szöveg további részében a nagyméretű csomagolóeszközök megjelölésére csakis az IBC rövidítés szolgál.

**6.5.1.1.2** Az illetékes hatóság kivételesen jóváhagyhat olyan IBC-t, ill. üzemi szerelvényeket, amelyek szigorúan véve nem felelnek meg az itt szereplő követelményeknek, de elfogadható változatot jelentenek. Ezenkívül a tudományos és műszaki haladás figyelembe vétele érdekében az illetékes hatóság ugyancsak elfogadhat olyan alternatív megoldásokat, amelyek a szállított anyaggal való összeférhetőség tekintetében legalább olyan biztonságosak, mint a meglevő gyakorlat, ill. az ütdésekkel, a rakadási igénybevételekkel és a tűzzel szembeni ellenállóképességük azonos vagy nagyobb.

**6.5.1.1.3** Az IBC-k szerkezetéhez, szerelvényeihez, vizsgálatához, jelöléséhez és üzemeltetéséhez azon ország illetékes hatóságának a beleegyezése szükséges, amelyben az IBC-t jóváhagyták.

**6.5.1.1.4** Az IBC gyártójának és forgalmazójának információt kell nyújtania a követendő eljárásokra és a zárószerkezetek (beleértve a szükséges tömítéseket) típusára és méreteire és minden más alkatrészre, ami annak biztosításához szükséges, hogy a szállításra előkészített IBC képes legyen az e fejezet vonatkozó igénybevételi próbáinak elviselésére.

**6.5.1.2** (fenntartva)

**6.5.1.3** (fenntartva)

#### 6.5.1.4 Az IBC-k típusát jelölő kód

**6.5.1.4.1** A kód a következőkből áll: két arab számjegyből, amint azt az a) pont meghatározza; ezt egy vagy több nagybetű követi a b) pont szerinti meghatározásnak megfelelően; ezt adott esetben egy arab számjegy követi, amely az IBC kategóriát jelöli.

a)

Típus	Szilárd anyagokhoz		Folyékony anyagokhoz
	gravitációs úton történő töltésnél és/vagy ürítésnél	10 kPa (0,1 bar) feletti nyomással történő töltésnél és/vagy ürítésnél	
Merev falú	11	21	31
Hajlékony falú	13	–	–

## b) Anyagok:

- A acél (bármilyen minőségű vagy felületkezelésű)
- B alumínium
- C fa
- D rétegelt falemez
- F farostlemez
- G papírlémez
- H műanyag
- L textil
- M papír, többrétegű
- N fém (acélt és alumíniumot kivéve)

**6.5.1.4.2** Összetett IBC-k esetén két latin nagybetűt kell egymás után használni a kód második helyén. Az első jelzi az IBC belső tartályának anyagát és a második az IBC külső csomagolóeszközének anyagát.

**6.5.1.4.3** Az IBC-k típusai és kódjai a következők:

Anyag	Kategória	Kód	Bekezdés
Fém			6.5.5.1
A Acél	szilárd anyagokhoz gravitációs úton történő töltésnél és/vagy ürítésnél	11A	
	szilárd anyagokhoz nyomással történő töltésnél és/vagy ürítésnél	21A	
	folyadékokhoz	31A	
B Alumínium	szilárd anyagokhoz gravitációs úton történő töltésnél és/vagy ürítésnél	11B	
	szilárd anyagokhoz nyomással történő töltésnél és/vagy ürítésnél	21B	
	folyadékokhoz	31B	
N Fém (acélt és alumíniumot kivéve)	szilárd anyagokhoz gravitációs úton történő töltésnél és/vagy ürítésnél	11N	
	szilárd anyagokhoz nyomással történő töltésnél és/vagy ürítésnél	21N	
	folyadékokhoz	31N	
Hajlékony falú			6.5.5.2
H Műanyag	műanyagszövet belső bevonat vagy bélés nélkül	13H1	
	műanyagszövet belső bevonattal	13H2	
	műanyagszövet béléssel	13H3	
	műanyagszövet belső bevonattal és béléssel	13H4	
	műanyagfólia	13H5	
L Textilszövet	belső bevonat vagy bélés nélkül	13L1	
	belső bevonattal	13L2	
	béléssel	13L3	
	belső bevonattal és béléssel	13L4	
M Papír	többrétegű	13M1	
	többrétegű, vízálló	13M2	

Anyag	Kategória	Kód	Bekezdés
Merev falú			6.5.5.3
H műanyag	szilárd anyagokhoz gravitációs úton történő töltésnél és/vagy ürítésnél (vázszerkezettel)	11H1	
	szilárd anyagokhoz gravitációs úton történő töltésnél és/vagy ürítésnél (önhordó)	11H2	
	szilárd anyagokhoz nyomással történő töltésnél és/vagy ürítésnél (vázszerkezettel)	21H1	
	szilárd anyagokhoz nyomással történő töltésnél és/vagy ürítésnél (önhordó)	21H2	
	folyadékokhoz (vázszerkezettel)	31H1	
	folyadékokhoz (önhordó)	31H2	
Összetett			6.5.5.4
HZ <sup>a)</sup> műanyag belső tartállyal	szilárd anyagokhoz gravitációs úton történő töltésnél és/vagy ürítésnél, merev falú műanyag belső tartállyal	11HZ1	
	szilárd anyagokhoz gravitációs úton történő töltésnél és/vagy ürítésnél, hajlékony falú műanyag belső tartállyal	11HZ2	
	szilárd anyagokhoz nyomással történő töltésnél és/vagy ürítésnél, merev falú műanyag belső tartállyal	21HZ1	
	szilárd anyagokhoz nyomással történő töltésnél és/vagy ürítésnél, hajlékony falú műanyag belső tartállyal	21HZ2	
	folyadékokhoz, merev falú műanyag belső tartállyal	31HZ1	
	folyadékokhoz, hajlékony falú műanyag belső tartállyal	31HZ2	
Papírlemez			6.5.5.5
G Papírlemez	szilárd anyagokhoz gravitációs úton történő töltésnél és/vagy ürítésnél	11G	
Fa			6.5.5.6
C Közönséges fa	szilárd anyagokhoz gravitációs úton történő töltésnél és/vagy ürítésnél, béléssel	11C	
D Rétegelt falemez	szilárd anyagokhoz gravitációs úton történő töltésnél és/vagy ürítésnél béléssel	11D	
F Farostlemez	szilárd anyagokhoz gravitációs úton történő töltésnél és/vagy ürítésnél, béléssel	11F	

a) Ezt a kódot ki kell egészíteni, a Z betűt helyettesítve, a 6.5.1.4.1 b) pont szerinti nagybetűvel, amely a külső burkolathoz használt anyag fajtáját jelzi.


**6.5.1.4.4** Egy „W” betű követheti az IBC kódot. A „W” betű jelzi, hogy az IBC, bár a kód által jelzett típus alá tartozik, de a 6.5.5 szakaszban előírtaktól eltérően gyártották és a 6.5.1.1.2 pont előírásai szerint azonos értékűnek tekinthető.

## **6.5.2 Jelölés**

### **6.5.2.1 Alapjelölés**

**6.5.2.1.1** Minden, a RID előírásai szerint gyártott és RID szerinti felhasználásra szánt IBC-n

jelölésnek kell lennie, amely tartós, jól olvasható és jól látható helyen van. A betűk, számok és jelek magasságának legalább 12 mm-nek kell lennie a következő tartalommal:

- a) az Egyesült Nemzetek jele a csomagolóeszközön:  ;
- Ezt a jelet csak annak tanúsítására szabad használni, hogy a csomagolóeszköz megfelel a 6.1, a 6.2, a 6.3, a 6.5, ill. a 6.6 fejezetben található vonatkozó előírásoknak. Amennyiben a jelölést beütéssel viszik fel a fém csomagolóeszközökre, e jel helyett az „UN” nagybetűk is használhatók;
- b) az IBC típusát a 6.5.1.4 bekezdés szerint jelölő kód;
- c) egy nagybetű, amely a csomagolási csoporto(ka)t jelöli, amely(ek)re a gyártási típust jóváhagyták:
- i) X az I, a II és a III csomagolási csoporthoz (csak szilárd anyagokhoz használatos IBC-k esetén);
  - ii) Y a II és a III csomagolási csoporthoz;
  - iii) Z csak a III csomagolási csoporthoz;
- d) a gyártás időpontja: hónap és az év utolsó két számjegye;
- e) annak az államnak a jele, amely a jelölés alkalmazását engedélyezte, a nemzetközi forgalomban résztvevő gépjárművek államjelzésévé<sup>1)</sup>;
- f) a gyártó neve vagy jele és az IBC-nek az illetékes hatóság által megállapított egyéb azonosító jele;
- g) a halmazolási próba során alkalmazott terhelés kg-ban, a halmazolásra nem tervezett IBC-knél „0”-t kell feltüntetni;
- h) a megengedett legnagyobb bruttó tömeg kg-ban.






Az előírt alapjelölést az előző pontok sorrendjében kell felvinni. A 6.5.2.2 bekezdésben előírt és az illetékes hatóság által engedélyezett minden más jelölést úgy kell elhelyezni, hogy a jelölés különböző elemei pontosan felismerhetők legyenek.

Az előző a) – h) pontban és a 6.5.2.2 bekezdésben előírt jelölés elemeket egyértelműen el kell választani egymástól, pl. ferde vonallal vagy szóközzel, hogy könnyen azonosíthatók legyenek.

1) A közúti közlekedésről szóló Bécsi Egyezmény (Bécs, 1968) által előírt államjelzés a nemzetközi forgalomban résztvevő gépjárművekre.

## 6.5.2.1.2

Az előző 6.5.2.1.1 a) – h) pont szerinti jelölések példái különböző IBC típusokra:

	11A/Y/02 99 NL/Mulder 007 5500/1500	Szilárd anyagok szállítására készült, acélból gyártott fém IBC gravitációs úton történő ürítéshez / a II és a III csomagolási csoporthoz / gyártási idő 1999. február / engedélyezve Hollandiában / a Mulder cég gyártmánya azon gyártási típusnak megfelelően, amelyet az illetékes hatóság a 007 sorozatszámmal látott el / a halmazolási próba terhelése kg-ban / a megengedett legnagyobb bruttó tömeg kg-ban.
	13H3/Z/0301 F/Meunier 1713 0/1500	Szilárd anyagok szállítására készült, hajlékony falú IBC műanyagszövetből, béléssel ellátva, például gravitációs úton történő töltéshez / nem halmazolható.
	31H1/Y/0499 GB/9099 10800/1200	Folyadékok szállítására készült, merev falú műanyag IBC, amelyet a halmazolási terhelés elviselésére alkalmas szerkezeti elemekkel láttak el.
	31HA1/Y/0501 D/Müller 1683 10800/1200	Folyadékok szállítására készült összetett IBC merev falú műanyag belső tartállyal és külső acél burkolattal.
	11C/X/0101 S/Aurigny 9876 3000/910	Szilárd anyagok szállítására készült fa IBC béléssel, amelyet az I, a II és a III csomagolási csoport szilárd anyagaihoz engedélyeztek

## 6.5.2.2

**Kiegészítő jelölés**

## 6.5.2.2.1

Minden egyes IBC-n rajta kell lenni a 6.5.2.1 bekezdésben előírt jelölésnek és ezenkívül a következő adatoknak, amelyek feltüntethetők egy a felülvizsgálathoz könnyen hozzáférhető helyre tartósan felerősített, korrózióálló fémlapon:

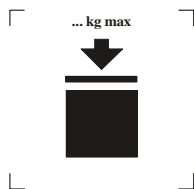
Kiegészítő jelölés	az IBC kategóriája				
	Fém	Merev falú műanyag	Összetett	Papír-lemez	Fa
Úrtartalom literben <sup>a)</sup> 20 °C-on	X	X	X		
Saját tömeg kg-ban <sup>a)</sup>	X	X	X	X	X
Próbanyomás kPa-ban vagy bar-ban <sup>a)</sup> (ha van ilyen)		X	X		
Legnagyobb töltési/ürítési nyomás kPa-ban vagy bar-ban <sup>a)</sup> (ha van ilyen)	X	X	X		
A test anyaga és legkisebb vastagsága mm-ben	X				
Az utolsó tömörségi próba időpontja (hónap és év) (ha van ilyen)	X	X	X		
Az utolsó felülvizsgálat időpontja (hónap és év)	X	X	X		
A gyártó sorozatszáma	X				
Legnagyobb megengedett halmazolási terhelés <sup>b)</sup>	X	X	X	X	X

a) A mértékegységet fel kell tüntetni.

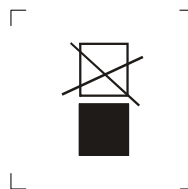
b) Lásd a 6.5.2.2.2 pontot. Ezt a kiegészítő jelölést minden, 2011. január 1. után gyártott, javított, ill. átalakított IBC-n fel kell tüntetni. (Lásd még az 1.6.1.15 pontot is.)



- 6.5.2.2.2** Az IBC használata során megengedett legnagyobb halmazolási terhelést a következő jelképpel kell feltüntetni:



Halmazolható IBC-kre



Nem halmazolható IBC-kre

A jelképnek legalább 100 x 100 mm nagyságúnak, tartósnak és jól látható kell lennie. A tömeget legalább 12 mm magas számokkal, ill. betűkkel kell feltüntetni.

A jelkép fölött feltüntetett tömeg nem lehet nagyobb, mint a gyártási típus vizsgálat (lásd a 6.5.6.4 pontot) során alkalmazott terhelés és 1,8 hányadosa.

**Megjegyzés:** A 6.5.2.2.2 pont előírásait minden, 2011. január 1. után gyártott, javított, ill. átalakított IBC-re alkalmazni kell. (Lásd az 1.6.1.15 bekezdést is).

- 6.5.2.2.3** A 6.5.2.1 bekezdésben előírt jelölésen kívül a hajlékony falú IBC-ket el lehet látni az ajánlott emelési módra utaló piktogrammal.

- 6.5.2.2.4** Az összetett IBC-k belső tartályát legalább a következő adatokkal kell megjelölni:

- a gyártó neve vagy jele és az IBC illetékes hatóság által meghatározott egyéb azonosítója, mint azt a 6.5.2.1.1 f) pont előírja;
- IBC gyártási időpontja, mint azt a 6.5.2.1.1 d) pont előírja; és
- annak az államnak a jele, amely a jelölés alkalmazását engedélyezte, mint azt a 6.5.2.1.1 e) pont előírja.

- 6.5.2.2.5** Amennyiben az összetett IBC úgy van kialakítva, hogy külső burkolata eltávolítható az üresen történő szállításhoz (pl. ha újrahasználat céljából az IBC-t az eredeti feladónak visszaküldik), minden levehető részen fel kell tüntetni a gyártási hónapot és évet, a gyártó nevét vagy jelét és az IBC-nek az illetékes hatóság által meghatározott egyéb azonosítóját [lásd a 6.5.2.1.1 f) pontot].

### **6.5.2.3 A gyártási típusnak való megfelelés**

A jelölés azt jelzi, hogy az IBC azonos a sikeresen bevizsgált gyártási típussal és a jóváhagyásban szereplő követelményeknek megfelel.

## **6.5.3 Gyártási előírások**

### **6.5.3.1 Általános előírások**

- 6.5.3.1.1** Az IBC-knek a külső környezet okozta károsodással szemben ellenállónak vagy alkalmas módon védettnek kell lenniük.

- 6.5.3.1.2** Az IBC-ket úgy kell gyártani és lezárni, hogy normális szállítási körülmények között, beleértve a rezgések, a hőmérséklet-, a páratartalom- vagy a nyomásváltozás hatását, a tartalomból semmi ne szabadulhasson ki.

- 6.5.3.1.3** Az IBC-ket és zárószerveiteket olyan anyagból kell gyártani, amely a tartalommal összeférhető, vagy belülről védeni kell, hogy ne álljon fenn a veszélye annak, hogy

- a) a tartalom az IBC-t megtámadva annak használatát veszélyessé teszi;
- b) a tartalom reakciója vagy bomlása következik be, vagy az IBC anyagával káros vagy veszélyes vegyületek képződnek.

**6.5.3.1.4** A tömítéseket, ha vannak, olyan anyagból kell készíteni, amelyet az IBC-ben szállított anyag nem támad meg.

**6.5.3.1.5** Valamennyi üzemi szerelvényt úgy kell elhelyezni vagy védeni, hogy a szállított anyag kiszabadulásának kockázata a szállítás és kezelés során bekövetkező sérülések esetén a legcsekélyebb mértékűre korlátozódjék.

**6.5.3.1.6** Az IBC-t, tartozékait, valamint az üzemi és szerkezeti szerelvényeit úgy kell kialakítani, hogy a tartalom elvesztése nélkül ellen tudjanak állni a tartalom belső nyomásának és azoknak az igénybevételeknek, amelyeknek normális kezelési és szállítási körülmények között ki vannak téve. A halmazolásra szánt IBC-ket ennek megfelelően kell kialakítani. Az IBC valamennyi rögzítő és emelő berendezésének megfelelő szilárdságúnak kell lennie ahhoz, hogy normális kezelési és szállítási körülmények között se jelentős alakváltozást, se meghibásodást ne szenvedjenek, és ezeket a berendezéseket úgy kell elhelyezni, hogy az IBC egyetlen része se legyen túlzott igénybevételnek kitéve.

**6.5.3.1.7** Ha az IBC egy keretszerkezetben levő testből áll, azt oly módon kell kialakítani, hogy:

- a) a test ne ütődjön vagy dörzsölődjön úgy a keretszerkezethez, hogy az a test sérülését okozza;
- b) a test mindig a keretszerkezetben belül maradjon;
- c) a szerelvényeket úgy kell elhelyezni és rögzíteni, hogy ne sérülhessenek meg, ha a test és a keretszerkezet közötti kapcsolat lehetővé teszi a relatív távulást vagy elmozdulást.

**6.5.3.1.8** Ha az IBC-t alsó ürítőszeleppel szerelik fel, ennek zárt helyzetben rögzíthetőnek kell lennie és sérülés ellen az egész ürítőrendszert megfelelően védeni kell. Azokat a szelepeket, amelyek emeltyű segítségével záródnak, ill. nyitódnak, úgy kell kialakítani, hogy véletlen kinyílás ellen védhetők legyenek és nyitott vagy zárt helyzetük könnyen felismerhető legyen. A folyékony anyagok szállítására szolgáló IBC-ken az ürítő nyílásokat egy második zárószerkezettel is fel kell szerelni, pl. vakkarimával vagy ezzel egyenértékű készülékkel.

## **6.5.4 Vizsgálat, tanúsítás és felülvizsgálat**

**6.5.4.1** *Minőségbiztosítás:* Annak biztosítására, hogy mindegyik IBC megfeleljen e fejezet előírásainak, az IBC-ket olyan minőségbiztosítási program szerint kell gyártani és bevizsgálni, amelyet az illetékes hatóság kielégítőnek tart.

*Megjegyzés:* Az alkalmazható eljárás(ok)ra megfelelő útmutatást ad az ISO 16106:2006 szabvány: „Csomagolás. Veszélyes áruk szállítási csomagolása. Veszélyes áruk csomagolásai, közepes méretű szállítótartályok (IBC-k) és nagyméretű csomagolások. Útmutató az ISO 9001 alkalmazásához”.

**6.5.4.2** *Vizsgálati követelmények:* Az IBC-ket gyártási típus vizsgálatnak kell alávetni, és ha szükséges, a 6.5.4.4 bekezdés szerinti, első alkalommal, ill. időszakosan végzendő vizsgálatoknak és felülvizsgálatoknak.

**6.5.4.3** *Tanúsítás:* Minden IBC gyártási típusra bizonyítványt kell kiállítani és jelölést kell hozzárendelni (lásd a 6.5.2 szakaszt), amely tanúsítja, hogy a gyártási típus a szerelvényeivel együtt kielégíti a vizsgálati követelményeket.

**6.5.4.4 Vizsgálat, felülvizsgálat**

**Megjegyzés:** A javított IBC-k vizsgálatára, felülvizsgálatára lásd a 6.5.4.5 bekezdést is.

**6.5.4.4.1** Minden fém, merev falú műanyag és összetett IBC-t az illetékes hatóság által elfogadott módon meg kell vizsgálni:

- a) az üzembe helyezés előtt (ill. átalakítás után) és azután legalább öt évenként az alábbiak tekintetében:
  - i) a gyártási típusmintának való megfelelés, beleértve a jelöléseket;
  - ii) a belső és külső állapot;
  - iii) az üzemi szerelvények kifogástalan működése.

Az esetleges hőszigetelést csak olyan mértékben kell eltávolítani, amennyire az az IBC test megfelelő vizsgálatához szükséges.

- b) legalább két és fél évenként az alábbiak tekintetében:

- i) külső állapot;
- ii) az üzemi szerelvények kifogástalan működése.

Az esetleges hőszigetelést csak olyan mértékben kell eltávolítani, amennyire az az IBC test megfelelő vizsgálatához szükséges.

Minden IBC-nek minden szempontból meg kell felelnie a gyártási típusának.

**6.5.4.4.2** Minden olyan fém, merev falú műanyag és összetett IBC-t, amelyet folyadékokhoz vagy nyomás alatt töltött vagy ürített szilárd anyagokhoz használnak

- a) a szállításhoz történő első használat előtt;
- b) legfeljebb két és féléves időközönként

a 6.5.6.7.3 pontban leírt próbával legalább azonos hatékonyságú, megfelelő tömörségi próbának kell alávetni, amelynek során a 6.5.6.7.3 pontban meghatározott vizsgálati szintnek kell megfelelnie.

Ehhez a vizsgálatához az IBC-n rajta kell lenni az elsődleges, alsó zárószerkezetének. Az összetett IBC belső tartálya a külső burkolat nélkül is vizsgálható, ha ez a vizsgálati eredményeket nem befolyásolja.

**6.5.4.4.3** Az egyes vizsgálatokról, felülvizsgálatokról készült jegyzőkönyvet az IBC tulajdonosának legalább a következő vizsgálat, ill. felülvizsgálat időpontjáig meg kell őriznie. A jegyzőkönyvnek tartalmaznia kell a vizsgálat, ill. felülvizsgálat eredményeit és a vizsgálatot, felülvizsgálatot végző azonosítását (lásd még a jelölési előírásokat a 6.5.2.2.1 pontban).**6.5.4.4.4** Az illetékes hatóság bármely időpontban megkövetelheti annak bizonyítását – e fejezet előírásainak megfelelő próbák szerint eljárva –, hogy a IBC kielégíti a gyártási típus vizsgálatára vonatkozó előírásokat.**6.5.4.5 Javított IBC-k****6.5.4.5.1** Amennyiben az IBC ütközés (pl. baleset) révén vagy más okból megsérül, az IBC-t ki kell javítani vagy más módon helyre kell állítani (lásd az IBC rendszeres karbantartása meghatározást az 1.2.1 szakaszban), hogy a gyártási típusnak megfeleljen. A merev műanyag IBC megsérült testét, ill. az összetett IBC megsérült belső tartályát ki kell cserélni.**6.5.4.5.2** A RID-ben előírt minden más vizsgálaton kívül az IBC-t javítás után a 6.5.4.4 bekezdésben előírt teljes körű vizsgálatnak kell alávetni és az előírt vizsgálati jegyzőkönyvet el kell

készíteni.

**6.5.4.5.3** A gyártó által felvitt UN gyártási típus jelölés közelében tartós módon fel kell tüntetni a javítás utáni vizsgálatokat végző szervre utaló, következő jelöléseket:

- a) annak az államnak a jelét, ahol a vizsgálatokat végezték;
- b) a vizsgálatokat végző nevét vagy engedélyezett jelét; és
- c) a vizsgálatok időpontját (hónap, év).

**6.5.4.5.4** A 6.5.4.5.2 pont szerint végzett vizsgálatok úgy tekinthetők, hogy megfelelnek a két és félévenként és az ötévenként végzendő időszakos vizsgálatokra vonatkozó előírásoknak.

**6.5.4.5.5** Az illetékes hatóság bármely időpontban megkövetelheti annak bizonyítását – e fejezet előírásainak megfelelő próbák szerint eljárva –, hogy a IBC kielégíti a gyártási típus vizsgálatára vonatkozó előírásokat.

## **6.5.5 Különleges követelmények az IBC-kre**

### **6.5.5.1 Különleges követelmények a fém IBC-kre**

**6.5.5.1.1** Ezek a követelmények a szilárd vagy folyékony anyagok szállítására szolgáló, fém IBC-kre vonatkoznak. A fém IBC-k három fajtája használatos:

- a) 11A, 11B, 11N a gravitációs úton töltött vagy ürített szilárd anyagok szállítására;
- b) 21A, 21B, 21N a 10 kPa-nál (0,1 bar-nál) nagyobb túlnyomással töltött vagy ürített szilárd anyagok szállítására;
- c) 31A, 31B, 31N a folyékony anyagok szállítására.

**6.5.5.1.2** A testet olyan alkalmas, alakítható fémből kell készíteni, amelynek hegeszthetősége bizonyított. A hegesztési varratokat szakszerűen kell elkészíteni és azoknak teljes biztonságot kell nyújtaniuk. Szükség esetén figyelembe kell venni az alacsony hőmérsékleten tanúsított viselkedést.

**6.5.5.1.3** Gondoskodni kell arról, hogy az egymással határos különböző fémek révén létrejövő elektrolitikus korrózió elkerülhető legyen.

**6.5.5.1.4** Azokon az alumíniumból gyártott IBC-ken, amelyek gyúlékony folyékony anyagok szállítására szolgálnak, nem lehet védelem nélküli, nem rozsdamentes acélból készített mozgó rész, mit pl. fedelek, zárószervezetek stb., amelyek az alumíniumhoz való súrlódás vagy nekiütődés révén veszélyes reakciót válthatnának ki.

**6.5.5.1.5** A fém IBC-et olyan fémből kell készíteni, amely teljesíti a következő követelményeket:

- a) acél esetében a szakadási nyúlás %-os értéke nem lehet kisebb, mint

$$\frac{10000}{R_m}, \text{ de legalább } 20\%,$$

ahol

$R_m$  a használt acél minimális szavatolt szakítószilárdsága N/mm<sup>2</sup>-ben;

- b) alumínium és ötvözetek esetében a szakadási nyúlás %-ban nem lehet kisebb, mint

$$\frac{10000}{6R_m}, \text{ de legalább } 8\%.$$

A szakadási nyúlás meghatározásához használt próbatesteket a hengerlési irányra merőlegesen kell kivágni és úgy kell befogni, hogy az

$$L_o = 5d \text{ vagy } L_o = 5,65\sqrt{A} \text{ legyen,}$$

ahol

$L_o$  = a próbatest mérési jel távolsága a vizsgálat előtt;

$d$  = a próbatest átmérője;

$A$  = a próbatest keresztmetszeti területe.

#### 6.5.5.1.6 Legkisebb falvastagság

- a) Az  $R_m \times A_0 = 10\,000$  értékkel bíró referencia acélnál a falvastagság nem lehet kisebb a következő értékeknél:

Úrtartalom (C) literben	Falvastagság (T) mm-ben			
	11A, 11B, 11N típus		21A, 21B, 21N, 31A, 31B, 31N típus	
	nem védett	védett	nem védett	védett
$C \leq 1000$	2,0	1,5	2,5	2,0
$1000 < C \leq 2000$	$T = C/2000 + 1,5$	$T = C/2000 + 1,0$	$T = C/2000 + 2,0$	$T = C/2000 + 1,5$
$2000 < C \leq 3000$	$T = C/2000 + 1,5$	$T = C/2000 + 1,0$	$T = C/1000 + 1,0$	$T = C/2000 + 1,5$

ahol

$A_0$  = az alkalmazott referencia acél minimális szakadási nyúlása (százalékban) a szakítóvizsgálat során (lásd a 6.5.5.1.5 pontot);

- b) az a) pontban említett referencia acéltól eltérő más fémekeknél a legkisebb falvastagság a következő képlettel számítható:

$$e_i = \frac{21,4 \times e_o}{\sqrt[3]{R_{m,i} \times A_i}}$$

ahol

$e_i$  = a felhasznált fém szükséges azonos értékű falvastagsága, mm;

$e_o$  = a referencia acél szükséges minimális falvastagsága, mm;

$R_{m,i}$  = a felhasználandó fém szavatolt minimális szakítószilárdsága, N/mm<sup>2</sup>; [lásd a c) pontot]

$A_i$  = a felhasznált fém minimális szakadási nyúlása (százalékban) a szakítóvizsgálat során (lásd a 6.5.5.1.5 pontot).

A falvastagság azonban semmilyen esetben sem lehet 1,5 mm-nél kisebb.

- c) A b) pontban leírt számítás céljából a felhasználandó fém szavatolt minimális szakítószilárdságának ( $R_{m,i}$ ) a nemzeti vagy nemzetközi szabványok szerinti legkisebb értéknek kell lennie. Ausztenites acélok esetében azonban az anyagszabványok szerint meghatározott  $R_m$  legkisebb érték 15%-kal növelhető, ha az anyag minőségére vonatkozó bizonylatban nagyobb érték szerepel. Ha a szóban forgó anyagra nincs anyagszabvány, az  $R_m$  értékének az anyag minőségére vonatkozó bizonylatban szereplő legkisebb értéket kell venni.

**6.5.5.1.7** *Nyomáskiegyenlítési követelmények:* A folyadékok szállítására szolgáló IBC-nek elegendő mennyiségű gőzt kell tudni kiszabadítania ahhoz, hogy tűz hatására bekövetkező melegeedés során elkerülhető legyen a csomagolóeszköz-test repedése. Ez hagyományos nyomáskiegyenlítő szerkezetekkel vagy más szerkezeti megoldással érhető el. Ezeknek a szerkezeteknek a működését kiváltó nyomás nem lehet nagyobb, mint 65 kPa (0,65 bar) és nem lehet kisebb, mint az IBC-ben előálló összes túlnyomás (azaz a töltet gőznyomása növelve a levegő vagy egyéb inert gáz parciális nyomásával és mindez csökkentve 100 kPa-lal (1 bar-ral) 55 °C-on, a 4.1.1.4 bekezdésében meghatározott maximális töltési fok mellett. A szükséges nyomáskiegyenlítő szerkezeteket a gőztérben kell elhelyezni.

**6.5.5.2** *Különleges követelmények a hajlékony falú IBC-kre*

**6.5.5.2.1** Ezeket a követelményeket a következő hajlékony falú IBC-kre kell alkalmazni:

- 13H1 Műanyagszövet belső bevonat vagy bélés nélkül
- 13H2 Műanyagszövet belső bevonattal
- 13H3 Műanyagszövet béléssel
- 13H4 Műanyagszövet, belső bevonattal és béléssel
- 13H5 Műanyagfólia
- 13L1 Textilszövet belső bevonat vagy bélés nélkül
- 13L2 Textilszövet belső bevonattal
- 13L3 Textilszövet béléssel
- 13L4 Textilszövet, belső bevonattal és béléssel
- 13M1 Papír, többrétegű
- 13M2 Papír, többrétegű, vízálló

A hajlékony falú IBC-k csak szilárd anyagok szállítására szolgálnak.

**6.5.5.2.2** A testet megfelelő anyagból kell gyártani. Az anyag szilárdságának és az IBC gyártási módszerének igazodnia kell az IBC ürtartalmához és rendeltetéséhez.

**6.5.5.2.3** A 13M1 és 13M2 típusú, hajlékony falú IBC-k gyártásához használt minden anyagnak legalább 24 órán át tartó, vízbe való merítés után meg kell őriznie annak a szakítószilárdságnak legalább 85%-át, amelyet az anyag kiegyenlített klimatizálása után 67% vagy ennél kisebb relatív nedvességtartalom mellett mértek.

**6.5.5.2.4** A egyesítéseket varrással, hőhegesztéssel, ragasztással vagy ezekkel egyenértékű eljárással kell elkészíteni. A varrással kialakított egyesítések minden végét el kell dolgozni.

**6.5.5.2.5** A hajlékony falú IBC-knek kielégítő ellenállással kell rendelkezniük az ultraibolya sugárzás hatására, a klimatikus hatásokra vagy a rendeltetés szerint szállított anyag hatására bekövetkező öregedéssel és gyengüléssel szemben.

**6.5.5.2.6** Amennyiben a műanyagból készült, hajlékony falú IBC-t az ultraibolya sugarak ellen védeni kell, ennek korom vagy más alkalmas pigment vagy inhibitor hozzáadásával kell történnie. Az adalékoknak összeférhetőnek kell lenniük a tartalommal és hatásukat a csomagolóeszköz-test teljes élettartama alatt meg kell őrizniük. Olyan korom, pigment vagy inhibitor alkalmazásánál, amely különbözik a bevizsgált gyártási típus gyártásához használttól, a vizsgálatok megismétlésétől el lehet tekinteni, ha a megváltozott korom-, pigment vagy inhibitor tartalom a szerkezeti anyag fizikai tulajdonságait kedvezőtlenül nem befolyásolja.

**6.5.5.2.7** A test anyagába adalékanyagok keverhetők, hogy az öregedéssel szembeni ellenálló-képességet javítsák, vagy más célokra, feltéve, hogy ezek az adalékok az anyag fizikai vagy

kémia tulajdonságait kedvezőtlenül nem befolyásolják.

**6.5.5.2.8** Az IBC test gyártásához már használt tartályokból származó anyag nem használható. Az ugyanazon gyártási sorozatból származó hulladékok vagy gyártási maradékok azonban felhasználhatók. Ismételten felhasználhatók az elemek, mint például rögzítők és rakodólap alapok, feltéve hogy ezek a korábbi használat során semmiféle módon nem károsodtak.

**6.5.5.2.9** Megtöltött állapotban a magasság és a szélesség aránya nem haladhatja meg a 2:1 értéket.

**6.5.5.2.10** A bélést alkalmas anyagból kell készíteni. A felhasznált anyag szilárdságának és a bélés kialakításának meg kell felelni az IBC ürtartalmának és rendeltetésének. Az egyesítéseknek és zárószerkezeteknek portömörnek kell lenniük és ellen kell tudni állniuk a normális kezelési és szállítási feltételek mellett előforduló nyomásoknak és ütéseknek.

### **6.5.5.3** *Különleges követelmények a merev falú műanyag IBC-kre*

**6.5.5.3.1** Ezek a követelmények a szilárd vagy folyékony anyagok szállítására szolgáló, merev falú műanyag IBC-kre vonatkoznak. A merev falú műanyag IBC-k következő típusai használatosak:

11H1 halmazoláskor a teljes terhelés elviselésére alkalmas vázszerkezetű, gravitációs úton töltött vagy ürített szilárd anyagokhoz való IBC

11H2 önhordó típusú, gravitációs úton töltött vagy ürített szilárd anyagokhoz való IBC

21H1 az IBC-k halmazoláskor a teljes terhelés elviselésére alkalmas vázszerkezetű, nyomás alatt töltött vagy ürített szilárd anyagokhoz való IBC

21H2 önhordó típusú, nyomás alatt töltött vagy ürített szilárd anyagokhoz való IBC

31H1 az IBC halmazoláskor a teljes terhelés elviselésére alkalmas kialakítású vázszerkezettel rendelkező IBC folyadékokhoz

31H2 önhordó típusú, folyadékokhoz való IBC.

**6.5.5.3.2** A testet ismert minőségi jellemzőjű, alkalmas műanyagból kell gyártani és ürtartalmának és rendeltetésszerű felhasználási módjának megfelelő szilárdsággal kell rendelkeznie. Az anyagnak kielégítő ellenállást kell tanúsítania a tartalmazott anyag és esetleg az ultraibolya sugárzás hatására bekövetkező öregedéssel és gyengüléssel szemben. Szükség esetén figyelembe kell venni az alacsony hőmérsékleten tanúsított viselkedését. A benne levő tartalom esetleges áthatolása normális szállítási feltételek között nem okozhat veszélyt.

**6.5.5.3.3** Amennyiben az ultraibolya sugarak ellen védelem szükséges, ennek korom vagy más alkalmas pigment vagy inhibitor hozzáadásával kell történnie. Ezeknek az adalékoknak összeférhetőnek kell lenniük a tartalommal és hatásukat a test teljes élettartama alatt meg kell őrizniük. Olyan korom, pigment vagy inhibitor alkalmazásánál, amely különbözik a bevizsgált gyártási típus gyártásához használttól, a vizsgálatok megismétlésétől el lehet tekinteni, ha a megváltozott korom-, pigment- vagy inhibitor tartalom a szerkezeti anyag fizikai tulajdonságait kedvezőtlenül nem befolyásolja.

**6.5.5.3.4** A test anyagába adalékanyagok keverhetők, hogy az öregedéssel szembeni ellenálló-képességet javítsák, vagy más célokra, feltéve, hogy ezek az adalékok az anyag fizikai vagy kémia tulajdonságait kedvezőtlenül nem befolyásolják.

**6.5.5.3.5** A merev falú műanyag IBC gyártásához az ugyanazon gyártási eljárásból származó gyártási maradékok vagy örlemények kivételével más használt anyag nem használható fel.

### **6.5.5.4** *Különleges követelmények az összetett IBC-kre belső műanyag tartállyal*

**6.5.5.4.1** Ezeket a követelményeket a szilárd anyagok és folyadékok szállítására szolgáló, következő típusú IBC-kre kell alkalmazni:



11HZ1 összetett IBC merev falú műanyag belső tartállyal gravitációs úton töltött vagy ürített szilárd anyagokhoz

11HZ2 összetett IBC hajlékony falú műanyag belső tartállyal gravitációs úton töltött vagy ürített szilárd anyagokhoz

21HZ1 összetett IBC merev falú műanyag belső tartállyal nyomás alatt töltött vagy ürített szilárd anyagokhoz

21HZ2 összetett IBC hajlékony falú műanyag belső tartállyal nyomás alatt töltött vagy ürített szilárd anyagokhoz

31HZ1 összetett IBC merev falú műanyag belső tartállyal folyadékokhoz

31HZ2 összetett IBC hajlékony falú műanyag belső tartállyal folyadékokhoz.

Ezt a kódot ki kell egészíteni, a Z betűt helyettesítve, a 6.5.1.4.1 b) pont szerinti nagybetűvel, amely a külső burkolathoz használt anyag fajtáját jelzi.

- 6.5.5.4.2** A belső tartály nem arra szolgál, hogy a tartályfunkciót a külső burkolat nélkül betöltse. A „merev falú” belső tartály olyan tartály, amely üres állapotban, a zárószerkezet helyre tétele és a külső burkolat segítségével nélkül is megtartja szokásos alakját. A nem „merev falú” belső tartályokat „hajlékony falú”-nak kell tekinteni.
- 6.5.5.4.3** A külső burkolat normál esetben merev anyagból készül, és olyan alakú, hogy megvédje a belső tartályt a kezelés és szállítás során bekövetkező fizikai sérülésekkel szemben, de nem feladata a tartályfunkció betöltése. Ahol rakodólap alapzat szükséges, az is beleértendő.
- 6.5.5.4.4** A teljesen körbeérő külső burkolattal rendelkező összetett IBC-t úgy kell kialakítani, hogy a belső tartály sértetlensége a tömörségi és a hidraulikus nyomáspróbát követően könnyen megállapítható legyen.
- 6.5.5.4.5** A 31HZ2 típusú IBC-k ürtartalma nem haladhatja meg az 1250 litert.
- 6.5.5.4.6** A belső tartályt ismert minőségi jellemzőjű, alkalmas műanyagból kell gyártani és ürtartalmának és rendeltetésszerű felhasználási módjának megfelelő szilárdsággal kell rendelkeznie. Az anyagnak kielégítő ellenállást kell tanúsítania a tartalmazott anyag és esetleg az ultraibolya sugárzás hatására bekövetkező öregedéssel és gyengüléssel szemben. Szükség esetén figyelembe kell venni az alacsony hőmérsékleten tanúsított viselkedését. A benne levő tartalom esetleges áthatolása normális szállítási feltételek között nem okozhat veszélyt.
- 6.5.5.4.7** Amennyiben az ultraibolya sugárzás ellen védelem szükséges, ennek korom vagy más alkalmas pigment vagy inhibitor hozzáadásával kell történnie. Ezeknek az adalékoknak összeférhetőnek kell lenniük a tartalommal és hatásukat a test teljes élettartama alatt meg kell őrizniük. Olyan korom, pigment vagy inhibitor alkalmazásánál, amely különbözik a bevizsgált gyártási típus gyártásához használttól, a vizsgálatok megismétlésétől el lehet tekinteni, ha a megváltozott korom-, pigment- vagy inhibitor tartalom a szerkezeti anyag fizikai tulajdonságait kedvezőtlenül nem befolyásolja.
- 6.5.5.4.8** A belső tartály anyagába adalékanyagok keverhetők, hogy az öregedéssel szembeni ellenállóképességet javítsák, vagy más célokra, feltéve, hogy ezek az adalékok az anyag fizikai vagy kémia tulajdonságait kedvezőtlenül nem befolyásolják.
- 6.5.5.4.9** A belső tartály gyártásához az ugyanazon gyártási eljárásból származó gyártási maradékok vagy örlemények kivételével más, használt anyag nem használható fel.
- 6.5.5.4.10** A 31HZ2 típusú IBC-k belső tartályának legalább háromrétegű fóliából kell állnia.
- 6.5.5.4.11** A külső burkolat szerkezete és anyagának szilárdsága feleljen meg az összetett IBC ürtartalmának és rendeltetésszerű használatának.



- 6.5.5.4.12** A külső burkolatnak mentesnek kell lennie minden olyan kiszögelléstől, ami a belső tartályt megsérthetné.
- 6.5.5.4.13** A fém külső burkolatokat megfelelő vastagságú, alkalmas fémből kell készíteni.
- 6.5.5.4.14** A fából készült külső burkolathoz felhasznált fának jól kiérleltnek, kereskedelmi szárazságúnak és olyan hibától mentesnek kell lennie, ami a burkolat bármely részének szilárdságát csökkentené. A tető és fenék vízálló farostlemezből, pl. keménylemezből, faforgácslemezből vagy egyéb, alkalmas típusból is készíthető.
- 6.5.5.4.15** A rétegelt falemez burkolatokhoz felhasznált rétegelt falemezt jól kiérlelt, hántolással, vágással vagy fűrészeléssel nyert furnérból kell készíteni, amely kereskedelmi szárazságú és olyan hibáktól mentes, amelyek a burkolat bármely részének szilárdságát csökkentenék. A szomszédos rétegeket vízálló ragasztóval kell összeragasztani. A burkolat szerkezetében a rétegelt falemezzel együtt más alkalmas anyagok is használhatók. A burkolat lapjait a sarokoszlopokhoz vagy homloklapokhoz szilárdan hozzá kell szegezni vagy erősíteni, vagy azonos mértékben alkalmas eszközökkel össze kell erősíteni.
- 6.5.5.4.16** A farostlemezből készült külső burkolatok falait vízálló farostlemezből, pl. keménylemezből, faforgácslemezből vagy egyéb alkalmas típusból kell készíteni. A burkolatok egyéb részei más alkalmas anyagokból is készíthetők.
- 6.5.5.4.17** A papírlemez külső burkolatokhoz jó minőségű és ellenállóképes, tömör- vagy hullámpapírlamezt (három vagy többretegűt) kell használni, amely megfelel a burkolat ürtartalmának és rendeltetésszerű használatának. A külső felület vízállóságának olyan mértékűnek kell lennie, hogy a Cobb-módszerrel végzett vízfelvétel-próba 30 perce alatt a tömegnövekedés ne haladja meg a  $155 \text{ g/m}^2$  értéket – lásd az ISO 535:1991 szabványt. A papírlameznek megfelelő hajlítósilárdsággal kell rendelkeznie. A papírlamezt úgy kell kiszabni, átmetszés nélkül völgyelni és réselni, hogy az összeállításnál ne repedjen meg, a felülete ne törjön meg és ne hasasodjon ki. A hullámpapírlemez hullámosított rétegét a fedőrétegekhez szilárdan hozzá kell ragasztani.
- 6.5.5.4.18** A papírlemez külső burkolat végei elláthatók fakerettel vagy teljes egészében fából készíthetők. Erősítésként falécek alkalmazhatók.
- 6.5.5.4.19** A papírlemez külső burkolatok palástillesztéseit vagy ragasztószalaggal kell leragasztani, vagy át kell lapolni és össze kell ragasztani, vagy fémkapoccsal össze kell tűzni. Az átlapolásnak kielégítő mértékűnek kell lennie. Ha a zárás ragasztással vagy ragasztószalaggal történik, vízálló ragasztót kell használni.
- 6.5.5.4.20** Amennyiben a külső burkolat műanyagból van, a 6.5.5.4.6 – 6.5.5.4.9 pont vonatkozó követelményeit kell alkalmazni annak figyelembevételével, hogy ebben az esetben a belső tartályra vonatkozó követelményeket kell az összetett IBC külső burkolatára is alkalmazni.
- 6.5.5.4.21** A 31HZ2 típusú IBC-k külső burkolatának a belső tartályt mindenütt teljesen körül kell vennie.
- 6.5.5.4.22** Az IBC szerves részét képező rakodólap alapzatnak ill. bármilyen különálló rakodólapnak alkalmasnak kell lennie a megengedett legnagyobb bruttó tömegig megtöltött IBC gépi kezelésére.
- 6.5.5.4.23** A rakodólapot, ill. az IBC szerves részét képező alapzatot úgy kell kialakítani, hogy az IBC alapján ne legyen semmilyen kiszögellés, ami a kezelés során sérülést okozhatna.
- 6.5.5.4.24** A külső burkolatot a különálló rakodólaphoz hozzá kell erősíteni, hogy biztosítva legyen a stabilitás a kezelés és a szállítás során. A különálló rakodólap felső felületének mentesnek kell lennie mindenféle éles kiszögelléstől, ami az IBC-t megsérthetné.

- 6.5.5.4.25** A halmazolás megkönnyítésére erősítő szerkezetek, mint pl. fa tartóelemek használhatók, de ezeket a belső tartályon kívül kell elhelyezni.
- 6.5.5.4.26** Amennyiben az IBC-t halmazolásra szánják, a teherviselő felületnek olyannak kell lennie, hogy a terhelés biztonságos módon elosztódjék. Az ilyen IBC-t úgy kell kialakítani, hogy a terhet ne a belső tartály hordja.
- 6.5.5.5** *Különleges követelmények a papírlemez IBC-kre*
- 6.5.5.5.1** Ezek a követelmények a gravitációs úton töltött vagy ürített szilárd anyagok szállítására szolgáló papírlemez IBC-kre vonatkoznak. A papírlemez IBC típusa:  
11G papírlemez IBC.
- 6.5.5.5.2** A papírlemez IBC-kbe nem szabad felülről emelő szerkezetet beépíteni.
- 6.5.5.5.3** Szilárd és jó minőségű, tömör- vagy hullámpapírlemezt (három vagy többretegűt) kell használni, amely megfelel az IBC úrtartalmának és rendeltetésszerű használatának. A külső felület vízállóságának olyan mértékűnek kell lenni, hogy a Cobb-módszerrel végzett vízfelvétel-próba 30 perce alatt a tömegnövekedés ne haladja meg a  $155 \text{ g/m}^2$  értéket – lásd az ISO 535:1991 szabványt. A papírlemeznek megfelelő hajlítószilárdsággal kell rendelkeznie. A papírlemezt úgy kell kiszabni, átmetszés nélkül völgyelni és réselni, hogy az összeállításnál ne repedjen meg, a felülete ne törjön meg és ne hasasodjon ki. A hullámpapírlemez hullámosított rétegét a fedőrétegekhez szilárdan hozzá kell ragasztani.
- 6.5.5.5.4** Az oldalfalaknak, a tetőnek és a fenéknek minimálisan 15 J beszakítási szilárdsággal kell rendelkezniük, az ISO 3036:1975 szabvány szerint mérve.
- 6.5.5.5.5** A papírlemez IBC testeken a palást illesztéseit megfelelő mértékben át kell lapolni és azokat ragasztószalaggal kell lezárni, le kell ragasztani vagy fémkapcsokkal kell tűzni, vagy legalább azonos hatékonyságú módszerrel kell egyesíteni. Ha az egyesítés ragasztással vagy ragasztószalaggal történik, vízálló ragasztót kell használni. A fémkapcsoknak minden összeerősítendő részen teljesen át kell hatolniuk és oly módon kell azokat kialakítani vagy védeni, hogy a bélést ne dörzsölhessék vagy ne szúrhassák ki.
- 6.5.5.5.6** A bélést alkalmas anyagból kell készíteni. A használt anyag szilárdságának és a bélés szerkezetének meg kell felelnie az IBC úrtartalmának és rendeltetésszerű használatának. Az illesztéseknek és zárásoknak portömörnek kell lenniük és alkalmasnak kell lenniük a normális szállítási körülmények között fellépő nyomások és ütődések elviselésére.
- 6.5.5.5.7** Az IBC szerves részét képező rakodólap alapzatnak, ill. bármilyen különálló rakodólapnak alkalmasnak kell lennie a megengedett legnagyobb bruttó tömegig megtöltött IBC gépi kezelésére.
- 6.5.5.5.8** A rakodólapot, ill. az IBC szerves részét képező alapzatot úgy kell kialakítani, hogy az IBC alapján ne legyen semmilyen kiszögellés, ami a kezelés során sérülést okozhatna.
- 6.5.5.5.9** Az IBC testet a különálló rakodólaphoz hozzá kell erősíteni, hogy biztosítva legyen a stabilitás a kezelés és a szállítás során. A különálló rakodólap felső felületének mentesnek kell lennie mindenféle éles kiszögelléstől, ami az IBC-t megsérthetné.
- 6.5.5.5.10** A halmazolás megkönnyítésére erősítő szerkezetek, mint pl. fa tartóelemek használhatók, de ezeket a bélésen kívül kell elhelyezni.
- 6.5.5.5.11** Amennyiben az IBC-t halmazolásra szánják, a teherviselő felületnek olyannak kell lennie, hogy a terhelés biztonságos módon elosztódjék.

**6.5.5.6 Különleges követelmények a fa IBC-kre**

**6.5.5.6.1** Ezeket a követelményeket a gravitációs úton töltött vagy ürített szilárd anyagok szállítására szolgáló fa IBC-kre kell alkalmazni. A fa IBC-k a következő típusúak:

- 11C közönséges fa IBC béléssel
- 11D rétegelt falemez IBC béléssel
- 11F farostlemez IBC béléssel

**6.5.5.6.2** A fa IBC-kbe nem szabad felülről emelő szerkezetet beépíteni.

**6.5.5.6.3** A felhasznált anyag szilárdsága és a test gyártás módja feleljen meg az IBC ürtartalmának és rendeltetésszerű használatának.

**6.5.5.6.4** A fának jól kiérleltnek, kereskedelmi szárazságúnak és olyan hibáktól mentesnek kell lennie, amelyek az IBC bármely részének szilárdságát csökkentenék. Az IBC minden egyes részét egyetlen darabból vagy ezzel egyenértékű módon kell gyártani. Az elemek akkor tekinthetők az egyetlen darabból készülttel egyenértékűnek, ha a következő ragasztásos kötés típusok valamelyikét alkalmazzák: Lindermann-illesztés (fecskefarok illesztés), hornyolás, átlapolás vagy tompaillesztés, minden csatlakozásnál legalább két, hullámosított fém rögzítőelemmel, vagy akkor, ha legalább azonos hatékonyságú más eljárást alkalmaznak.

**6.5.5.6.5** A rétegelt falemez testeknek legalább 3 rétegűnek kell lenniük. Jól kiérlelt, hántolással, vágással vagy fűrészeléssel nyert furnérból kell készíteni, amely kereskedelmi szárazságú és mentes az olyan hibáktól, amelyek a test bármely részének szilárdságát csökkentenék. A szomszédos rétegeket vízálló ragasztóval kell összeragasztani. A test szerkezetéhez a rétegelt falemezzel együtt más alkalmas anyagok is használhatók.

**6.5.5.6.6** A farostlemezről készült testeket vízálló farostlemezről, pl. keménylemezből, faforgácslemezről vagy egyéb alkalmas típusból kell készíteni.

**6.5.5.6.7** Az IBC-k lapjait szilárdan az élekhez vagy saroklécekhez kell szögezni vagy kapcsolni, vagy a homlokoldalakhoz kell szögezni vagy más alkalmas eszközökkel kell összeerősíteni.

**6.5.5.6.8** A bélést alkalmas anyagból kell készíteni. A használt anyag szilárdságának és a bélés szerkezetének meg kell felelnie az IBC ürtartalmának és rendeltetésszerű használatának. Az illesztéseknek és zárásoknak portömörnek kell lenniük és alkalmasnak kell lenniük a normális szállítási körülmények között fellépő nyomások és ütődések elviselésére.

**6.5.5.6.9** Az IBC szerves részét képező rakodólap alapzatnak, ill. bármilyen különálló rakodólapnak alkalmasnak kell lennie a megengedett legnagyobb bruttó tömegig megtöltött IBC gépi kezelésére.

**6.5.5.6.10** A rakodólapot, ill. az IBC szerves részét képező alapzatot úgy kell kialakítani, hogy az IBC alapján ne legyen semmilyen kiszögellés, ami a kezelés során sérülést okozhatna.

**6.5.5.6.11** A IBC testet a különálló rakodólaphoz hozzá kell erősíteni, hogy biztosítva legyen a stabilitás a kezelés és a szállítás során. A különálló rakodólap felső felületének mentesnek kell lennie mindenféle éles kiszögelléstől, ami az IBC-t megsérthetné.

**6.5.5.6.12** A halmazolás megkönnyítésére erősítő szerkezetek, mint pl. fa tartóelemek használhatók, de ezeket a bélésen kívül kell elhelyezni.

**6.5.5.6.13** Amennyiben az IBC-t halmazolásra szánják, a teherviselő felületnek olyannak kell lennie, hogy a terhelés biztonságos módon elosztodjék.

**6.5.6 Vizsgálati követelmények az IBC-kre****6.5.6.1 A vizsgálatok végrehajtása és gyakorisága**

**6.5.6.1.1** Minden egyes IBC gyártási típusnak sikeresen ki kell állnia az ebben a fejezetben előírt vizsgálatokat mielőtt az IBC-t használatba vennék és a jelölés felvitelét engedélyező illetékes hatóság jóváhagyná. Az IBC gyártási típusát kialakítása, nagysága, anyaga és falvastagsága, gyártásmódja és töltő- és ürítőberendezései határozzák meg; egy típushoz azonban különböző felületkezelés is tartozhat. Ugyanaz a típus magában foglalja azokat az IBC-ket is, amelyek csak csökkentett külméreteikben térnek el a gyártási típustól.

**6.5.6.1.2** A vizsgálatokat a szállításra előkészített IBC-ken kell végrehajtani. Az IBC-t a megfelelő szakaszokban előírtak szerint kell megtölteni. Az IBC-kben szállítandó anyagokat helyettesíteni lehet más anyagokkal, feltéve, hogy ez a vizsgálat eredményeit nem hamisítja meg. Ha szilárd anyagok esetében más anyagot használnak, ennek ugyanolyan fizikai jellemzőkkel (tömeg, szemcseméret stb.) kell rendelkeznie, mint a szállítandó anyagnak. A küldeménydarab megkövetelt össztömegének elérése érdekében használhatók kiegészítő töltetek is, pl. ólomsöréttel töltött zacskók, feltéve, hogy ezek úgy vannak elhelyezve, hogy nem befolyásolják a vizsgálati eredményeket.

**6.5.6.2 A gyártási típus vizsgálata**

**6.5.6.2.1** Minden egyes gyártási típusú, méretű, falvastagságú és kialakítású IBC-ből egy darabot alá kell vetni a 6.5.6.5 – 6.5.6.13 bekezdésben felsorolt próbáknak a 6.5.6.3.7 pont szerinti sorrendben. Ezeket a gyártási típus vizsgálatokat az illetékes hatóság előírásai szerint kell elvégezni.

**6.5.6.2.2** A halmazolásra kialakított, 31H2 típusú merev falú műanyag IBC-k, ill. 31HH1 és 31HH2 típusú összetett IBC-k esetén a szállítani kívánt anyaggal, ill. a standardfolyadékkal való kielégítő kémiai összeférhetőség 6.5.6.3.3, ill. 6.5.6.3.5 pont szerinti bizonyításához egy másik IBC-t lehet használni. Ebben az esetben ezt a másik IBC-t is előzetes tárolásnak kell alávetni.

**6.5.6.2.3** Az illetékes hatóság engedélyezheti azon IBC-k szelektív vizsgálatát, amelyek csak kis mértékben térnek el a már bevizsgált típustól, pl. külső méreteik valamivel kisebbek.

**6.5.6.2.4** Amennyiben a vizsgálatoknál különálló rakodólapokat használnak, a 6.5.6.14 bekezdés szerint kiadott vizsgálati jegyzőkönyvnek tartalmaznia kell a használt rakodólapok műszaki leírását is.

**6.5.6.3 Az IBC előkészítése a vizsgálatához**

**6.5.6.3.1** A papír IBC-ket, a papírlemez IBC-ket és az összetett IBC-ket papírlemez külső burkolattal legalább 24 órán át olyan klímában kell tartani, amelynek hőmérséklete és relatív páratartalma szabályozott. Három lehetőség közül lehet választani. A legelőnyösebb vizsgálati klíma a  $23\text{ °C} \pm 2\text{ °C}$  és  $50\% \pm 2\%$  relatív páratartalom. A másik két lehetőség a  $20\text{ °C} \pm 2\text{ °C}$  és  $65\% \pm 2\%$  relatív páratartalom vagy a  $27\text{ °C} \pm 2\text{ °C}$  és  $65\% \pm 2\%$  relatív páratartalom.

**Megjegyzés:** Az átlagértékeknek ezen határok közé kell esniük. A rövid idejű ingadozások és a mérési korlátok az egyedi mérésektől legfeljebb  $\pm 5\%$  relatív páratartalom eltérést eredményezhetnek a vizsgálatok reprodukálhatóságának észrevehető csökkenése nélkül.

**6.5.6.3.2** Kiegészítő intézkedéseket kell tenni, annak ellenőrzésére, hogy a 31H1 és 31H2 típusú merev falú műanyag és a 31HZ1 és 31HZ2 típusú összetett IBC-k gyártására használt műanyag megfelel-e a 6.5.5.3.2 – 6.5.5.3.4, illetve a 6.5.5.4.6 – 6.5.5.4.9 pont előírásainak.

**6.5.6.3.3** Annak bizonyítására, hogy kielégítő a kémiai összeférhetőség a tartalommal, az IBC mintát hat hónapos előzetes tárolásnak kell alávetni, amely alatt az IBC minta a szállítani kívánt anyaggal van töltve, vagy olyan anyaggal, amelyről ismeretes, hogy a kérdéses műanyagra legalább ugyanolyan mértékben fejt ki feszültségi repedést, duzzadás révén lágyulást okozó vagy molekuláris degradáló hatást. Ezután a mintát alá kell vetni a 6.5.6.3.7 táblázatban felsorolt próbáknak.

**6.5.6.3.4** Amennyiben a műanyag viselkedését más módon határozták meg, az előző összeférhetőségi vizsgálatoktól el lehet tekinteni. Az ilyen más eljárásoknak legalább az előző összeférhetőségi vizsgálattal azonos értékeknek és az illetékes hatóság által elismerteknek kell lenniük.

**6.5.6.3.5** A 6.5.5.3 bekezdés szerinti, polietilénből készült, merev falú műanyag IBC-knél (31H1 és 31H2 típus) és a 6.5.5.4 bekezdés szerinti, polietilénből készült belső műanyag tartállyal rendelkező összetett IBC-knél (31HZ1 és 31HZ2 típus), a folyékony töltőanyaggal való kémiai összeférhetőség a 4.1.1.19 bekezdés alapján hozzárendelt standardfolyadék(ok)kal is bizonyítható a következők szerint (lásd a 6.1.6 szakaszt is).

A standardfolyadékok a polietilénnél fellépő károsító folyamatok (így a lágyulás duzzadás révén, a feszültséghorrózió, a molekula degradációs reakciók és ezek kombinációi) szempontjából reprezentálják a szállítandó anyagot.

Az IBC kielégítő kémiai összeférhetősége bizonyítható háromhetes 40 °C-on végzett tárolással a megfelelő standardfolyadék(ok)kal feltöltve; az ezen eljárással végzett tárolásra nincs szükség, ha standardfolyadékként víz van megadva. Ugyancsak nem szükséges tárolni a halmazolási próbához használt mintadarabokat, ha standardfolyadékként nedvesítőszert oldat vagy ecetsav van megadva. A tárolás után a mintadarabot a 6.5.5.4 – 6.5.5.9 bekezdésben előírt próbáknak kell alávetni.

Az 5.2 osztályba tartozó, 40%-nál nagyobb peroxid-tartalmú terc-butil-hidroperoxid és a peroxi-ecetsavak esetében az összeférhetőségi vizsgálat standardfolyadékkal nem végezhető el. Ezeknél az anyagoknál a kielégítő kémiai összeférhetőség bizonyításához a mintadarabot a szállítani kívánt anyaggal megtöltve hat hónapon keresztül kell szobahőmérsékleten tárolni.

A polietilénből készült IBC-kre e pont szerinti eljárás alapján kapott eredmények azokra a hasonló gyártási típusokra is elfogadhatók, amelyek belső felülete fluorozott.

**6.5.6.3.6** Azoknál a 6.5.6.3.5 pont szerinti specifikációjú polietilénből készült IBC-knél, amelyek gyártási típusa kiállta a 6.5.6.3.5 pont szerinti próbát, valamely töltőanyaggal való kémiai összeférhetőség úgy is bizonyítható, hogy laboratóriumi vizsgálatokkal<sup>2)</sup> igazolják, hogy ennek a töltőanyagnak a hatása a mintadarabra – a figyelembe veendő károsodási folyamatok szempontjából – gyengébb, mint a standardfolyadék(ok)é. A relatív sűrűsége és a gőznyomásra az 4.1.1.19.2 pont feltételei érvényesek.

**6.5.6.3.7** *A szükséges gyártási típus vizsgálatok és sorrendjük*

Az IBC típusa	Rázóvizsgálat <sup>f)</sup>	Emelés alulról	Emelés felülről <sup>a</sup>	Halmazolás <sup>b)</sup>	Tömörség	Folyadéknyomás	Ejtés	Továbbszakadás	Billentés	Felállítási <sup>c)</sup>
Fém:										
11A, 11B, 11N	-	1. <sup>a)</sup>	2.	3.	-	-	4. <sup>e)</sup>	-	-	-
21A, 21B, 21N	-	1. <sup>a)</sup>	2.	3.	4.	5.	6. <sup>e)</sup>	-	-	-
31A, 31B, 31N	1.	2. <sup>a)</sup>	3.	4.	5.	6.	7. <sup>e)</sup>	-	-	-
Hajlékony falú <sup>d)</sup>	-	-	x <sup>c)</sup>	x	-	-	x	x	x	x
Merev falú műanyag:										
11H1, 11H2	-	1. <sup>a)</sup>	2.	3.	-	-	4.	-	-	-
21H1, 21H2	-	1. <sup>a)</sup>	2.	3.	4.	5.	6.	-	-	-
31H1, 31H2	1.	2. <sup>a)</sup>	3.	4. <sup>g)</sup>	5.	6.	7.	-	-	-
Összetett:										
11HZ1, 11HZ2	-	1. <sup>a)</sup>	2.	3.	-	-	4. <sup>e)</sup>	-	-	-
21HZ1, 21HZ2	-	1. <sup>a)</sup>	2.	3.	4.	5.	6. <sup>e)</sup>	-	-	-
31HZ1, 31HZ2	1.	2. <sup>a)</sup>	3.	4. <sup>g)</sup>	5.	6.	7. <sup>e)</sup>	-	-	-
Papírlemez	-	1.	-	2.	-	-	3.	-	-	-
Fa	-	1.	-	2.	-	-	3.	-	-	-

- a) Az ilyen kezelési módra kialakított IBC-knél.
- b) Ha az IBC halmazolásra van kialakítva.
- c) Ha az IBC felülről vagy oldalról történő emelésre van kialakítva.
- d) Ahol a szükséges próbát x jelzi, az azt jelenti, hogy az egyik próbát elviselt IBC-n a további próbák bármilyen sorrendben végrehajthatók.
- e) Az ejtőpróba azonos kialakítású másik IBC-n is végrehajtható.
- f) A rázóvizsgálat azonos kialakítású másik IBC-n is végrehajtható.
- g) Az egymás utáni sorrendtől eltérően a 6.5.6.2.2 pont szerinti másik IBC közvetlenül az előzetes tárolás után vizsgálható.

#### **6.5.6.4** *Emelési próba alulról*

##### **6.5.6.4.1** *Alkalmazási terület*

Gyártási típus vizsgálatként minden fa és papírlemez IBC-nél és minden olyan IBC típusnál, amely az alulról való emeléshez el van látva szerkezettel.

##### **6.5.6.4.2** *Az IBC előkészítése a próbához*

Az IBC-t meg kell tölteni. Egyenletesen elosztott kiegészítő terhelést kell alkalmazni. A megtöltött IBC és a kiegészítő terhelés együttes tömegének a megengedett legnagyobb bruttó tömeg 1,25-szorosát kell kitennie.

<sup>2)</sup> A 6.5.6.3.5 pont meghatározása szerinti polietilénnek a betöltött termékkel (anyagokkal, keverékekkel és készítményekkel) szembeni kémiai összeférhetőségének bizonyítására a 6.1.6 szakasz szerinti standardfolyadék(ok)kal az alkalmas laboratóriumi módszerekre lásd az OTIF Titkársága által nyilvánosságra hozott RID nemhivatalos részében található Irányelvet



**6.5.6.4.3** *Vizsgálati eljárás*

Az IBC-t emelővillás targoncával kétszer fel kell emelni és le kell tenni. Ennek során a villákat központosan kell elhelyezni, és azoknak egymástól olyan távolságra kell lenniük, amely a bevezetés felőli oldalméret háromnegyed részének felel meg, (hacsak a bevezetési pontok nincsenek rögzítve). A villákat a bevezetés irányában háromnegyed részig kell bevezetni. A próbát minden lehetséges irányból meg kell ismételni.

**6.5.6.4.4** *Elfogadási feltétel*

Nem következhet be sem olyan tartós alakváltozás, amely az IBC (beleértve a rakodólap alapot is, ha ilyen van) biztonságát a szállítás szempontjából csökkentené, sem a tartalom elvesztése.

**6.5.6.5** *Emelési próba felülről***6.5.6.5.1** *Alkalmazási terület*

Gyártási típus vizsgálatként minden olyan IBC típusnál, amely el van látva a felülről való emelésre szolgáló szerkezettel és a felülről vagy oldalról történő emeléshez kialakított hajlékony falú IBC-knél.

**6.5.6.5.2** *Az IBC előkészítése a próbához*

A fém, a merev falú műanyag és az összetett IBC-t meg kell tölteni. Egyenletesen elosztott kiegészítő terhelést kell alkalmazni. A megtöltött IBC és a kiegészítő terhelés együttes tömegének a megengedett legnagyobb bruttó tömeg kétszeresét kell kitennie. A hajlékony falú IBC-t a töltőanyagot reprezentáló anyaggal megtöltve, a megengedett legnagyobb bruttó tömeg hatszorosaig kell – a terhelést egyenletesen elosztva – megterhelni.

**6.5.6.5.3** *Vizsgálati eljárás*

A fém és a hajlékony falú IBC-t rendeltetésszerűen fel kell emelni, amíg az a talajtól elválik, és ebben a helyzetben kell tartani 5 perc időtartamig.

A merev falú műanyag és összetett IBC-eket a következőképpen kell felemelni:

- a) Az IBC-t mindegyik emelőszerkezet-párjánál (egymással átlósan szemben levő két emelőszerkezeténél) fogva öt perc időtartamig felemelve kell tartani, úgy hogy az emelő erők függőlegesen hassanak; és
- b) az IBC-t mindegyik emelőszerkezet-párjánál (egymással átlósan szemben levő két emelőszerkezeténél) fogva öt perc időtartamig felemelve kell tartani, úgy hogy az emelő erők a középpontra a függőlegeshez képest 45°-ban hassanak.

**6.5.6.5.4** *A hajlékony falú IBC-knél a felülről történő emelés és az előkészítés legalább azonos hatékonyságú más módszerrel is történhet.***6.5.6.5.5** *Elfogadási feltétel*

- a) Fém IBC-knél, merev falú műanyag IBC-knél és összetett IBC-knél: az IBC a normális szállítási körülmények között továbbra is biztonságos, nem következhet be sem észlelhető tartós alakváltozás az IBC-n (beleértve a rakodólap alapot, ha ilyen van), sem a tartalom elvesztése.
- b) Hajlékony falú IBC-knél: nem következhet be olyan sérülés sem az IBC-n, sem annak emelőszerkezetén, amely az IBC biztonságát a szállítás vagy kezelés szempontjából csökkentené, sem a tartalom elvesztése.

**6.5.6.6** *Halmazolási próba***6.5.6.6.1** *Alkalmazási terület*

Gyártási típus vizsgálatként minden olyan IBC típusnál, amelyek kialakításuknál fogva egymásra halmazolhatók.

**6.5.6.6.2** *Az IBC előkészítése a próbához*

Az IBC-t a megengedett legnagyobb bruttó tömegéig kell megtölteni. Ha a vizsgálatához használt termék sűrűsége ezt nem teszi lehetővé, az IBC-hez egyenletesen elosztott kiegészítő terhelést kell alkalmazni úgy, hogy a vizsgálatot a megengedett legnagyobb bruttó tömeggel terhelve végezzék.

**6.5.6.6.3** *Vizsgálati eljárás*

- a) Az IBC-t alapzatával vízszintes, sík, kemény talajra kell állítani és egyenletesen elosztott próbaterhelést kell ráhelyezni (lásd a 6.5.6.6.4 pontot). A 31H2 típusú merev falú műanyag IBC-k, ill. a 31HH1 és 31HH2 típusú összetett IBC-k esetén a halmazolási próbát a 6.5.6.3.3 pont szerint az eredeti töltőanyaggal, ill. a 6.5.6.3.5 pont szerint a standardfolyadékkal (lásd a 6.1.6 szakaszt) megtöltött, a 6.5.6.2.2 pont szerinti másik IBC-n kell végrehajtani az előzetes tárolás után. Az IBC-t a próbaterhelésnek legalább a következő időtartamig kell kitenni:
  - i) a fém IBC-t 5 percig;
  - ii) a 11H2, 21H2 és 31H2 típusú merev falú műanyag IBC-t és az összetett IBC-t külső műanyag burkolattal, amely a halmazolási terhelést viseli (azaz a 11HH1, 11HH2, 21HH1, 21HH2, 31HH1 és 31HH2 típusúakat) 28 napig 40 °C-on;
  - iii) minden más IBC típust 24 óráig;
- b) A próbaterhelést a következő módok egyike szerint kell alkalmazni:
  - i) a megengedett legnagyobb bruttó tömegig megtöltött egy vagy több, azonos típusú IBC-t kell a vizsgált IBC-re ráhelyezni;
  - ii) megfelelő tömeget kell egy sík lapra vagy az IBC alapzatának utánzatára helyezni, amelyet azután a vizsgálandó IBC-re kell felhelyezni.

**6.5.6.6.4** *A ráhelyezendő próbaterhelés kiszámítása*

A tehernek, amelyet az IBC-re helyeznek, meg kell egyeznie a szállítás során az IBC-re halmazolható hasonló IBC-k együttes megengedett legnagyobb bruttó tömegének legalább 1,8-szeresével.

**6.5.6.6.5** *Elfogadási feltétel*

- a) A hajlékony falú IBC kivételével minden más IBC-nél: nem következhet be sem olyan tartós alakváltozás, amely az IBC (beleértve a rakodólap alapot is, ha ilyen van) biztonságát a szállítás szempontjából csökkentené, sem a tartalom elvesztése.
- b) Hajlékony falú IBC-nél: nem következhet be sem az IBC test olyan károsodása, ami az IBC biztonságát a szállítás szempontjából csökkentené, sem a tartalom elvesztése.

**6.5.6.7** *Tömörégi próba***6.5.6.7.1** *Alkalmazási terület*

Gyártási típus vizsgálatként és időszakos vizsgálatként olyan IBC típusoknál, amelyeket folyadékokhoz vagy nyomás alatt töltött vagy üritett szilárd anyagokhoz használnak.



**6.5.6.7.2** *Az IBC előkészítése a próbához*

A próbát az esetleges hőszigetelés felhelyezése előtt kell végrehajtani. A szellőző zárószerkezeteket vagy hasonló, nem szellőző szerkezetekre kell kicserélni vagy tömören le kell zárni.

**6.5.6.7.3** *Vizsgálati eljárás és alkalmazandó próbanyomás*

A nyomáspróbát legalább 10 perc időtartamig legalább 20 kPa (0,2 bar) állandó túlnyomással kell végrehajtani. Az IBC légtömörségét megfelelő módszerrel, pl. légnyomás-különbség méréssel vagy az IBC vízbe merítésével vagy fém IBC-knél az egyesítési helyek és varratok szappan oldattal történő bekenésével kell megállapítani. Vízbe merítés esetén a hidrosztatikai nyomás figyelembe vételéhez korrekciós tényezőt kell alkalmazni.

**6.5.6.7.4** *Elfogadási feltétel*

Nem következhet be tömítetlenség.

**6.5.6.8** *Belső (folyadék) nyomáspróba***6.5.6.8.1** *Alkalmazási terület*

Gyártási típus vizsgálatként olyan IBC típusoknál, amelyeket folyadékokhoz vagy nyomás alatt töltött vagy üritett szilárd anyagokhoz használnak.

**6.5.6.8.2** *Az IBC előkészítése a próbához*

A próbát az esetleges hőszigetelés felhelyezése előtt kell végrehajtani. A nyomáscsökkentő szerkezeteket hatástalanítani kell, vagy el kell távolítani és a nyílásokat le kell zárni.

**6.5.6.8.3** *Vizsgálati eljárás*

A nyomáspróbát legalább 10 perc időtartamig kell végezni olyan hidraulikus nyomással, amely nem kisebb mint a 6.5.6.8.4 pontban megadott nyomás. Az IBC-t a próba végrehajtása alatt nem szabad megtámasztani.

**6.5.6.8.4** *Alkalmazandó nyomás***6.5.6.8.4.1** Fém IBC-knél:

- a) a 21A, 21B és 21N típusú IBC-knél, amelyeket az I csomagolási csoport szilárd anyagaihoz használnak, 250 kPa (2,5 bar) túlnyomás;
- b) a 21A, 21B, 21N, 31A, 31B és 31N típusú IBC-knél, amelyeket a II vagy a III csomagolási csoport anyagaihoz használnak, 200 kPa (2 bar) túlnyomás;
- c) kiegészítő vizsgálatként a 31A, 31B, 31N típusú IBC-knél 65 kPa (0,65 bar) túlnyomás. Ezt a vizsgálatot a 200 kPa-lal (2 bar-ral) végzett próba előtt kell elvégezni.

**6.5.6.8.4.2** Merev falú műanyag IBC-knél és összetett IBC-knél:

- a) a 21H1, 21H2, 21HZ1 és 21HZ2 típusú IBC-knél: 75 kPa (0,75 bar) túlnyomás;
- b) a 31H1, 31H2, 31HZ1 és 31HZ2 típusú IBC-knél:

a következő módszerekkel meghatározott első érték:

- i) az IBC-ben mért össznyomást (azaz a betöltött anyag gőznyomásához hozzáadva a benne levő levegő vagy inert gáz parciális nyomását és 100 kPa-t levonva) 55 °C-on meg kell szorozni 1,5-ös biztonsági tényezővel; ezt az össznyomást a 4.1.1.4 bekezdés szerinti maximális töltési fok és 15 °C töltési hőmérséklet alapján kell meghatározni; vagy

ii) szállítandó anyag 50 °C-on fennálló gőznyomásának 1,75-szorosából le kell vonni 100 kPa-t, de minimálisan 100 kPa próbanyomás; vagy

iii) a szállítandó anyag 55 °C-on fennálló gőznyomásának 1,5-szereséből le kell vonni 100 kPa-t, de minimálisan 100 kPa próbanyomás;

és a következő módszerrel meghatározott második érték:

iv) a szállítandó anyag statikus nyomásának kétszerese, de legalább a víz statikus nyomásának kétszerese

közül a nagyobbik.

#### **6.5.6.8.5**      *Elfogadási feltétel*

- a) Azoknál a 21A, 21B, 21N, 31A, 31B és 31N típusú IBC-knél, amelyeket a 6.5.6.8.4.1 a) vagy b) pont szerinti nyomáspróbának tettek ki, nem következhet be szivárgás.
- b) Azoknál a 31A, 31B és 31N típusú IBC-knél, amelyeket a 6.5.6.8.4.1 c) pont szerinti próbanyomásnak tettek ki, sem olyan tartós alakváltozás, amely az IBC biztonságát a szállítás szempontjából csökkentené, sem pedig szivárgás nem következhet be.
- c) *Merev falú műanyag IBC-knél és összetett IBC-knél:* nem következhet be sem olyan tartós alakváltozás, amely az IBC biztonságát a szállítás alatt befolyásolná, sem pedig szivárgás.

#### **6.5.6.9**      *Ejtési próba*

##### **6.5.6.9.1**      *Alkalmazási terület*

Gyártási típus vizsgálatként minden IBC típusnál.

##### **6.5.6.9.2**      *Az IBC előkészítése a próbához*

- a) Fém IBC-nél: az IBC-t szilárd anyagok esetén legnagyobb űrtartalmának legalább 95%-áig, folyékony anyagok esetén legnagyobb űrtartalmának legalább 98%-áig kell megtölteni. A nyomáscsökkentő szerkezeteket hatástalanítani kell, vagy el kell távolítani és a nyílásokat le kell zárni.
- b) Hajlékony falú IBC-nél: az IBC-t megengedett legnagyobb bruttó tömegéig kell – a tartalmat egyenletesen elosztva – megtölteni.
- c) Merev falú műanyag IBC-nél és összetett IBC-nél: az IBC-t szilárd anyagok esetén legnagyobb űrtartalmának legalább 95%-áig, folyékony anyagok esetén legnagyobb űrtartalmának legalább 98%-áig kell megtölteni. A nyomáscsökkentő szerkezeteket hatástalanítani kell, vagy el kell távolítani és a nyílásokat le kell zárni. Az IBC-k vizsgálatát olyan állapotban kell elvégezni, amikor a vizsgálati minta és a tartalom hőmérsékletét –18 °C-ra vagy az alá csökkentették. A minta ilyen előkészítése esetén a 6.5.6.3.1 pontban meghatározott kondicionálástól összetett IBC-nél el lehet tekinteni. A vizsgálatnál használt folyadékot folyékony állapotban kell tartani, szükség esetén fagyásgátló hozzáadásával. Ettől a kondicionálástól el lehet tekinteni, ha a kérdéses anyagok hajlékonysága és szakítószilárdsága –18 °C-on vagy az alatt jelentősen nem csökken.
- d) Papírflemez és fa IBC-nél: az IBC-t legnagyobb űrtartalmának legalább 95%-áig kell megtölteni.

##### **6.5.6.9.3**      *Vizsgálati eljárás*

Az IBC-t olyan módon kell 6.1.5.3.4 pont követelményeinek megfelelő, rugalmatlan, vízszintes, sima, masszív és szilárd felületre, a fenekére ejteni, ami biztosítja, hogy az IBC

alapfelületének leggyengébbnek tekintett részén ütközzön fel. A  $0,45 \text{ m}^3$  vagy annál kisebb űrtartalmú IBC-t ezenkívül a következőképpen is le kell ejteni:

- a fém IBC-t az első ejtési próbánál vizsgált, az alapfelület leggyengébbnek tekintett részétől eltérő, legsérülékenyebb részre;
- a hajlékony falú IBC-t a legsérülékenyebb oldalára;
- a merev falú műanyag, az összetett, a papírlemez és a fa IBC-t: laposan az oldallapra, laposan a tetőlapra és az egyik sarokra.

Az egyes ejtésekhez ugyanazon vagy másik IBC is használható.

#### 6.5.6.9.4 Ejtési magasság

Szilárd és folyékony anyagoknál, ha a próbát a szállítandó szilárd vagy folyékony anyaggal vagy lényegében azonos fizikai jellemzőkkel bíró egyéb anyaggal végzik:

I csomagolási csoport	II csomagolási csoport	III csomagolási csoport
1,8 m	1,2 m	0,8 m

Folyékony anyagoknál, ha a vizsgálatot vízzel hajtják végre:

- olyan szállítandó anyagok esetén, amelyeknek relatív sűrűsége nem haladja meg az 1,2 értéket:

II csomagolási csoport	III csomagolási csoport
1,2 m	0,8 m

- olyan szállítandó anyagok esetén, amelyeknek relatív sűrűsége meghaladja az 1,2 értéket, az ejtési magasságot a szállítandó anyag relatív sűrűségéből a következő módon kell kiszámítani (egy tizedesre felkerekítve):

II csomagolási csoport	III csomagolási csoport
relatív sűrűség $\times 1,0 \text{ m}$	relatív sűrűség $\times 0,67 \text{ m}$

#### 6.5.6.9.5 Elfogadási feltétel

- Fém IBC-knél: nem következhet be a tartalom elvesztése;
- Hajlékony IBC-knél: nem következhet be a tartalom elvesztése. A tartalom kismértékű elfolyása a záráson vagy a varrásokon keresztül a felütközéskor nem tekintendő az IBC tönkremenetelének, feltéve, hogy miután az IBC-t a talajról felemelték, további szivárgás nem következik be.
- Merev falú műanyag, összetett, papírlemez és fa IBC-knél: nem következhet be a tartalom elvesztése. A tartalom kismértékű elfolyása a záráson keresztül a felütközéskor nem tekintendő az IBC tönkremenetelének, feltéve, hogy további szivárgás nem következik be.
- Az összes IBC-nél: nem következhet be sem olyan sérülés, ami miatt nem lenne biztonságos az IBC mentési vagy ártalmatlanítási célból történő szállítása, sem a tartalom elvesztése. Ezenkívül alkalmasnak kell lennie arra, hogy valamilyen alkalmas eszközzel öt perc időtartamra teljesen el lehessen emelni a talajról.

**6.5.6.10 Továbbszakadási próba****6.5.6.10.1 Alkalmazási terület**

Gyártási típus vizsgálatként minden hajlékony falú IBC típusnál.

**6.5.6.10.2 Az IBC előkészítése a próbához**

Az IBC-t ürtartalmának legalább 95%-áig és megengedett legnagyobb bruttó tömegéig kell – a tartalmat egyenletesen elosztva – megtölteni.

**6.5.6.10.3 Vizsgálati eljárás**

Amikor az IBC már a talajon van, késsel 100 mm hosszú, teljesen áthatoló vágást kell az egyik széles oldalfalán ejteni az IBC fő tengelyére 45°-os szögben, mégpedig a fenék és a tartalom szintje közötti félmagasságban. Az IBC-re ezután a megengedett legnagyobb bruttó tömeg kétszeresével egyenlő terhelést kell – egyenletesen elosztva – helyezni. A terhelést legalább 5 percig kell rajta tartani. Az olyan IBC-t, amelyet felülről vagy oldalról emelésre alakítottak ki, a terhelés eltávolítása után fel kell emelni, amíg az a talajtól elválik, és ebben a helyzetben kell tartani 5 perc időtartamig.

**6.5.6.10.4 Elfogadási feltétel**

A vágás eredeti hosszának 25%-ánál nagyobb mértékben nem növekedhet meg.

**6.5.6.11 Billentési próba****6.5.6.11.1 Alkalmazási terület**

Gyártási típus vizsgálatként minden hajlékony falú IBC típusnál.

**6.5.6.11.2 Az IBC előkészítése a próbához**

Az IBC-t ürtartalmának legalább 95%-áig és megengedett legnagyobb bruttó tömegéig kell – a tartalmat egyenletesen elosztva – megtölteni.

**6.5.6.11.3 Vizsgálati eljárás**

Az IBC-t oly módon kell átbillenteni, hogy felső része a merev, rugalmatlan, sima, sík és vízszintes felületnek ütközzön.

**6.5.6.11.4 Billentési magasság**

I csomagolási csoport	II csomagolási csoport	III csomagolási csoport
1,8 m	1,2 m	0,8 m

**6.5.6.11.5 Elfogadási feltétel**

Nem következhet be a tartalom elvesztése. A tartalom kismértékű kiszabadulása a záráson vagy a varrásokon keresztül a felütközéskor nem tekintendő az IBC tönkremenetelének, feltéve, hogy további szivárgás nem következik be.

**6.5.6.12 Felállítási próba****6.5.6.12.1 Alkalmazási terület**

Gyártási típus vizsgálatként minden hajlékony falú IBC-nél, amely felülről vagy oldalról való emelésre van kialakítva.

**6.5.6.12.2** *Az IBC előkészítése a próbához*

Az IBC-t ürtartalmának legalább 95%-áig és megengedett legnagyobb bruttó tömegéig kell – a tartalmat egyenletesen elosztva – megtölteni.

**6.5.6.12.3** *Vizsgálati eljárás*

Az egyik oldalára fektetett IBC-t egyik emelőszerkezeténél, vagy amennyiben négy van, két emelőszerkezeténél fogva legalább 0,1 m/s sebességgel függőleges helyzetbe kell felemelni, amíg a talajtól elválik.

**6.5.6.12.4** *Elfogadási feltétel*

Nem következhet be sem az IBC, sem emelőszerkezetének olyan sérülése, amely az IBC biztonságát a szállítás vagy kezelés során csökkentené.

**6.5.6.13** *Rázóvizsgálat***6.5.6.13.1** *Alkalmazási terület*

Gyártási típus vizsgálatként minden olyan IBC típusnál, amelyeket folyadékokhoz használnak.

**Megjegyzés:** Ezt a vizsgálatot a 2010. december 31. után gyártott IBC-k gyártási típusára kell alkalmazni (lásd még az 1.6.1.14 bekezdést is).

**6.5.6.13.2** *Az IBC előkészítése a próbához*

Egy IBC-t kell véletlenszerűen kiválasztani, és ugyanúgy kell előkészíteni és lezárni, mint a szállításra. Az IBC-t legnagyobb ürtartalmának legalább 98%-áig kell vízzel megtölteni.

**6.5.6.13.3** *Vizsgálati eljárás és a vizsgálat időtartama***6.5.6.13.3.1**

Az IBC-t a vizsgálóberendezés asztalának közepére kell helyezni, amely függőleges irányú, szinuszos rezgőmozgást végez, amelynek teljes amplitúdója (csúcstól-csúcsig kitérése)  $25\text{ mm} \pm 5\%$ . Ha szükséges, az asztalhoz olyan kitámasztó eszközt kell erősíteni, amely meggátolja, hogy a mintadarab vízszintes irányban elmozduljon az asztalon, anélkül, hogy a függőleges irányú mozgást akadályozná.

**6.5.6.13.3.2**

A vizsgálatot egy órán át kell folytatni olyan frekvenciával, amelynél az IBC alapjának egy része minden periódus egy részében átmenetileg olyan mértékben felemelkedik a rázóasztalról, hogy egy fémlemez időnként az IBC alapja és a vizsgáló asztal közé legalább egy ponton teljes egészében be lehessen csúsztatni. A kezdeti beállított frekvencia értéket úgy kell változtatni, hogy a csomagolóeszköz ne rezonáljon. Mindazonáltal a vizsgáló frekvenciának továbbra is lehetővé kell tennie a fémlemez behelyezését az IBC alá, ahogy e bekezdés azt előírja. A fémlemez folyamatos behelyezhetősége elengedhetetlen a vizsgálat elviselése szempontjából. Az ehhez a vizsgálathoz használt fémlemeznek legalább 1,6 mm vastagnak és 50 mm szélesnek kell lennie, és elég hosszúnak ahhoz, hogy a vizsgálat végrehajtása céljából az IBC és a rázóasztal közé legalább 100 mm-re becsúszatható legyen.

**6.5.6.13.4** *Elfogadási feltétel*

Sem szivárgás, sem törés nem következhet be. Ezenkívül a szerkezeti elemek nem törhetnek el, ill. nem hibásodhatnak meg, pl. a hegesztések nem törhetnek el, a rögzítések nem rongálódhatnak meg.

**6.5.6.14**      *Vizsgálati jegyzőkönyv*

**6.5.6.14.1**      A vizsgálatokról jegyzőkönyvet kell készíteni, amit az IBC felhasználói számára hozzáférhetővé kell tenni és amelynek legalább a következő adatokat kell tartalmaznia:

1.    A vizsgálatot végző szerv neve és címe;
2.    A vizsgálatot kérő neve és címe (ha szükséges);
3.    A vizsgálati jegyzőkönyv egyedi azonosítója;
4.    A vizsgálati jegyzőkönyv kelte;
5.    Az IBC gyártója;
6.    Az IBC típus leírása (pl. a méretek, az anyagok, a zárószervezetek, a falvastagság stb.), beleértve a gyártási módszert (pl. üreges test fúvás), ami rajzokkal és/vagy fényképekkel kiegészíthető;
7.    Legnagyobb ürtartalom;
8.    A vizsgálat alatti tartalom jellemzői, pl. folyadékoknál a viszkozitás és a relatív sűrűség és szilárd anyagoknál a szemcseméret;
9.    A vizsgálatok leírása és eredményei;
10.    A vizsgálati jegyzőkönyvet alá kell írni, az aláíró nevét és beosztását fel kell tüntetni.

**6.5.6.14.2**      A vizsgálati jegyzőkönyvnek megállapítást kell tartalmaznia arra nézve, hogy a szállításra előkészített IBC a jelen fejezet megfelelő rendelkezéseivel összhangban került vizsgálatra és más csomagolási módszerek vagy alkotórészek használata azt érvénytelenné teheti. A vizsgálati jegyzőkönyv egy példányát az illetékes hatóságnak kell átadni.

## 6.6 fejezet

### A nagycsomagolások gyártására és vizsgálatára vonatkozó előírások

#### 6.6.1 Általános előírások

##### 6.6.1.1 Ezen fejezet követelményei nem vonatkoznak:

- a gázt tartalmazó tárgyakhoz (beleértve az aeroszolókat) használt nagycsomagolások kivételével a 2 osztály anyagainak csomagolóeszközeire;
- az UN 3291 kórházi hulladékhoz használt nagycsomagolások kivételével a 6.2 osztály áruinak csomagolóeszközeire;
- a radioaktív anyagot tartalmazó, 7 osztályba tartozó küldeménydarabokra.

##### 6.6.1.2 Annak biztosítására, hogy mindegyik nagycsomagolás megfeleljen e fejezet előírásainak, a nagycsomagolásokat olyan minőségbiztosítási program szerint kell gyártani és bevizsgálni, amelyet az illetékes hatóság kielégítőnek tart.

**Megjegyzés:** Az alkalmazható eljárás(ok)ra megfelelő útmutatást ad az ISO 16106:2006 szabvány: „Csomagolás. Veszélyes áruk szállítási csomagolása. Veszélyes áruk csomagolásai, közepes méretű szállítótartályok (IBC-k) és nagyméretű csomagolások. Útmutató az ISO 9001 alkalmazásához”.

##### 6.6.1.3 A nagycsomagolásokra a 6.6.4 szakaszban felsorolt különleges követelmények a jelenleg használt nagycsomagolásokon alapulnak. A tudományos és műszaki haladás figyelembe vétele érdekében nincs akadálya olyan nagycsomagolások használatának, amelyek eltérnek a 6.6.4 szakaszban levő specifikációktól, ha azonos hatékonyságúak, az illetékes hatóság számára elfogadhatóak és képesek sikeresen kiállni a 6.6.5 szakaszban leírt vizsgálatokat. a RID-ben leírt vizsgálatoktól eltérő vizsgálatok is alkalmazhatók, ha azonos hatékonyságúak és az illetékes hatóság elfogadja.

##### 6.6.1.4 A csomagolóeszköz gyártójának és forgalmazójának információt kell nyújtania a követendő eljárásokra és a zárószervezetek (beleértve a szükséges tömítéseket) típusára és méreteire és minden más alkatrészre, ami annak biztosításához szükséges, hogy a szállításra előkészített küldeménydarab képes legyen az e fejezet vonatkozó igénybevételi próbáinak elviselésére.

#### 6.6.2 A nagycsomagolások típusát jelölő kód

##### 6.6.2.1 A nagycsomagolásokhoz használt kód a következőkből áll:

- a) két arab számjegy
  - 50 a merev falú nagycsomagolásokhoz; vagy
  - 51 a hajlékony falú nagycsomagolásokhoz; és
- b) egy latin nagybetű, amely az anyag fajtáját jelöli, pl. fa, acél stb. A használható nagybetűket a 6.1.2.6 bekezdés sorolja fel.

##### 6.6.2.2 A nagycsomagolások típusát jelölő kódot egy „W” betű követheti. A „W” betű azt jelenti, hogy a nagycsomagolás, bár a kód által jelzett típus alá tartozik, de a 6.6.4 szakaszban előírtaktól eltérően gyártották, és a 6.6.1.3 bekezdés előírásai szerint azonos értékűnek tekinthető.

### 6.6.3 Jelölés

#### 6.6.3.1 Alapjelölés

Minden, a RID előírásai szerint gyártott és RID szerinti felhasználásra szánt nagycsomagolást tartósan és jól olvashatóan el kell látni a következő jelöléssel:



- a) az Egyesült Nemzetek jele a csomagolóeszközön: ;

Ezt a jelet csak annak tanúsítására szabad használni, hogy a csomagolóeszköz megfelel a 6.1, a 6.2, a 6.3, a 6.5, ill. a 6.6 fejezetben található vonatkozó előírásoknak. Amennyiben a jelölést beütéssel viszik fel a fém nagycsomagolásokra, e jel helyett az „UN” nagybetűk is használhatók;

- b) az „50” szám a merev falú nagycsomagolások esetében, ill. az „51” a hajlékony falú nagycsomagolások esetében, amit a 6.5.1.4.1 b) pont szerinti anyagfajta jelölése követ;

- c) egy nagybetű, amely a csomagolási csoporto(ka)t jelöli, amely(ek)re a gyártási típust jóváhagyták:

X az I, a II és a III csomagolási csoporthoz;

Y a II és a III csomagolási csoporthoz;

Z csak a III csomagolási csoporthoz;

- d) a gyártási hónap és év (az utolsó két számjegy);

- e) annak az államnak a jele, amely a jelölés alkalmazását engedélyezte, a nemzetközi forgalomban résztvevő gépjárművek államjelzésével<sup>1)</sup>;

- f) a gyártó neve vagy jele, vagy a nagycsomagolásoknak az illetékes hatóság által megállapított egyéb azonosító jele;

- g) a halmazolási próba során alkalmazott terhelés kg-ban. A halmazolásra nem tervezett nagycsomagolásokon „0”-t kell feltüntetni;

- h) a megengedett legnagyobb bruttó tömeg kilogrammban.

Az alapjelölést az előző pontok sorrendjében kell felvinni.

Az előző a) – h) pontban előírt jelölés elemeket egyértelműen el kell választani egymástól, pl. ferde vonallal vagy szóközzel, hogy könnyen azonosíthatók legyenek.

#### 6.6.3.2 Példák a jelölésre



50A/X/05 01/N/PQRS  
2500/1000

Acél nagycsomagolásokhoz, amelyek halmazolhatók, a halmazolási próba során alkalmazott terhelés: 2500 kg; a megengedett legnagyobb bruttó tömeg: 1000 kg.



50H/Y/04 02/D/ABCD 987  
0/800

Műanyag nagycsomagoláshoz, amely nem halmazolható, a megengedett legnagyobb bruttó tömeg: 800 kg.

1) A közúti közlekedésről szóló Bécsi Egyezmény (Bécs, 1968) által előírt államjelzés a nemzetközi forgalomban résztvevő gépjárművekre.





51H/Z/06 01/S/1999  
0/500

Hajlékony falú nagycsomagoláshoz, amely nem  
halmazolható, a megengedett legnagyobb bruttó  
tömeg: 500 kg.

#### **6.6.4 Különleges követelmények a nagycsomagolásokra**

##### **6.6.4.1 Különleges követelmények a fémből készült nagycsomagolásokra**

- 50A kódjelű acél nagycsomagolás
- 50B kódjelű alumínium nagycsomagolás
- 50N kódjelű fém (acélt és alumíniumot kivéve) nagycsomagolás

**6.6.4.1.1** A nagycsomagolást olyan alkalmas, alakítható fémből kell készíteni, amelynek hegeszthetősége bizonyított. A hegesztési varratokat szakszerűen kell elkészíteni és azoknak teljes biztonságot kell nyújtaniuk. Szükség esetén figyelembe kell venni az alacsony hőmérsékleten tanúsított viselkedést.

**6.6.4.1.2** Gondoskodni kell arról, hogy az egymással határos különböző fémek révén létrejövő elektrolitikus korrózió elkerülhető legyen.

##### **6.6.4.2 Különleges követelmények a hajlékony falú nagycsomagolásokra**

- 51H kódjelű hajlékony falú műanyag nagycsomagolás
- 51M kódjelű hajlékony falú papír nagycsomagolás

**6.6.4.2.1** A nagycsomagolásokat megfelelő anyagokból kell gyártani. Az anyag szilárdságának és a hajlékony falú nagycsomagolás gyártási módszerének igazodnia kell a nagycsomagolás ürtartalmához és rendeltetéséhez.

**6.6.4.2.2** Az 51M típusú, hajlékony falú nagycsomagolások gyártásához használt minden anyagnak legalább 24 órán át tartó, vízbe való merítés után meg kell őriznie annak a szakítószilárdságnak legalább 85%-át, amelyet az anyag kiegyenlített klimatizálása után 67% vagy ennél kisebb relatív nedvességtartalom mellett mértek.

**6.6.4.2.3** A egyesítéseket varrással, hőhegesztéssel, ragasztással vagy ezekkel egyenértékű eljárással kell elkészíteni. A varrással kialakított egyesítések minden végét el kell dolgozni.

**6.6.4.2.4** A hajlékony falú nagycsomagolásnak kielégítő ellenállással kell rendelkeznie az ultraibolya sugárzás hatására, a klimatikus hatásokra vagy a rendeltetés szerint szállított anyag hatására bekövetkező öregedéssel és gyengüléssel szemben.

**6.6.4.2.5** Amennyiben a műanyagból készült, hajlékony falú nagycsomagolást az ultraibolya sugarak ellen védeni kell, ennek korom vagy más alkalmas pigment vagy inhibitor hozzáadásával kell történnie. Az adalékoknak összeférhetőnek kell lenniük a tartalommal és hatásukat a csomagolóeszköz-test teljes élettartama alatt meg kell őrizniük. Olyan korom, pigment vagy inhibitor alkalmazásánál, amely különbözik a bevizsgált gyártási típus gyártásához használttól, a vizsgálatok megismétlésétől el lehet tekinteni, ha a megváltozott korom-, pigment vagy inhibitor tartalom a szerkezeti anyag fizikai tulajdonságait kedvezőtlenül nem befolyásolja.

**6.6.4.2.6** A nagycsomagolás anyagába adalékanyagok keverhetők, hogy az öregedéssel szembeni ellenállóképességet javítsák, vagy más célokra, feltéve, hogy ezek az adalékok az anyag fizikai vagy kémia tulajdonságait kedvezőtlenül nem befolyásolják.

**6.6.4.2.7**      Megtöltött állapotban a magasság és a szélesség aránya nem haladhatja meg a 2:1 értéket.

**6.6.4.3**            *Különleges követelmények a merev falú műanyag nagycsomagolásokra*

50H      kódjelű merev falú műanyag nagycsomagolás

**6.6.4.3.1**      A nagycsomagolást ismert minőségi jellemzőjű, alkalmas műanyagból kell gyártani és ürtartalmának és rendeltetésszerű felhasználási módjának megfelelő szilárdsággal kell rendelkeznie. Az anyagnak kielégítő ellenállást kell tanúsítania a tartalmazott anyag és esetleg az ultraibolya sugárzás hatására bekövetkező öregedéssel és gyengüléssel szemben. Szükség esetén figyelembe kell venni az alacsony hőmérsékleten tanúsított viselkedését. A benne levő tartalom esetleges áthatolása normális szállítási feltételek között nem okozhat veszélyt.

**6.6.4.3.2**      Amennyiben az ultraibolya sugarak ellen védelem szükséges, ennek korom vagy más alkalmas pigment vagy inhibitor hozzáadásával kell történnie. Ezeknek az adalékoknak összeférhetőnek kell lenniük a tartalommal és hatásukat a test teljes élettartama alatt meg kell őrizniük. Olyan korom, pigment vagy inhibitor alkalmazásánál, amely különbözik a bevizsgált gyártási típus gyártásához használttól, a vizsgálatok megismétlésétől el lehet tekinteni, ha a megváltozott korom-, pigment- vagy inhibitor tartalom a szerkezeti anyag fizikai tulajdonságait kedvezőtlenül nem befolyásolja.

**6.6.4.3.3**      A nagycsomagolás anyagába adalékanyagok keverhetők, hogy az öregedéssel szembeni ellenállóképességet javítsák, vagy más célokra, feltéve, hogy ezek az adalékok az anyag fizikai vagy kémia tulajdonságait kedvezőtlenül nem befolyásolják.

**6.6.4.4**            *Különleges követelmények a papírlemez nagycsomagolásokra*

50G      kódjelű merev falú papírlemez nagycsomagolás

**6.6.4.4.1**      Szilárd és jó minőségű, tömör vagy hullámpapírlemezt (három vagy többretegűt) kell használni, amely megfelel a nagycsomagolás ürtartalmának és rendeltetésszerű használatának. A külső felület vízállóságának olyan mértékűnek kell lenni, hogy a Cobb-módszerrel végzett vízfelvétel-próba 30 perce alatt a tömegnövekedés ne haladja meg a 155 g/m<sup>2</sup> értéket – lásd az ISO 535:1991 szabványt. A papírlemeznek megfelelő hajlítószilárdsággal kell rendelkeznie. A papírlemez úgy kell kiszabni, átmetszés nélkül völgyelni és réselni, hogy az összeállításnál ne repedjen meg, a felülete ne törjön meg és ne hasasodjon ki. A hullámpapírlemez hullámosított rétegét a fedőrétegekhez szilárdan hozzá kell ragasztani.

**6.6.4.4.2**      Az oldalfalaknak, a tetőnek és a fenéknek minimálisan 15 J beszakítási szilárdsággal kell rendelkezniük, az ISO 3036:1975 szabvány szerint mérve.

**6.6.4.4.3**      A nagycsomagolások külső burkolatain a palást illesztéseit megfelelő mértékben át kell lapolni és ragasztószalaggal kell lezárni, le kell ragasztani vagy fémkapcsokkal kell tűzni, vagy legalább azonos hatékonyságú módszerrel kell egyesíteni. Ha az egyesítés ragasztással vagy ragasztószalaggal történik, vízálló ragasztót kell használni. A fémkapcsoknak minden összeerősítendő részen teljesen át kell hatolniuk és oly módon kell azokat kialakítani vagy védeni, hogy a bélést ne dörzsölhessék vagy ne szűrassák ki.

**6.6.4.4.4**      A nagycsomagolás részét képező rakodólap alapzatnak, ill. bármilyen különálló rakodólapnak alkalmasnak kell lennie a megengedett legnagyobb bruttó tömegig megtöltött nagycsomagolás gépi kezelésére.

**6.6.4.4.5**      A rakodólapot, ill. a nagycsomagolás részét képező alapzatot úgy kell kialakítani, hogy a nagycsomagolás alapján ne legyen semmilyen kiszögellés, ami a kezelés során sérülést

okozhatna.

**6.6.4.4.6** A testet a különálló rakodólaphoz hozzá kell erősíteni, hogy biztosítva legyen a stabilitás a kezelés és a szállítás során. A különálló rakodólap felső felületének mentesnek kell lennie mindenféle éles kiszögelléstől, ami a nagycsomagolást megsérthetné.

**6.6.4.4.7** A halmazolás megkönnyítésére erősítő szerkezetek, mint pl. fa tartóelemek használhatók, de ezeket a béléseken kívül kell elhelyezni.

**6.6.4.4.8** Amennyiben nagycsomagolásokat halmazolásra szánják, a teherviselő felületnek olyannak kell lennie, hogy a terhelés biztonságos módon elosztódjon.

**6.6.4.5** *Különleges követelmények a fa nagycsomagolásokra*

50C kódjelű közönséges fa nagycsomagolás

50D kódjelű rétegelt falemez nagycsomagolás

50F kódjelű farostlemez nagycsomagolás

**6.6.4.5.1** A felhasznált anyag szilárdsága és a test gyártási módja feleljen meg a nagycsomagolás úrtartalmának és rendeltetésszerű felhasználásának.

**6.6.4.5.2** A felhasznált fának jól kiérleltnek, kereskedelmi szárazságúnak és olyan hibáktól mentesnek kell lennie, ami a nagycsomagolás bármely részének szilárdságát csökkentené. A nagycsomagolás minden elemét egy darabból vagy ezzel egyenértékű módon kell gyártani. Az elemek akkor tekinthetők az egy darabból készülttel egyenértékűnek, ha a következő ragasztásos kötéstípusok valamelyikét alkalmazzák: Lindermann-illesztés (fecskéfarok illesztés), hornyolt átlapolás vagy a tompa illesztés, minden csatlakozásnál legalább két, hullámosított fém rögzítőelemmel, vagy akkor, ha legalább azonos hatékonyság más eljárást alkalmaznak.

**6.6.4.5.3** A nagycsomagoláshoz felhasznált rétegelt falemeznek legalább háromrétegűnek kell lennie. Jól kiérlelt, hántolt vagy fűrészelt furnérból kell készíteni, amely kereskedelmi szárazságú és mentes olyan hibáktól, ami a test bármely részének szilárdságát csökkentené. A szomszédos rétegeket vízálló ragasztóval kell összeragasztani. A nagycsomagolás szerkezetéhez a rétegelt falemezzel együtt más alkalmas anyagok is használhatók.

**6.6.4.5.4** A farostlemez nagycsomagolásokat vízálló farostlemezről, pl. keménylemezből, faforgácslemezből vagy egyéb alkalmas típusból kell készíteni.

**6.6.4.5.5** A nagycsomagolások oldallapjait szilárdan a sarokoszlopokhoz vagy homloklapokhoz kell szegezni vagy erősíteni vagy azonos mértékben alkalmas eszközökkel kell összeerősíteni.

**6.6.4.5.6** A nagycsomagolás szerves részét képező rakodólap alapzatnak, ill. bármilyen különálló rakodólapnak alkalmasnak kell lennie a megengedett legnagyobb bruttó tömegig megtöltött nagycsomagolás gépi kezelésére.

**6.6.4.5.7** A rakodólapot, ill. a nagycsomagolás szerves részét képező alapzatot úgy kell kialakítani, hogy nagycsomagolás alapján ne legyen semmilyen kiszögellés, ami a kezelés során sérülést okozhatna.

**6.6.4.5.8** A testet a különálló rakodólaphoz hozzá kell erősíteni, hogy biztosítva legyen a stabilitás a kezelés és a szállítás során. A különálló rakodólap felső felületének mentesnek kell lennie mindenféle éles kiszögelléstől, ami a nagycsomagolást megsérthetné.

**6.6.4.5.9** A halmazolás megkönnyítésére erősítő szerkezetek, mint pl. fa tartóelemek használhatók, de ezeket a béléseken kívül kell elhelyezni.

**6.6.4.5.10** Amennyiben nagycsomagolásokat halmazolásra szánják, a teherviselő felületnek olyannak kell lennie, hogy a terhelés biztonságos módon elosztódjék.

## **6.6.5 Vizsgálati követelmények a nagycsomagolásokra**

### **6.6.5.1 A vizsgálatok végrehajtása és gyakorisága**

**6.6.5.1.1** Minden nagycsomagolás gyártási típusát a jelölés felvitelét engedélyező illetékes hatóság által meghatározott eljárás szerint, a 6.6.5.3 bekezdésben előírt vizsgálatoknak kell alávetni, és ugyanek az illetékes hatóságnak jóvá kell hagyni.

**6.6.5.1.2** A nagycsomagolások gyártási típusának sikeresen ki kell állnia az e fejezetben előírt vizsgálatokat, mielőtt az adott típusú nagycsomagolást használatba vennék. A nagycsomagolás gyártási típusát kialakítása, nagysága, anyaga és falvastagsága, gyártásmódja és a csomagolási módszer határozzák meg; egy típushoz azonban különböző felületkezelés is tartozhat. Ugyanaz a típus magában foglalja azokat a nagycsomagolásokat is, amelyek a gyártási típustól csak kisebb szerkezeti magasságban térnek el.

**6.6.5.1.3** A vizsgálatokat a gyártásból vett mintákon az illetékes hatóság által meghatározott időközönként meg kell ismételni. Az ilyen vizsgálatoknál papírlemez nagycsomagolások esetén a szobahőmérsékleten való előkészítés azonosnak tekintendő a 6.6.5.2.4 pont előírásaival.

**6.6.5.1.4** A vizsgálatokat minden olyan módosítás után meg kell ismételni, ami megváltoztatja a nagycsomagolás kialakítását, anyagát vagy gyártásmódját.

**6.6.5.1.5** Az illetékes hatóság engedélyezheti azon nagycsomagolások szelektív vizsgálatát, amelyek csak kismértékben térnek el a már bevizsgálttól, pl. kisebb méretű belső csomagolásokat vagy kisebb nettó tömegű belső csomagolásokat tartalmaznak; és amelyek olyan nagycsomagolások, melyek a külső méret(ek)et tekintve valamivel kisebbek.

**6.6.5.1.6** (fenntartva)

***Megjegyzés:** Különböző típusú belső csomagolóeszközök egy nagycsomagolásba való helyezésére, ill. a belső csomagolóeszköz változatokra vonatkozóan lásd a 4.1.1.5.1 pontot.*

**6.6.5.1.7** Az illetékes hatóság bármikor előírhatja, hogy a jelen szakasz előírásainak megfelelő próbákkal igazolják, hogy a sorozatban gyártott csomagolóeszközök megfelelnek a gyártási típus követelményeinek.

**6.6.5.1.8** Amennyiben a vizsgálat eredményeit nem befolyásolja és az illetékes hatóság hozzájárul, ugyanazon a mintán több vizsgálat is végezhető.

### **6.6.5.2 Előkészítés a vizsgálatokhoz**

**6.6.5.2.1** A próbákat szállításra kész csomagolásokon kell végrehajtani, beleértve az alkalmazott belső csomagolóeszközöket. A belső csomagolóeszközöket folyadékok esetén ürtartalmuk legalább 98%-áig, szilárd anyag esetén legalább 95%-áig kell megtölteni. Az olyan nagycsomagolásoknál, ahol a belső csomagolóeszközök folyadékokat és szilárd anyagokat egyaránt tartalmaznak, külön vizsgálat szükséges a folyadék és külön a szilárd anyag tartalomra. A belső csomagolóeszközben levő anyag, ill. a szállítandó tárgy helyettesíthető más anyaggal vagy tárggyal, kivéve, ha ez meghamisítaná a próbák eredményét. Amennyiben más belső csomagolóeszközt vagy tárgyat alkalmaznak, annak ugyanolyan fizikai jellemzői legyenek (tömeg stb.), mint a szállítandó anyagnak vagy tárgynak. Abból a

célból, hogy elérjék a küldeménydarab megkövetelt össztömegét, kiegészítő terhek is használhatók, pl. ólomszemcsét tartalmazó zsákok, feltéve, hogy ezeket oly módon helyezik el, hogy nem hamisítják meg a próbák eredményét.

**6.6.5.2.2** Ha a folyadékra vonatkozó ejtőpróbánál helyettesítő anyagot használnak, ennek a szállítandó anyaggal azonos relatív sűrűségűnek és viszkozitásúnak kell lennie. Folyadékokra vonatkozó ejtőpróbánál helyettesítő anyagként víz is használható a következő feltételek mellett:

- a) ha a szállítandó anyag relatív sűrűsége nem haladja meg az 1,2 értéket, az ejtési magasságnak a 6.6.5.3.4.4 pontban levő táblázatban előírtnak kell lennie;
- b) ha a szállítandó anyag relatív sűrűsége meghaladja az 1,2 értéket, az ejtési magasságot a szállítandó anyag egy tizedesjegyre felkerekített relatív sűrűsége ( $d$ ) alapján a következők szerint kell kiszámítani:

I csomagolási csoport	II csomagolási csoport	III csomagolási csoport
$d \times 1,5 \text{ m}$	$d \times 1,0 \text{ m}$	$d \times 0,67 \text{ m}$

**6.6.5.2.3** A műanyagból készült nagycsomagolásokat és a műanyag belső csomagolóeszközöket – a szilárd anyagokat vagy tárgyakat tartalmazó zsákok kivételével – tartalmazó nagycsomagolásokat akkor kell az ejtőpróbának alávetni, amikor a vizsgálati minta és tartalma hőmérsékletét  $-18\text{ °C}$ -ra vagy az alá lehűtötték. Ezt a kondicionálást nem kell alkalmazni, ha a kérdéses anyagok alacsony hőmérsékleten elegendő hajlékonysággal és szakító-szilárdsággal bírnak. Ha a vizsgálandó mintát ily módon készítették elő, a 6.6.5.2.4 pont szerinti kondicionálás elhagyható. A vizsgálatához használt folyadékot szükség esetén fagyásgátló hozzáadásával folyékony állapotban kell tartani.

**6.6.5.2.4** A papírlemezből készült nagycsomagolásokat legalább 24 órán át szabályozott hőmérsékletű és relatív páratartalmú levegőn kell tartani. Három megoldás közül lehet választani. Az ajánlott érték  $23\text{ °C} \pm 2\text{ °C}$  hőmérséklet és  $50\% \pm 2\%$  páratartalom. A másik két lehetőség:  $20\text{ °C} \pm 2\text{ °C}$  hőmérséklet és  $65\% \pm 2\%$  páratartalom, illetve  $27\text{ °C} \pm 2\text{ °C}$  hőmérséklet és  $65\% \pm 2\%$  páratartalom.

**Megjegyzés:** Az átlagértékeknek ezen határok közé kell esniük. A rövid idejű ingadozások és a mérési korlátok az egyedi mérésektől legfeljebb  $\pm 5\%$  relatív páratartalom eltérést eredményezhetnek a vizsgálatok reprodukálhatóságának észrevehető csökkenése nélkül.

### **6.6.5.3 Vizsgálati követelmények**

#### **6.6.5.3.1 Emelési próba alulról**

##### **6.6.5.3.1.1 Alkalmazási terület**

Gyártási típus vizsgálatként minden olyan nagycsomagolás típusnál, amely az alulról való emeléshez el van látva szerkezettel.

##### **6.6.5.3.1.2 A nagycsomagolás előkészítése a próbához**

A nagycsomagolást megengedett legnagyobb bruttó tömegének 1,25-szorosáig kell – a terhelést egyenletesen elosztva – megtölteni.

##### **6.6.5.3.1.3 Vizsgálati eljárás**

A nagycsomagolást emelővillás targoncával kétszer fel kell emelni és le kell tenni. Ennek során a villákat központosan kell elhelyezni, és azoknak egymástól olyan távolságra kell lenniük, amely a bevezetés felőli oldalméret háromnegyed részének felel meg, (hacsak a

bevezetési pontok nincsenek rögzítve). A villákat a bevezetés irányában háromnegyed részig kell bevezetni. A próbát minden lehetséges irányból meg kell ismételni.

**6.6.5.3.1.4**      Elfogadási feltétel

Nem következhet be sem olyan tartós alakváltozás, amely a nagycsomagolás biztonságát a szállítás szempontjából csökkentené, sem a tartalom elvesztése.

**6.6.5.3.2**      *Emelés felülről*

**6.6.5.3.2.1**      Alkalmazási terület

Gyártási típus vizsgálatként minden olyan nagycsomagolás típusnál, amely el van látva a felülről való emelésre szolgáló szerkezettel.

**6.6.5.3.2.2**      A nagycsomagolás előkészítése a próbához

A nagycsomagolást a megengedett legnagyobb bruttó tömeg kétszereséig kell megtölteni. A hajlékony falú nagycsomagolást a megengedett legnagyobb terhelés hatszorosaig kell – a terhelést egyenletesen elosztva – megtölteni.

**6.6.5.3.2.3**      Vizsgálati eljárás

A nagycsomagolást rendeltetésszerűen fel kell emelni, amíg az a talajtól elválik, és ebben a helyzetben kell tartani 5 perc időtartamig.

**6.6.5.3.2.4**      Elfogadási feltétel

- a) Fém és merev falú műanyag nagycsomagolásoknál: nem következhet be sem olyan tartós alakváltozás, amely a nagycsomagolás (beleértve a rakodólap alapot, ha ilyen van) biztonságát a szállítás szempontjából csökkentené, sem a tartalom elvesztése.
- b) Hajlékony falú nagycsomagolásoknál: nem következhet be olyan sérülés sem a nagycsomagoláson, sem annak emelőszerkezetén, amely a nagycsomagolás biztonságát a szállítás vagy kezelés szempontjából csökkentené, sem a tartalom elvesztése.

**6.6.5.3.3**      *Halmazolási próba*

**6.6.5.3.3.1**      Alkalmazási terület

Gyártási típus vizsgálatként minden olyan nagycsomagolás típusnál, amelyek kialakításuknál fogva egymásra halmazolhatók.

**6.6.5.3.3.2**      A nagycsomagolás előkészítése a próbához

A nagycsomagolást megengedett legnagyobb bruttó tömegéig kell megtölteni.

**6.6.5.3.3.3**      Vizsgálati eljárás

A nagycsomagolást alapzatával vízszintes, sík, kemény talajra kell állítani és egyenletesen elosztott próbaterhelést kell ráhelyezni (lásd a 6.6.5.3.3.4 pontot) legalább 5 percig, fa, papírlemez és műanyag nagycsomagolások esetében 24 órán át.

**6.6.5.3.3.4**      A ráhelyezendő próbaterhelés kiszámítása

A tehernek, amelyet a nagycsomagolásra helyeznek, meg kell egyeznie a szállítás során a nagycsomagolásra halmazolható hasonló nagycsomagolások összes tömegének legalább 1,8-szeresével.



**6.6.5.3.3.5** Elfogadási feltétel

- a) A hajlékony falú nagycsomagolás kivételével minden más nagycsomagolásnál: nem következhet be sem olyan tartós alakváltozás, amely a nagycsomagolás (beleértve az esetleges rakodólap alapot is, ha ilyen van) biztonságát a szállítás szempontjából csökkentené, sem a tartalom elvesztése.
- b) Hajlékony falú nagycsomagolásnál: nem következhet be sem a test olyan károsodása, ami a nagycsomagolás biztonságát a szállítás szempontjából csökkentené, sem a tartalom elvesztése.

**6.6.5.3.4** *Ejtőpróba***6.6.5.3.4.1** Alkalmazási terület

Gyártási típus vizsgálatként minden nagycsomagolás típusnál.

**6.6.5.3.4.2** A nagycsomagolás előkészítése a próbához

A nagycsomagolást a 6.6.5.2.1 pont szerint kell megtölteni.

**6.6.5.3.4.3** Vizsgálati eljárás

A nagycsomagolást oly módon kell a 6.1.5.3.4 pont követelményeinek megfelelő, rugalmatlan, vízszintes, sima, masszív és szilárd felületre ejteni, ami biztosítja, hogy a nagycsomagolás az alapfelület legérzékenyebbnek tekintett részén ütközzön fel.

**6.6.5.3.4.4** Ejtési magasság

I csomagolási csoport	II csomagolási csoport	III csomagolási csoport
1,8 m	1,2 m	0,8 m

**Megjegyzés:** Az 1 osztály anyagaihoz és tárgyaihoz, a 4.1 osztály önreaktív anyagaihoz és az 5.2 osztály szerves peroxidjaihoz használandó nagycsomagolást a II csomagolási csoport igénybevételi szintjén kell vizsgálni.

**6.6.5.3.4.5** Elfogadási feltétel**6.6.5.3.4.5.1** Nem következhet be olyan sérülés, amely a szállítás biztonságát befolyásolná. A belső csomagolóeszközökben vagy tárgyakban levő anyag nem szivároghat.**6.6.5.3.4.5.2** Az 1 osztály tárgyaihoz használandó nagycsomagolás nem szenvedhet olyan törést, ami lehetővé teszi a nagycsomagolásból a robbanóanyag kifolyását vagy tárgyak kiszóródását.**6.6.5.3.4.5.3** A nagycsomagolás ejtési próbája során a minta megfelelőnek tekinthető, ha a teljes tartalmat megtartotta, még ha a zárás a továbbiakban nem is portömör.**6.6.5.4** *Bizonyítvány és vizsgálati jegyzőkönyv***6.6.5.4.1** Minden nagycsomagolás gyártási típusra bizonyítványt kell kiállítani és (a 6.6.3 szakasz szerinti) jelölést kell hozzárendelni, tanúsítva, hogy a gyártási típus, beleértve annak szerelvényeit, kielégíti a vizsgálat követelményeit.**6.6.5.4.2** A vizsgálatokról legalább a következő adatokat tartalmazó jegyzőkönyvet kell készíteni, amit a nagycsomagolás felhasználói számára hozzáférhetővé kell tenni

1. A vizsgálatot végző szerv neve és címe; éges);

2. A vizsgálatot kérő neve és címe (ha szükséges);
3. A vizsgálati jegyzőkönyv egyedi azonosítója;
4. A vizsgálati jegyzőkönyv kelte;
5. A nagycsomagolás gyártója;
6. A nagycsomagolás gyártási típusának leírása (pl. méretek, anyagok, zárószervezetek, falvastagságok stb.) és/vagy fénykép(ek);
7. Legnagyobb úrtartalom / megengedett legnagyobb bruttó tömeg;
8. A vizsgálat alatti tartalom jellemzői, pl. a belső csomagolóeszközök vagy tárgyak típusa és leírása;
9. A vizsgálatok leírása és eredményei;
10. A vizsgálati jegyzőkönyvet alá kell írni, az aláíró nevét és beosztását fel kell tüntetni.

**6.6.5.4.3**

A vizsgálati jegyzőkönyvnek megállapítást kell tartalmaznia arra nézve, hogy a szállításra előkészített nagycsomagolás ezen fejezet megfelelő rendelkezéseivel összhangban került vizsgálatra és más csomagolási módszerek vagy alkotórészek használata azt érvénytelenné teheti. A vizsgálati jegyzőkönyv egy példányát az illetékes hatóságnak kell átadni.



## 6.7 fejezet

### A mobil tartányok és az UN többbelemes gázkonténerek (UN MEG-konténerek) tervezésére, gyártására és vizsgálatára vonatkozó előírások

*Megjegyzés: A fémből gyártott tartánnyal rendelkező tartálykocsikra, leszerelhető tartányokra, tankkonténerekre és tartányos cserefelépítményekre, valamint a battériás kocsikra és a többbelemes gázkonténerekre (MEG-konténerekre) – az UN MEG-konténerek kivételével – lásd a 6.8 fejezetet; a szálvázaz műanyag tartányokra lásd a 6.9 fejezetet, a hulladékok szállítására szolgáló, vákuummal üzemelő tartányokra lásd a 6.10 fejezetet.*

#### 6.7.1 Alkalmazási terület és általános előírások

**6.7.1.1** E fejezet követelményei a veszélyes áruk bármely alágazattal történő szállítására használt mobil tartányokra, ill. a 2 osztály nem mélyhűtött gázainak bármely alágazattal történő szállítására használt MEG-konténerekre vonatkoznak. Eltérő előírás hiányában, ha egy mobil tartány, ill. MEG-konténer a – többször módosított – „A Biztonságos Konténerekről szóló 1972. évi Nemzetközi Egyezmény” (CSC) meghatározása szerint konténernek minősül, akkor e fejezet követelményein kívül a CSC egyezmény előírásait is be kell tartani. A nyílt tengeren kezelt „offshore” mobil tartányokra, ill. MEG-konténerekre kiegészítő követelmények is vonatkozhatnak.

**6.7.1.2** A tudományos és műszaki haladás figyelembe vétele érdekében e fejezet műszaki követelményei helyett alternatívaként más előírások is alkalmazhatók. Az alternatív kialakítású mobil tartánynak, ill. MEG-konténernek a szállított anyaggal való összeférhetőség, az ütdésekkel, a rakodási igénybevételekkel és a tűzzel szembeni ellenállóképesség tekintetében legalább olyan biztonságosnak kell lenniük, mintha e fejezet követelményeit teljesítették volna. Nemzetközi szállítás esetén az alternatív kialakítású mobil tartányt, ill. MEG-konténert az érintett illetékes hatóságoknak jóvá kell hagyniuk.

**6.7.1.3** Ha egy anyaghoz a 3.2 fejezet „A” táblázat 10 oszlopában nincs is mobil tartány utasítás (T1 – T23, T50 vagy T75) feltüntetve, a származási ország illetékes hatósága ideiglenes szállítási engedélyt adhat ki. Az engedélynek legalább azokat az információkat kell tartalmaznia, amelyek normál esetben a mobil tartány utasításban szerepelnek, és tartalmaznia kell az anyag szállítási feltételeit. Az engedélyt a küldemény okmányaihoz kell csatolni.

#### 6.7.2 Az 1 és a 3 – 9 osztály anyagainak szállításához használt mobil tartányok gyártására és vizsgálatára vonatkozó követelmények

##### 6.7.2.1 Meghatározások

E szakasz alkalmazásában:

Az *alternatív kialakítási engedély* az e fejezetben meghatározottaktól eltérő műszaki előírások alapján tervezett, gyártott vagy eltérő vizsgálati módszer szerint vizsgált (alternatív kialakítású) mobil tartányra vagy MEG-konténerre az illetékes hatóság által kiadott engedély.

A *mobil tartány* olyan multimodális tartány, amelyet az 1 és a 3 – 9 osztály anyagainak szállítására használnak. A mobil tartány fogalmába maga a tartány és a veszélyes anyag szállításához szükséges üzemi és szerkezeti szerelvényei tartoznak. A mobil tartánynak a

szerkezeti szerelvények eltávolítása nélkül tölthetőnek és üríthetőnek kell lennie. A tartány külső részén stabilizáló elemeknek kell lenniük, és alkalmasnak kell lennie arra, hogy megtöltött állapotban felemeljék. Úgy kell kialakítani, hogy elsősorban közúti járműre, vasúti kocsira, ill. tengerjáró vagy belvízi hajóba lehessen rakni, a gépi rakodás megkönnyítésére kerettel vagy egyéb szerkezetekkel kell ellátni. A közúti tartányjárművek, a vasúti tartálykocsik, a nem fémből készült tartányok és a nagyméretű csomagolóeszközök (IBC-k) e meghatározás értelmében nem minősülnek mobil tartánynak.

A *tartány* a mobil tartány azon része, amely a szállítandó anyag megtartására szolgál (maga a tartány), beleértve a nyílásokat és zárószerveit, de kizárva az üzemi szerelvényeket és a külső szerkezeti szerelvényeket.

Az *üzemi szerelvények* a töltő- és ürítő-, a szellőző-, a biztonsági, a fűtő-, a hűtő- és a hőszigetelő berendezések, valamint a mérőeszközök.

A *szerkezeti szerelvények* a tartány külső részén található erősítő-, rögzítő-, védő- vagy stabilizáló elemek.

A *megengedett legnagyobb üzemi nyomás* a tartány üzemi helyzetében, annak tetején mérhető nyomás, amely nem lehet kisebb, mint a következő két nyomás érték közül a nagyobbik:

- a) a tartányban a töltés, ill. ürítés során megengedett legnagyobb tényleges nyomás (túlnyomás); vagy
- b) a legnagyobb tényleges túlnyomás, amelyre a tartány méretezve van, ami nem lehet kevesebb, mint
  - i) az anyag abszolút gőznyomása (bar-ban) 65 °C-on mínusz 1 bar; és
  - ii) a folyadékszint feletti térben levő levegő, ill. egyéb gáz parciális nyomásai (bar-ban), amelyet a következők alapulvételével kell meghatározni: legfeljebb 65 °C hőmérsékletű folyadékszint feletti tér, valamint az átlagos hőmérséklet  $t_r - t_f$  értékű növekedéséből adódó folyadék-fázis tágulás (ahol  $t_f$  = a töltési hőmérséklet, rendszerint 15 °C;  $t_r$  = a legnagyobb átlagos hőmérséklet, 50 °C).

A *tervezési nyomás* a nyomástartó edényekre vonatkozó szabályzat szerint a számításokhoz használandó nyomás. A tervezési nyomás nem lehet kisebb, mint a következő nyomások közül a legnagyobb:

- a) a tartányban a töltés, ill. ürítés során megengedett legnagyobb tényleges nyomás (túlnyomás); vagy
- b) a következők összege:
  - i) az anyag abszolút gőznyomása (bar-ban) 65 °C-on mínusz 1 bar;
  - ii) a folyadékszint feletti térben levő levegő, ill. egyéb gáz parciális nyomásai (bar-ban), amelyet a következők alapulvételével kell meghatározni: legfeljebb 65 °C hőmérsékletű folyadékszint feletti tér, valamint az átlagos hőmérséklet  $t_r - t_f$  értékű növekedéséből adódó folyadék-fázis tágulás (ahol  $t_f$  = a töltési hőmérséklet, rendszerint 15 °C;  $t_r$  = a legnagyobb átlagos hőmérséklet, 50 °C); és
  - iii) a 6.7.2.2.12 pontban meghatározott statikus erők alapján meghatározott folyadéknyomás, de legalább 0,35 bar; vagy
- c) a 4.2.5.2.6 pontban, az alkalmazandó mobil tartány utasításban meghatározott legkisebb próbanyomás kétharmada.

A *próbanyomás* a tervezési nyomás legalább 1,5-szeresével végzett folyadéknyomás-próba alatt a legnagyobb túlnyomás a tartány tetején. Az egyes anyagokhoz használt mobil

tartányokra a legkisebb próbanyomás értékét a 4.2.5.2.6 pontban az alkalmazandó mobil tartány utasítások határozzák meg.

A *tömörségi próba* az a gázzal végzett vizsgálat, amelynek során a tartányt az üzemi szerelvényeivel a megengedett legnagyobb üzemi nyomás legalább 25%-át elérő tényleges belső nyomásnak teszik ki.

A *megengedett legnagyobb bruttó tömeg* a mobil tartány saját tömege és a szállításra engedélyezett legnagyobb rakomány össztömege.

A *referencia acél* a 370 N/mm<sup>2</sup> szakítószilárdságú és 27% szakadási nyúlású acél.

A *szerkezeti acél* olyan acél, amelynek szavatolt legkisebb szakítószilárdsága 360...440 N/mm<sup>2</sup> között van, és szakadási nyúlása megfelel a 6.7.2.3.3.3 pontnak.

A *tervezési hőmérséklet-tartomány* a környezeti hőmérsékleten szállított anyagokhoz használt tartányok esetében -40 °C...+50 °C. A magas hőmérsékleten szállított egyéb anyagoknál a tervezési hőmérséklet nem lehet alacsonyabb, mint az anyag töltés, ürítés, ill. szállítás alatti legmagasabb hőmérséklete. Szélsőséges éghajlati körülményeknek kitett mobil tartányok esetében szigorúbb tervezési hőmérsékleteket kell alkalmazni.

A *finom szemcseszerkezetű acél* olyan acél, amelyben a ferrit szemcsék mérete az ASTM E 112-96 szabvány szerint meghatározva 6 vagy annál finomabb vagy az EN 10028-3 szabvány 3 részében meghatározott acél.

Az *olvadóbetét* egy hő hatására aktiválódó (kiolvadó), nem visszazárható nyomáscsökkentő szerkezet.

Az „*offshore*” mobil tartány olyan többször használható mobil tartány, amelyet speciálisan nyílt tengeri létesítményekhez, létesítményektől, ill. létesítmények közötti szállításra terveztek. Az „*offshore*” mobil tartányt a nyílt tengeren kezelt „*offshore*” konténerekre vonatkozó jóváhagyási útmutató szerint kell tervezni és gyártani, amit a Nemzetközi Tengerészeti Szervezet (IMO) MSC/Circ.860 dokumentuma tartalmaz.

## **6.7.2.2 Általános tervezési és gyártási követelmények**

**6.7.2.2.1** A tartányokat az illetékes hatóság által elismert, a nyomástartó edényekre vonatkozó szabályzat előírásainak megfelelően kell tervezni és gyártani. A tartányt alakításra alkalmas fémes anyagból kell készíteni. Az anyagoknak általában a belföldi vagy nemzetközi anyagszabványoknak kell megfelelniük. Hegesztett tartányokhoz csak olyan anyagok használhatók, amelyek hegeszthetősége teljes mértékben szavatolt. A hegesztéseket szakszerűen kell elkészíteni, és teljesen biztonságosnak kell lenniük. Ha a gyártási folyamat vagy az anyag szükségessé teszi, a tartányt megfelelően hőkezelni kell, hogy a hegesztéseknél és a hőhatásnak kitett zónákban biztosítsák a kielégítő szívósságot. Az anyagok kiválasztásánál a ridegtörés veszélye, a feszültség alatti korróziós repedések és az ütésállóság szempontjából figyelembe kell venni a tervezési hőmérséklet-tartományt. Finom szemcseszerkezetű acélok használata esetén a szavatolt folyáshatár nem lehet nagyobb, mint 460 N/mm<sup>2</sup>, és a szavatolt szakítószilárdság felső határa nem lehet nagyobb, mint 725 N/mm<sup>2</sup> az anyagspecifikáció szerint. Alumínium szerkezeti anyagként csak akkor használható, ha az adott anyagra a 3.2 fejezet „A” táblázat 11 oszlopában található mobil tartány utasítás erre utal, vagy ha az illetékes hatóság engedélyezte. Alumínium engedélyezése esetén a tartányt szigeteléssel kell ellátni, ami megakadályozza a fizikai tulajdonságok jelentős romlását olyan esetekben, amikor a tartányt legalább 30 percen át 110 kW/m<sup>2</sup> hőterhelés éri. A hőszigetelésnek 649 °C alatti minden hőmérsékleten hatásosnak kell maradnia, és olyan anyaggal kell burkolni, amelynek olvadáspontja legalább 700 °C. A mobil tartány anyagainak alkalmasnak kell lenniük ahhoz a külső környezethez, amelyben a tartányt szállíthatják.

- 6.7.2.2.2** A mobil tartányokat, a szerelvényeiket és a csővezetékeket olyan anyagból kell készíteni,
- a) amelyet a szállított anyag(ok) eleve nem támad(nak) meg; vagy
  - b) amely kémiai reakció révén megfelelően passziválódik vagy semlegesítődik; vagy
  - c) amely a tartányhoz közvetlenül hozzáerősített vagy azzal egyenértékű módon hozzászerezelt korrózióálló anyaggal van bélelve.
- 6.7.2.2.3** A tömítéseket olyan anyagokból kell készíteni, amelyeket a szállítandó anyag(ok) nem támad(nak) meg.
- 6.7.2.2.4** Ha a tartány bélelt, a bélésanyagnak eleve olyannak kell lennie, amit a szállított anyag(ok) nem támad(nak) meg, ezenkívül homogénnek, hézag- és áttörésmentesnek és kellően rugalmasnak kell lennie, valamint igazodnia kell a tartány hőtágulási jellemzőihez. Ha a tartányhoz külső szerelvény van hegesztve, a bélésnek folytonosan túl kell nyúlnia a szerelvényen keresztül a karima legkülső pereméig.
- 6.7.2.2.5** A bélés illesztéseit és varratait az anyag összeolvasztásával vagy más, azonos hatékonyságú módszerrel kell kialakítani.
- 6.7.2.2.6** Kerülni kell a különböző fémek érintkezését, ami a galvanikus hatás folytán károsodást okozhat.
- 6.7.2.2.7** A mobil tartány, a szerelvények, a tömítések, a bélések és a tartozékok anyaga nem gyakorolhat kedvezőtlen hatást a mobil tartányban szállítandó anyagokra.
- 6.7.2.2.8** A mobil tartányt megfelelő emelő és rögzítő szerelvényekkel és olyan tartószerkezettel kell tervezni és kialakítani, amely a szállítás során biztos alátámasztást nyújt.
- 6.7.2.2.9** A mobil tartányt olyanra kell tervezni, hogy a szállított anyag vesztesége nélkül ellenálljon legalább a szállított anyag által kifejtett belső nyomásnak és a normális szállítási és kezelési feltételek mellett fellépő statikus, dinamikus és hőterhelésnek. A tervezés során bizonyítani kell, hogy az ezen terheléseknek a mobil tartány várható élettartama alatti ismétlődése folytán kialakuló kifáradást figyelembe vették.
- 6.7.2.2.10** Azokat a tartányokat, amelyeket vákuumszeleppel látnak el, úgy kell tervezni, hogy maradó alakváltozás nélkül ellenálljanak akkora külső nyomásnak, amely a belső nyomásnál legalább 0,21 bar-ral nagyobb. A vákuumszelepeket úgy kell beállítani, hogy legfeljebb 0,21 bar vákuum hatására kinyissanak, kivéve, ha nagyobb külső túlnyomásra vannak méretezve, amikor is a felszerelendő szelepek nyitónyomása nem lehet nagyobb, mint a tartány tervezésénél figyelembe vett vákuum mértéke. Az illetékes hatóság engedélye alapján kisebb külső nyomásra is méretezhetők azok a tartányok, amelyeket kizárólag olyan szilárd (porszerű vagy szemcsés) anyagok szállítására használnak, amelyek a II vagy a III csomagolási csoportba tartoznak és a szállítás alatt nem válnak folyékonnyá. Ebben az esetben a vákuumszelep nyitását erre a kisebb nyomásra kell beállítani. Azokat a tartányokat, amelyeken nincs vákuumszelep, úgy kell tervezni, hogy maradó alakváltozás nélkül ellenálljanak akkora külső nyomásnak, amely a belső nyomásnál legalább 0,4 bar-ral nagyobb.
- 6.7.2.2.11** A 3 osztály kritériumainak megfelelő lobbanásponitú anyagok (beleértve a lobbanásponitjukon vagy annál magasabb hőmérsékleten szállított, magas hőmérsékletű anyagokat) szállítására szolgáló mobil tartányokon használt vákuumszelepeknek meg kell akadályozni a lángnak a tartányba történő közvetlen behatolását, vagy a mobil tartánynak alkalmasnak kell lennie arra, hogy szivárgás nélkül ellenálljon a lángnak a tartányba történő behatolása következtében fellépő belső robbanásnak.

- 6.7.2.2.12** A mobil tartányoknak és rögzítőelemeiknek a megengedett legnagyobb töltési tömeg mellett a következő, külön-külön fellépő, statikus erők elviselésére kell alkalmasnak lenniük:
- a) menetirányban: a megengedett legnagyobb bruttó tömeg kétszerese szorozva a nehézségi gyorsulással ( $g$ )<sup>1)</sup>;
  - b) vízszintesen a menetirányra merőlegesen: a megengedett legnagyobb bruttó tömeg (amennyiben a menetirány nincs egyértelműen meghatározva, a megengedett legnagyobb bruttó tömeg kétszerese) szorozva a nehézségi gyorsulással ( $g$ )<sup>1)</sup>;
  - c) függőlegesen felfelé: a megengedett legnagyobb bruttó tömeg szorozva a nehézségi gyorsulással ( $g$ )<sup>1)</sup>; és
  - d) függőlegesen lefelé: a megengedett legnagyobb bruttó tömeg (összes terhelés beleértve a gravitáció hatását) kétszerese szorozva a nehézségi gyorsulással ( $g$ )<sup>1)</sup>.
- 6.7.2.2.13** A 6.7.2.2.12 pontban felsorolt erőknél a következő biztonsági tényezőket kell figyelembe venni:
- a) határozott folyáshatárral rendelkező fémeknél a szavatolt folyáshatárra vonatkozóan 1,5-es biztonsági tényezőt; vagy
  - b) határozott folyáshatárral nem rendelkező fémeknél: a 0,2%-os (vagy ausztenites acélokra az 1%-os) szavatolt, egyezményes folyáshatárra vonatkozóan 1,5-es biztonsági tényezőt.
- 6.7.2.2.14** A tényleges, ill. az egyezményes folyáshatár értékére a belföldi vagy nemzetközi anyagszabványok által meghatározott értékeket kell használni. Ausztenites acélok használata esetén a tényleges, ill. az egyezményes folyáshatárra az anyagszabványokban előírt legkisebb értékeket legfeljebb 15%-kal meg lehet haladni, ha ezeket a magasabb értékeket a vizsgálati bizonyítvány hitelesíti. Ha a szóban forgó fémre nincs anyagszabvány, a használt tényleges, ill. egyezményes folyáshatár értéket az illetékes hatóságnak jóvá kell hagynia.
- 6.7.2.2.15** A mobil tartányoknak elektromosan földelhetőnek kell lenniük, ha a 3 osztály kritériumainak megfelelő lobbaspontú anyagok (beleértve a lobbaspontjukon vagy annál magasabb hőmérsékleten szállított, magas hőmérsékletű anyagokat) szállítására használják. Intézkedéseket kell tenni a veszélyes elektrosztatikus kisülések megakadályozására.
- 6.7.2.2.16** Ha egy anyagra a 3.2 fejezet „A” táblázat 10 oszlopában feltüntetett és a 4.2.5.2.6 pontban leírt mobil tartány utasítás szerint, vagy a 3.2 fejezet „A” táblázat 11 oszlopában feltüntetett és a 4.2.5.3 bekezdésben leírt mobil tartány különleges előírás szerint szükséges, akkor a mobil tartányt kiegészítő védelemmel kell ellátni, amely nagyobb falvastagságból, ill. nagyobb próbanyomásból állhat, a nagyobb falvastagságot, ill. a nagyobb próbanyomást az anyag szállításában rejlő veszélyek figyelembevételével kell meghatározni.
- 6.7.2.3** *Tervezési kritériumok*
- 6.7.2.3.1** A tartányt úgy kell megtervezni, hogy matematikailag vagy kísérleti úton (pl. nyúlásmérő bélyegek alkalmazásával vagy az illetékes hatóság által jóváhagyott más módszerrel) szilárdsági ellenőrzésnek, ill. vizsgálatnak lehessen alávetni.
- 6.7.2.3.2** A tartányokat úgy kell tervezni és gyártani, hogy a tervezési nyomás legalább 1,5-szeresével végrehajtott folyadéknomás-próbát kiállják. Bizonyos anyagokra különleges előírások találhatók a 3.2 fejezet „A” táblázat 10 oszlopában feltüntetett és a 4.2.5.2.6 pontban leírt

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1) A számítások céljára  $g = 9,81 \text{ m/s}^2$ .

mobil tartány utasításokban vagy a 3.2 fejezet „A” táblázat 11 oszlopában feltüntetett és a 4.2.5.3 bekezdésben leírt mobil tartány különleges előírásokban. Ezeknél a tartányoknál tekintettel kell lenni a 6.7.2.4.1 – 6.7.2.4.10 pontban meghatározott, legkisebb falvastagságra vonatkozó követelményekre is.

**6.7.2.3.3** A határozott folyáshatárral rendelkező, ill. szavatolt, egyezményes folyáshatárral (általában a 0,2%-os, ausztenites acéloknál az 1%-os egyezményes folyáshatárral) jellemzett fémeknél a tartányban a próbanyomáson fellépő  $\sigma$  primer membránfeszültség nem haladhatja meg a  $0,75R_e$  vagy a  $0,50R_m$  értékek közül az alacsonyabbat, ahol

$R_e$  = a tényleges folyáshatár N/mm<sup>2</sup>-ben vagy a 0,2%-os vagy ausztenites acéloknál az 1%-os egyezményes folyáshatár;

$R_m$  = a legkisebb szakítószilárdság N/mm<sup>2</sup>-ben.

**6.7.2.3.3.1** Az  $R_e$  és  $R_m$  értékre a belföldi vagy nemzetközi anyagszabványok által meghatározott legkisebb értékeket kell használni. Ausztenites acélok használata esetén az anyagszabványokban előírt legkisebb értékeket legfeljebb 15%-kal meg lehet haladni, ha ezeket a magasabb értékeket az anyagvizsgálati bizonyítvány hitelesíti. Ha a szóban forgó fémre nincs anyagszabvány, a használt  $R_e$  és  $R_m$  értéket az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek kell jóváhagynia.

**6.7.2.3.3.2** Hegesztett tartányok gyártásához használt acéloknál 0,85-öt meghaladó  $R_e/R_m$  arány nem megengedett. Az anyagvizsgálati bizonyítványban szereplő értékeket kell alapul venni az egyes esetekben az  $R_e/R_m$  arány meghatározásához.

**6.7.2.3.3.3** A tartány gyártásához használt acélnál a szakadási nyúlás értéke %-ban nem lehet kisebb, mint  $10\,000/R_m$ , azonban finom szemcseszerkezetű acélok esetében 16%-nál, más acélok esetében 20%-nál semmi esetre sem lehet kisebb. Alumíniumötvözetek esetében a szakadási nyúlás értéke %-ban nem lehet kisebb, mint  $10\,000/6R_m$ , de 12%-nál semmi esetre sem lehet kisebb.

**6.7.2.3.3.4** Az anyagokra a tényleges értékek meghatározásánál figyelembe kell venni, hogy fémlemez esetén a szakítópróbához használt próbatest tengelye a hengerlési irányra merőleges legyen. A szakadási nyúlást négyyszög keresztmetszetű próbatesten kell mérni az ISO 6892:1998 szabvány szerint, 50 mm-es befogási hossz mellett.

#### **6.7.2.4** *Legkisebb falvastagság*

**6.7.2.4.1** A legkisebb falvastagságnak a következők szerint adódó legnagyobb vastagságnak kell lennie:

- a 6.7.2.4.2 – 6.7.2.4.10 pont szerint meghatározott legkisebb vastagság;
- a nyomástartó edényekre vonatkozó, elismert szabályzat és a 6.7.2.3 bekezdés követelményei szerint meghatározott legkisebb vastagság; és
- a 3.2 fejezet „A” táblázat 10 oszlopában feltüntetett és a 4.2.5.2.6 pontban leírt mobil tartány utasításban vagy a 3.2 fejezet „A” táblázat 11 oszlopában feltüntetett és a 4.2.5.3 bekezdésben leírt mobil tartány különleges előírásban meghatározott legkisebb vastagság.

**6.7.2.4.2** Az 1,80 m-nél nem nagyobb átmérőjű tartányoknál a palást, a fenekek és a búvónyílás fedelek falvastagságának legalább 5 mm-nek kell lennie referencia acélra számolva, vagy a felhasználandó fémből azzal egyenértékű vastagságúnak. Ha az átmérő meghaladja az 1,80 m-t, a falvastagságnak legalább 6 mm-nek kell lennie, kivéve a II és a III csomagolási



csoportba tartozó, porszerű vagy szemcsés anyagok szállítására használt tartányok esetét, amikor is a legkisebb falvastagságot referencia acélra legfeljebb 5 mm-ig, illetve a felhasználandó fémből az azzal egyenértékű vastagságúra lehet csökkenteni.

**6.7.2.4.3** Ha a tartány a sérülések ellen védőszerkezettel van ellátva, a 2,65 bar-nál kisebb próbanyomású mobil tartány esetében az illetékes hatóság megengedheti a legkisebb falvastagságnak a nyújtott védelem arányában való csökkentését. Az 1,80 m-nél nem nagyobb átmérőjű tartányok falvastagságának azonban legalább 3 mm-nek kell lennie referencia acélra számolva, vagy a felhasználandó fémből az azzal egyenértékű vastagságúnak. Az 1,80 m-nél nagyobb átmérőjű tartányoknál a legkisebb falvastagságának legalább 4 mm-nek kell lennie referencia acélra számolva, vagy a felhasználandó fémből az azzal egyenértékű vastagságúnak.

**6.7.2.4.4** A tartány palást, a fenekek és a búvónyílás fedelek vastagsága a szerkezeti anyagtól függetlenül nem lehet 3 mm-nél kisebb.

**6.7.2.4.5** A 6.7.2.4.3 pontban említett kiegészítő védelem kialakítható teljes külső szerkezeti védelemként, pl. megfelelő szendvics szerkezet formájában, ahol a külső burkolat a tartányhoz van erősítve, vagy kettős falú szerkezettel, vagy úgy, hogy a tartányt egy hosszirányú és keresztirányú szerkezeti elemekkel rendelkező, teljes keretvázba erősítik.

**6.7.2.4.6** Valamely fém egyenértékű vastagságát, kivéve a 6.7.2.4.2 pontban a referencia acélra előírt vastagságot, a következő képlettel kell kiszámítani:

$$e_I = \frac{21,4 e_0}{\sqrt[3]{R_{mI} A_I}},$$

ahol

$e_I$  = a felhasználandó fém esetén megkövetelt egyenértékű falvastagság (mm-ben);

$e_0$  = a 3.2 fejezet „A” táblázat 10 oszlopában feltüntetett és a 4.2.5.2.6 pontban leírt mobil tartány utasításban vagy a 3.2 fejezet „A” táblázat 11 oszlopában feltüntetett és a 4.2.5.3 bekezdésben leírt mobil tartány különleges előírásban a referencia acélra meghatározott legkisebb falvastagság (mm-ben);

$R_{mI}$  = a felhasználandó fém szavatolt legkisebb szakítószilárdsága (N/mm<sup>2</sup>-ben, lásd a 6.7.2.3.3 pontot);

$A_I$  = a felhasználandó fém belföldi vagy nemzetközi szabványok szerinti szavatolt legkisebb szakadási nyúlása (%-ban).

**6.7.2.4.7** Figyelembe kell venni, hogy amennyiben az alkalmazandó mobil tartány utasításban a 4.2.5.2.6 pont szerint 8 mm vagy 10 mm legkisebb falvastagság van előírva, ez a vastagság a referencia acélra és 1,80 m tartány átmérőre vonatkozik. Szerkezeti acéltól (lásd a 6.7.2.1 bekezdést) eltérő fémek használata vagy nagyobb tartányátmérő esetén a vastagságot a következő képlettel kell meghatározni:

$$e_I = \frac{21,4 e_0 d_I}{1,8 \sqrt[3]{R_{mI} A_I}},$$

ahol

$e_I$  = a felhasználandó fém esetén megkövetelt egyenértékű falvastagság (mm-ben);

$e_0$  = a 3.2 fejezet „A” táblázat 10 oszlopában feltüntetett és a 4.2.5.2.6 pontban leírt mobil tartány utasításban vagy a 3.2 fejezet „A” táblázat 11 oszlopában feltüntetett

és a 4.2.5.3 bekezdésben leírt mobil tartány különleges előírásban a referencia acélra meghatározott legkisebb falvastagság (mm-ben);

$d_1$  = a tartány átmérője (m-ben), de legalább 1,80 m;

$R_{m1}$  = a felhasználandó fém szavatolt legkisebb szakítószilárdsága (N/mm<sup>2</sup>-ben, lásd a 6.7.2.3.3 pontot);

$A_1$  = a felhasználandó fém belföldi vagy nemzetközi szabványok szerinti szavatolt legkisebb szakadási nyúlása (%-ban).

**6.7.2.4.8** A falvastagság semmilyen esetben sem lehet kisebb a 6.7.2.4.2, a 6.7.2.4.3 és a 6.7.2.4.4 pontban meghatározott értéknél. A tartány egyetlen részének sem lehet kisebb a falvastagsága, mint a 6.7.2.4.2 – 6.7.2.4.4 pontban meghatározott legkisebb vastagság. Ebbe a falvastagságba nem szabad beszámítani a korrózió miatti esetleges ráhagyásokat.

**6.7.2.4.9** Szerkezeti acél (lásd a 6.7.2.1 bekezdést) használata esetén a 6.7.2.4.6 pontban található képlettel való számításra nincs szükség.

**6.7.2.4.10** A lemezzvastagságban nem lehet hirtelen változás ott, ahol a tartány hengeres része és a fenekek csatlakoznak.

#### **6.7.2.5** *Üzemi szerelvények*

**6.7.2.5.1** Az üzemi szerelvényeket úgy kell elhelyezni, hogy a szállítás és a kezelés során leszakadás vagy sérülés veszélye ellen biztosítva legyenek. Amennyiben a váz és a tartány közötti kapcsolat lehetővé teszi a szerkezeti részegységek egymáshoz képesti elmozdulását, a szerelvényeket úgy kell rögzíteni, hogy az ilyen elmozdulás a működő részek sérülésének veszélye nélkül lehetővé váljon. A külső üritő szerelvényeket (csőcsonkokat, zárószerkezeteket), a belső zárószelepet és annak ülékét védeni kell a külső erők hatására történő leszakadás veszélyével szemben (például nyíródnó keresztmetszet kialakításával). A töltő- és üritőszerkezeteket (beleértve a karimákat és a menetes dugókat is), valamint az esetleges védőkupakokat a nem szándékos kinyitás ellen biztosítani kell.

**6.7.2.5.2** A mobil tartány minden töltő-, ill. üritőnyílását, a tartányhoz a lehető legközelebb elhelyezett, kézzel működtethető zárószeleppel kell ellátni. A többi nyílást, kivéve a szellőző-, ill. nyomáscsökkentő szerkezetek nyílásait, a tartányhoz a lehető legközelebb elhelyezett zárószeleppel vagy más alkalmas zárószerkezettel kell ellátni.

**6.7.2.5.3** A belső részek vizsgálata, karbantartása és javítása céljából a mobil tartányokat megfelelő méretű búvónyílással vagy vizsgálónyílással kell ellátni. A kamrákra osztott mobil tartányok minden egyes kamráját el kell látni búvónyílással vagy vizsgálónyílással.

**6.7.2.5.4** A külső szerelvényeket – amennyire csak lehet – egy helyre csoportosítva kell elhelyezni. Hőszigetelt mobil tartányoknál a felső szerelvényeket megfelelő lefolyóval kialakított, a kiömlő folyadékot felfogó tartállyal kell ellátni.

**6.7.2.5.5** A mobil tartány minden csatlakozásán jól láthatóan fel kell tüntetni a rendeltetését.

**6.7.2.5.6** A zárószelepeket és zárószerkezeteket úgy kell tervezni és kialakítani, hogy a névleges nyomásuk legalább akkora legyen, mint a tartány megengedett legnagyobb üzemi nyomása, figyelembe véve a szállítás alatt várható hőmérsékleteket. A csavarorsós zárószelepeknek a kézikerek óramutató járásával megegyező irányba történő elforgatásával kell záródniuk. Másfajta zárószelepeknél a zárószelep (nyitott és zárt) állását és a zárás irányát jól láthatóan fel kell tüntetni. Minden zárószelepet úgy kell kialakítani, hogy akaratlanul ne lehessen kinyitni.



- 6.7.2.5.7** Ha a 3 osztály kritériumainak megfelelő lobbanáspontú anyagok (beleértve a lobbanáspontjukon vagy annál magasabb hőmérsékleten szállított, magas hőmérsékletű anyagokat) szállítására szolgáló mobil tartány alumíniumból készült, akkor semmilyen olyan mozgatható rész, amely az alumínium tartánnyal ütközhet vagy súrlódhat (pl. fedél, zárórész stb.) nem gyártható bevonat nélküli, rozsdásodó acélból.
- 6.7.2.5.8** A csővezetékeket úgy kell tervezni, gyártani és felszerelni, hogy ne jöjjön létre sérülésveszély a hőtágulás és összehúzódás, a mechanikai ütések és rezgések következtében. Minden csövet megfelelő fémes anyagból kell készíteni. Ahol csak lehetséges, hegesztett csökötetéseket kell alkalmazni.
- 6.7.2.5.9** A rézcsövek csatlakozásait keményforrasztással kell készíteni vagy azzal azonos szilárdságú, fémes csökötetést kell alkalmazni. A forrasztófém (keményforrasztás) olvadáspontja nem lehet 525 °C-nál alacsonyabb. A kötések nem csökkenthetik a csővezeték szilárdságát, mint az csavarmentes kötéseknel előfordulhat.
- 6.7.2.5.10** Egyetlen csővezeték és csőszerelvénnyel repesztőnyomása sem lehet kisebb, mint a tartány megengedett legnagyobb üzemi nyomásának négyszerese és azon nyomás négyszerese közül a nagyobb, amelynek a használat során, szivattyú vagy egyéb szerkezet (kivéve a nyomáscsökkentő szerkezeteket) működése révén ki lehetnek téve.
- 6.7.2.5.11** A szelepek és a tartozékok gyártásához kovácsolható fémet kell használni.
- 6.7.2.6** *Alsó nyílások*
- 6.7.2.6.1** Bizonyos anyagok nem szállíthatók alsó nyílással ellátott mobil tartányban. Ha a 3.2 fejezet „A” táblázat 10 oszlopában feltüntetett és a 4.2.5.2.6 pontban leírt mobil tartány utasításokban alsó nyílás nem megengedett, akkor a megengedett legnagyobb töltési szint esetén a tartány folyadékszintje alatt nem lehetnek nyílások. Ha egy meglévő nyílást lezárnak, a zárást a tartányhoz kívülről és belülről hozzáhegesztett lemezzel kell kiképezni.
- 6.7.2.6.2** Bizonyos kristályosodó vagy nagy viszkozitású anyagok szállítására használt mobil tartányok alsó ürítő nyílásait két, egymás mögött elhelyezett, egymástól független zárószerkezettel kell ellátni. A szerkezetet az illetékes hatóság vagy az általa felhatalmazott szervezet előírásai szerint kell kialakítani, és a következőkből kell állnia:
- a) a tartányhoz a lehető legközelebb felszerelt külső zárószelepből; és
  - b) az ürítőcső végén levő folyadéktömör zárószerkezetből, ami lehet csavarozott vakkarima vagy csavarmentes kupak.
- 6.7.2.6.3** Minden alsó ürítő nyílást, kivéve a 6.7.2.6.2 pontban meghatározottakat, három, egymás mögött elhelyezett, egymástól független zárószerkezettel kell ellátni. A szerkezetet az illetékes hatóság vagy az általa felhatalmazott szervezet előírásai szerint kell kialakítani, és a következőkből kell állnia:
- a) egy önzáró belső zárószelepből, azaz a tartány belsejébe vagy egy hegesztett karimába vagy ellenkarimába beépített zárószelepből, amely olyan, hogy:
    - i) a belső zárószelep működtető-szerkezete a szelep ütközésből vagy gondatlanságból bekövetkező, nem kívánt kinyílását megakadályozza;
    - ii) a belső zárószelep alulról vagy felülről működtethető;
    - iii) ha lehet, a belső zárószelep nyitott vagy zárt helyzete a talajszintről ellenőrizhető;
    - iv) a legfeljebb 1000 liter befogadóképességű mobil tartányok kivételével a szelepet el lehet zárni a mobil tartány olyan hozzáférhető helyéről, ami távol van magától a

szeleptől; és

- v) a külső működtető-szerkezet megsérülése esetén a belső zárószerkezet továbbra is hatásos marad;
- b) a tartányhoz a lehető legközelebb felszerelt külső zárószelepből; és
- c) az ürítőcső végén levő folyadéktömör zárószerkezetből, ami lehet csavarozott vakkarima vagy csavarmenetes kupak.

**6.7.2.6.4** Ha a tartány bélelt, a 6.7.2.6.3.a) pontban előírt belső zárószelep kiegészítő külső zárószeleppel helyettesíthető. A gyártónak be kell tartania az illetékes hatóság vagy az általa felhatalmazott szervezet előírásait.

#### **6.7.2.7** *Biztonsági szerkezetek*

**6.7.2.7.1** Minden mobil tartányt legalább egy nyomáscsökkentő szerkezettel kell ellátni. Minden nyomáscsökkentő szerkezetet úgy kell tervezni, gyártani és megjelölni, hogy az megfeleljen az illetékes hatóság vagy az általa felhatalmazott szervezet előírásainak.

#### **6.7.2.8** *Nyomáscsökkentő szerkezetek*

**6.7.2.8.1** Minden, 1900 liter vagy annál nagyobb befogadóképességű mobil tartányt, vagy független mobil tartány kamrát egy vagy több, rugóterhelésű nyomáscsökkentő szerkezettel kell ellátni, és a rugóterhelésű szerkezetekkel párhuzamosan hasadótárcsák vagy olvadóbetétek is használhatók, kivéve, ha a 4.2.5.2.6 pontban a mobil tartány utasításban a 6.7.2.8.3 pontra való hivatkozással ez tiltva van. A nyomáscsökkentő szerkezet teljesítményének elegendőnek kell lennie, hogy megakadályozza a tartány repedését a töltésből, ürítésből vagy a tartalom melegedéséből eredő túlnyomás vagy vákuum hatására.

**6.7.2.8.2** A nyomáscsökkentő szerkezeteket úgy kell kialakítani, hogy megakadályozzák az idegen anyagoknak a tartányba való bejutását, a folyadék kiszivárgását és mindenféle veszélyes túlnyomás kialakulását.

**6.7.2.8.3** Amennyiben a 3.2 fejezet „A” táblázat 10 oszlopában feltüntetett és a 4.2.5.2.6 pontban leírt mobil tartány utasítás szerint bizonyos anyagra elő van írva, a mobil tartányt olyan nyomáscsökkentő szerkezettel kell ellátni, amit az illetékes hatóság jóváhagyott. A nyomáscsökkentő szerkezetnek egy rugóterhelésű nyomáscsökkentő szelepből és egy elhelyezett hasadótárcsából kell állnia, kivéve, ha – különleges rendeltetésű mobil tartány esetén – a szállított anyaggal összeférhető anyagból készült, jóváhagyott típusú nyomáscsökkentő szerkezet van a tartányon. Ha a nyomáscsökkentő szerkezet elé hasadótárcsa van elhelyezve, akkor a hasadótárcsa és a nyomáscsökkentő szerkezet közti térbe nyomásmérőt, vagy más, alkalmas jelzőeszközt kell csatlakoztatni, ami lehetővé teszi, hogy észleljék a hasadótárcsa repedését, kilyukadását vagy szivárgását, ami a nyomáscsökkentő rendszer hibás működését okozhatja. A hasadótárcsának a nyomáscsökkentő szelep nyitónyomását 10%-kal meghaladó névleges nyomásnál kell felszakadnia.

**6.7.2.8.4** Minden, 1900 liternél kisebb befogadóképességű mobil tartányt nyomáscsökkentő szerkezettel kell ellátni, amely hasadótárcsa is lehet, amennyiben megfelel a 6.7.2.11.1 pont előírásainak. Ha nem rugóterhelésű nyomáscsökkentő szerkezetet alkalmaznak, akkor olyan hasadótárcsát kell alkalmazni, amely a próbanyomással megegyező névleges nyomáson szakad fel.

**6.7.2.8.5** Ha a tartány nyomással történő ürítésre van kialakítva, a bemenő csővezetéknek olyan alkalmas nyomáscsökkentő szerkezettel kell ellátni, amely a tartány megengedett

legnagyobb üzemi nyomását meg nem haladó nyomáson lép működésbe, és a tartányhoz a lehető legközelebb zárószelepet kell elhelyezni.

#### **6.7.2.9** *A nyomáscsökkentő szerkezetek beállítása*

**6.7.2.9.1** Figyelembe kell venni, hogy a nyomáscsökkentő szerkezet csak túlzott hőmérséklet emelkedés esetén léphet működésbe, mivel a tartány normális szállítási feltételek között nem lehet túlzott nyomásingadozásnak kitéve (lásd a 6.7.2.12.2 pontot).

**6.7.2.9.2** Az előírt nyomáscsökkentő szerkezeteket úgy kell beállítani, hogy ha a tartány próbanyomása 4,5 bar-nál nem nagyobb, akkor a nyitónyomás a próbanyomás öthatodának megfelelő névleges nyomás legyen, illetve, ha a tartány próbanyomása 4,5 bar-nál nagyobb, akkor a próbanyomás kétharmadának 110%-a legyen a nyitónyomás. Lefúvás után a szerkezetnek a nyitónyomásánál legfeljebb 10%-kal alacsonyabb nyomáson záródnia kell. Minden, ennél alacsonyabb nyomáson a szerkezeteknek zárva kell maradnia. Ez a követelmény azonban nem tiltja vákuumszelepek, ill. egybeépített nyomáscsökkentő és vákuumszelepek használatát.

#### **6.7.2.10** *Olvadóbetétek*

**6.7.2.10.1** Az olvadóbetéteknek 110...149 °C közötti hőmérsékleten kell kiolvadniuk, azzal a feltétellel, hogy a betét kiolvadási hőmérsékletén a tartányban kialakuló nyomás nem lehet nagyobb, mint a tartány próbanyomása. Az olvadóbetétet a tartány felső részén kell elhelyezni úgy, hogy bemenete a gőztérben legyen, és a külső hőhatással szemben semmilyen esetben sem szabad árnyékolni. Az olvadóbetétek nem használhatók olyan tartányoknál, amelyek próbanyomása meghaladja a 2,65 bar-t. A magas hőmérsékletű anyagok szállítására szolgáló mobil tartányokon használt olvadóbetétet úgy kell kialakítani, hogy csak a szállítás során fellépő legnagyobb hőmérsékletnél magasabb hőmérsékleten olvadjon ki, és meg kell felelnie az illetékes hatóság vagy az általa felhatalmazott szervezet előírásainak.

#### **6.7.2.11** *Hasadótárcsák*

**6.7.2.11.1** A 6.7.2.8.3 pontban előírtak kivételével, a hasadótárcsáknak a teljes tervezési hőmérséklet-tartományban a tartány próbanyomásával megegyező névleges nyomáson kell felszakadniuk. Hasadótárcsa alkalmazása esetén különös figyelmet kell szentelni a 6.7.2.5.1 és a 6.7.2.8.3 pont követelményeinek.

**6.7.2.11.2** A hasadótárcsáknak el kell viselniük azt a vákuumot, amely a mobil tartányban kialakulhat.

#### **6.7.2.12** *A nyomáscsökkentő szerkezetek teljesítménye*

**6.7.2.12.1** A 6.7.2.8.1 pont szerinti rugóterhelésű nyomáscsökkentő szelep legkisebb átfolyási keresztmetszetének 31,75 mm átmérőjű szájnnyílásnak kell megfelelnie. Az esetleges vákuumszelepeknek legalább 284 mm<sup>2</sup> átfolyási keresztmetszettel kell rendelkezniük.

**6.7.2.12.2** A nyomáscsökkentő rendszer összes lefúvási teljesítményének (figyelembe véve az áramlás csökkenését, ha a mobil tartányon a rugóterhelésű nyomáscsökkentő szerkezet előtt hasadótárcsa van vagy ha a rugóterhelésű nyomáscsökkentő szerkezet a láng áthatolását akadályozó szerkezettel – lángzárral – van ellátva) elégnek kell lennie ahhoz, hogy abban az esetben, ha a mobil tartányt teljesen elfedi a tűz, a tartányban a nyomás legfeljebb 20%-kal legyen nagyobb, mint a nyomáscsökkentő szerkezet nyitónyomása. A szükséges összes lefúvási teljesítmény eléréséhez vészlefúvó szerkezetek is használhatók. A vészlefúvó szerkezetek rugóterhelésűek, hasadótárcsás vagy olvadóbetétes típusúak lehetnek, vagy

rugóterhelésű szerkezet és hasadótárcsa kombinációjából is állhatnak. A nyomáscsökkentő szerkezetek szükséges teljesítményét a 6.7.2.12.2.1 pontban található képlet vagy a 6.7.2.12.2.3 pontban levő táblázat használatával lehet meghatározni.

**6.7.2.12.2.1** A nyomáscsökkentő szerkezetek szükséges összes teljesítményének meghatározására, ami úgy tekintendő, mint az együttműködő szerkezetek egyedi teljesítményének összege, a következő képletet kell használni:

$$Q = 12,4 \frac{FA^{0,82}}{LC} \sqrt{\frac{ZT}{M}},$$

ahol

$Q$  = a szükséges legkisebb lefúvási teljesítmény légköbméter per sec-ban ( $\text{m}^3/\text{s}$ ) 1 bar és  $0^\circ\text{C}$  ( $273\text{ K}$ ) normálfeltételek mellett;

$F$  = együttható, amelynek értéke a következő:

nem szigetelt tartányra  $F = 1$ ;

szigetelt tartányra  $F = U(649 - t)/13,6$ , de legalább  $0,25$ ,

ahol

$U$  = a szigetelőréteg hőátadási együtthatója,  $\text{kW}\cdot\text{m}^2\cdot\text{K}^{-1}$ ,  $38^\circ\text{C}$ -on;

$t$  = anyag tényleges hőmérséklete a töltés alatt ( $^\circ\text{C}$ -ban); ha ez a hőmérséklet ismeretlen, akkor  $t = 15^\circ\text{C}$ ;

Szigetelt tartányra az előzőekben megadott  $F$  érték akkor használható, ha a szigetelés megfelel a 6.7.2.12.2.4 pont előírásainak;

$A$  = a tartány teljes külső felülete  $\text{m}^2$ -ben;

$Z$  = a gáz kompresszibilitási tényezője lefúváskor (ha ez a tényező ismeretlen,  $Z = 1$ );

$T$  = az abszolút hőmérséklet Kelvinben ( $^\circ\text{C} + 273$ ) a nyomáscsökkentő szerkezet felett lefúváskor;

$L$  = a folyadék látens párolgáshője  $\text{kJ/kg}$ -ban lefúváskor;

$M$  = a távozó gáz molekulatömege;

$C$  = a következő képletek egyikéből származtatott állandó, mint a fajhők aránya,  $k$ :

$$k = \frac{C_p}{C_v},$$

ahol

$C_p$  = a fajhő állandó nyomáson; és

$C_v$  = a fajhő állandó térfogaton.

Ha  $k > 1$ :

$$C = \sqrt{k \left( \frac{2}{k+1} \right)^{\frac{k+1}{k-1}}}.$$

Ha  $k = 1$  vagy  $k$  ismeretlen:

$$C = \frac{1}{\sqrt{e}} = 0,607,$$

ahol az  $e$  matematikai állandó, melynek értéke 2,7183.

$C$  értékei a következő táblázatból is vehetők:

<b>k</b>	<b>C</b>	<b>k</b>	<b>C</b>	<b>k</b>	<b>C</b>
1,00	0,607	1,26	0,660	1,52	0,704
1,02	0,611	1,28	0,664	1,54	0,707
1,04	0,615	1,30	0,667	1,56	0,710
1,06	0,620	1,32	0,671	1,58	0,713
1,08	0,624	1,34	0,674	1,60	0,716
1,10	0,628	1,36	0,678	1,62	0,719
1,12	0,633	1,38	0,681	1,64	0,722
1,14	0,637	1,40	0,685	1,66	0,725
1,16	0,641	1,42	0,688	1,68	0,728
1,18	0,645	1,44	0,691	1,70	0,731
1,20	0,649	1,46	0,695	2,00	0,770
1,22	0,652	1,48	0,698	2,20	0,793
1,24	0,656	1,50	0,701		

**6.7.2.12.2.2** Az előző képletek helyett a folyadékok szállítására szolgáló tartányok nyomáscsökkentő szerkezeteinek mérete a 6.7.2.12.2.3 pontban levő táblázat szerint is meghatározható. Ez a táblázat feltételezi az  $F = 1$  szigetelési értéket, és ha a tartány szigetelt, akkor annak megfelelően kell az adatokat módosítani. A táblázat összeállításához használt többi érték a következő:  $M = 86,7$   $T = 394$   $L = 334,94$  kJ/kg

$$C = 0,607 \quad Z = 1$$

**6.7.2.12.2.3** A szükséges legkisebb lefúvási teljesítmény,  $Q$ , léghőméter per sec-ban ( $\text{m}^3/\text{s}$ ) 1 bar és  $0^\circ\text{C}$  (273 K) normálfeltételek mellett

<b>A</b> <b>tartány felület (<math>\text{m}^2</math>)</b>	<b>Q</b> <b>(léghőméter/sec)</b>	<b>A</b> <b>tartány felület (<math>\text{m}^2</math>)</b>	<b>Q</b> <b>(léghőméter/sec)</b>
2	0,230	37,5	2,539
3	0,320	40	2,677
4	0,405	42,5	2,814
5	0,487	45	2,949
6	0,565	47,5	3,082
7	0,641	50	3,215
8	0,715	52,5	3,346
9	0,788	55	3,476
10	0,859	57,5	3,605
12	0,998	60	3,733

A tartány felület (m <sup>2</sup> )	Q (légméter/sec)	A tartány felület (m <sup>2</sup> )	Q (légméter/sec)
14	1,132	62,5	3,860
16	1,263	65	3,987
18	1,391	67,5	4,112
20	1,517	70	4,236
22,5	1,670	75	4,483
25	1,821	80	4,726
27,5	1,969	85	4,967
30	2,115	90	5,206
32,5	2,258	95	5,442
35	2,400	100	5,676

**6.7.2.12.2.4** A lefűvási teljesítmény csökkentése érdekében alkalmazott szigetelési rendszert az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek jóvá kell hagynia. Az erre a célra jóváhagyott szigetelési rendszernek minden esetben:

- a) 649 °C-ig minden hőmérsékleten hatásosnak kell maradnia; és
- b) olyan anyaggal kell bevonni, amelynek olvadáspontja legalább 700 °C.

#### **6.7.2.13** *A nyomáscsökkentő szerkezetek jelölése*

**6.7.2.13.1** Minden nyomáscsökkentő szerkezeten jól olvashatóan és tartósan fel kell tüntetni a következő adatokat:

- a) a nyitónyomást (bar-ban vagy kPa-ban) vagy a hőmérsékletet (°C-ban) amelyen a szerkezet lefűj;
- b) rugóterhelésű szerkezeteknél a nyitónyomás megengedett tűrését;
- c) a hasadótárcsák névleges nyomásához tartozó referencia hőmérsékletet;
- d) olvadóbetéteknél a megengedett hőmérséklet tűrését; és
- e) a rugóterhelésű nyomáscsökkentő szerkezetek, a hasadótárcsák és az olvadóbetétek névleges átfolyási teljesítményét normál légméter per sec (m<sup>3</sup>/s) egységben;

Amennyiben lehetséges, a következő információt ugyancsak fel kell tüntetni:

- f) a gyártó nevét és a szerkezet gyártmány katalógus számát.

**6.7.2.13.2** A rugóterhelésű nyomáscsökkentő szerkezeteken feltüntetett névleges átfolyási teljesítményt az ISO 4126-1:1991 szabvány szerint kell meghatározni.

#### **6.7.2.14** *A nyomáscsökkentő szerkezetek csatlakoztatása*

**6.7.2.14.1** A nyomáscsökkentő szerkezetekhez történő csatlakozásnak akkorának kell lennie, hogy szabad átfolyást biztosítson a biztonsági szerkezethez. A tartány és a nyomáscsökkentő szerkezet közé nem szabad zárószelepet elhelyezni, kivéve a karbantartási vagy egyéb okból kialakított kettős nyomáscsökkentő szerkezeteknél, ha a ténylegesen működő nyomáscsökkentő szerkezet zárószelepe nyitott állapotban reteszelve van, vagy a zárószelepek úgy vannak összekapcsolva, hogy a kettős nyomáscsökkentő szerkezetek közül legalább az egyik mindig működjön. A szellőző vagy nyomáscsökkentő szerkezetek vezető nyílásban nem lehet semmiféle akadály, ami korlátozná vagy elzárná az áramlást a tartányból

a szerkezethez. A szellőző vagy nyomáscsökkentő szerkezet kimenetéhez csatlakozó csővezetéknek, ha ilyet használnak, a kiszabadult gőzt vagy folyadékot a szerkezetre gyakorolt minimális torlóhatással kell a szabadba vezetniük.

#### **6.7.2.15** *A nyomáscsökkentő szerkezetek elhelyezése*

**6.7.2.15.1** Minden nyomáscsökkentő szerkezet bemenetet a tartány tetején úgy kell elhelyezni, hogy a tartány középpontjához a lehető legközelebb legyen. Minden nyomáscsökkentő szerkezet bemenetnek a megengedett legnagyobb töltési feltételek mellett a tartány gőzterében kell lennie, és a szerkezetet úgy kell elhelyezni, hogy biztosítva legyen a kiszabadult gőz akadálytalan távozása. Gyúlékony anyagok esetében a kiszabaduló gőzt a tartánytól el kell terelni oly módon, hogy az ne csapódhasson a tartánynak. A gőz áramlását elterelő védőszerkezetek engedélyezettek, ha nem csökkentik a nyomáscsökkentő szerkezet szükséges teljesítményét.

**6.7.2.15.2** Intézkedéseket kell tenni annak érdekében, hogy megakadályozzák illetéktelen személyeknek a nyomáscsökkentő szerkezethez való hozzáférését, és hogy megvédjék a szerkezetet attól, hogy a tartány felborulása esetén megsérüljön.

#### **6.7.2.16** *Mérőeszközök*

**6.7.2.16.1** A tartány tartalmával közvetlenül érintkező, üvegből készült szintjelzők és egyéb törékeny anyagú mérőeszközök nem használhatók.

#### **6.7.2.17** *A mobil tartány tartószerkezete, keretváza, emelő és rögzítő szerelvényei*

**6.7.2.17.1** A mobil tartányt tartószerkezettel kell tervezni és gyártani, ami biztos alátámasztást nyújt a szállítás során. Erre vonatkozóan a tervezésnél a 6.7.2.2.12 pontban meghatározott erőket és a 6.7.2.2.13 pontban meghatározott biztonsági tényezőt kell figyelembe venni. Talpak, keretvázak, csúszótalpak vagy egyéb hasonló szerkezetek elfogadhatók.

**6.7.2.17.2** A mobil tartányra szerelt eszközöktől (pl. talpaktól, keretváztól) és a mobil tartány emelő és rögzítő szerelvényeitől származó összetett feszültségek a tartány egyetlen részén sem okozhatnak túlzott feszültségeket. Minden mobil tartányt állandó emelő és rögzítő szerelvényekkel kell ellátni. Ezeket lehetőleg a mobil tartány tartószerkezetéhez kell erősíteni, de rögzíthetők a tartányon a megtámasztási pontokon elhelyezett erősítőlemezekhez is.

**6.7.2.17.3** A tartószerkezet és a keretváz tervezésénél figyelembe kell venni a környezet korróziós hatását is.

**6.7.2.17.4** Az emelővilla zsebeket zárhatóra kell kialakítani. Az emelővilla zsebek zárószerkezetének a keretváz állandó részét kell képeznie, vagy a keretvázhoz tartósan hozzá kell erősíteni. Az olyan, egyetlen tartánykamrából álló mobil tartányoknál, amelyek 3,65 m-nél rövidebbek, nem kell az emelővilla zsebeknek zárhatónak lenniük, amennyiben

- a) a tartány és a szerelvények kellőképpen védve vannak, nehogy az emelővillák megüssék; és
- b) az emelővilla zsebek középpontjai közötti távolság legalább a fele a mobil tartány legnagyobb hosszúságának.

**6.7.2.17.5** Ha a mobil tartány nincs a 4.2.1.2 bekezdés szerinti védelemmel ellátva, a tartányt és az üzemi szerelvényeit védeni kell a szállítás alatt a hosszirányú és oldalirányú lökésekkel vagy felborulásból adódóan a tartányt vagy a szerelvényeit érő sérülésekkel szemben. A külső



szerelvényeket úgy kell védeni, hogy az ütések hatására, ill. a mobil tartálynak a szerelvényekre való ráborulása esetén a tartányban szállított anyag ne szabaduljon ki. Példák a védelemre:

- a) az oldalirányú ütésekkel szembeni védelem, ami állhat a tartány mindkét oldalán a középvonal szintjében védő hosszirányú rudakból;
- b) a mobil tartány felborulás elleni védelme, ami állhat erősítő gyűrűkből vagy a kereten keresztben elhelyezett rudakból;
- c) a hátulról jövő ütésekkel szembeni védelem, ami lökhárítóból vagy keretből állhat;
- d) a tartány ütésekből vagy felborulásból eredő sérüléssel szembeni védelme az ISO 1496-3:1995 szabvány szerinti ISO keret használatával.

#### **6.7.2.18** *Típusjóváhagyás*

**6.7.2.18.1** Minden új mobil tartány típus esetén az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek gyártási típus bizonyítványt kell kiállítani. Ennek a bizonyítványnak tanúsítania kell, hogy a mobil tartányt ez a hatóság megvizsgálta, az a kívánt célra alkalmas, és megfelel e fejezet követelményeinek és ha alkalmazandó, akkor a 4.2 fejezetben és a 3.2 fejezet „A” táblázatban az egyes anyagokra vonatkozó követelményeknek. Ha a mobil tartányokat sorozatban gyártják módosítás nélkül, ez a bizonyítvány a teljes sorozatra érvényes. A bizonyítványban utalni kell a gyártási típus vizsgálati jegyzőkönyvére, azokra az anyagokra és/vagy anyagcsoportokra, amelyek szállíthatók, a tartány és a bélése (ha van) gyártási anyagára és a jóváhagyási számra. A jóváhagyási számnak annak az államnak a megkülönböztető jeléből [A közúti közlekedésről szóló Bécsi Egyezmény (Bécs, 1968) által előírt államjelzés a nemzetközi forgalomban résztvevő gépjárművekre], amelyben az engedélyt kiadták, és egy nyilvántartási számból kell állnia. A 6.7.1.2 bekezdés szerinti esetleges alternatív kialakítást a bizonyítványban fel kell tüntetni. A típusjóváhagyás az azonos anyagból és azonos falvastagsággal gyártott, kisebb mobil tartányok jóváhagyásának is tekinthető, amelyeket ugyanolyan gyártási technológiával és azonos tartószerkezetekkel, egyenértékű zárószerkezetekkel és egyéb tartozékokkal gyártottak.

**6.7.2.18.2** A gyártási típus vizsgálati jegyzőkönyvének a típusjóváhagyáshoz legalább a következőket kell tartalmaznia:

- a) a keretvázra vonatkozó, ISO 1496-3:1995 szabványban meghatározott vizsgálatok eredményeit;
- b) a 6.7.2.19.3 pont szerinti üzembe helyezés előtti vizsgálat eredményeit; és
- c) a 6.7.2.19.1 pont szerinti ütközési próba eredményeit, ha alkalmazható.

#### **6.7.2.19** *Vizsgálat*

**6.7.2.19.1** Azokat a mobil tartányokat, amelyek „A Biztonságos Konténerekről szóló 1972. évi Nemzetközi Egyezmény” (CSC) módosított kiadása meghatározása szerint konténernek minősülnek, csak azután szabad használni, hogy a gyártási típus prototípusa sikeresen kiállta a „Vizsgálatok és kritériumok kézikönyv” IV. rész, 41 fejezetében előírt dinamikus, hosszirányú ütközési próbát.

**6.7.2.19.2** Az első üzembe helyezés előtt minden mobil tartányt és szerelvényeit vizsgálatnak kell alávetni (üzembe helyezés előtti vizsgálat) és azután legfeljebb ötéves időközönként (5 évenkénti időszakos vizsgálat), és az 5 éves időközök közepén közbenső vizsgálat (2,5 évenkénti közbenső időszakos vizsgálat). A 2,5 évenkénti vizsgálatot az előírt időponthoz



képes 3 hónapon belül kell elvégezni. Ha a 6.7.2.19.7 pont szerint soron kívüli vizsgálatra van szükség, azt az legutóbbi időszakos vizsgálat időpontjától függetlenül el kell végezni.

- 6.7.2.19.3** A mobil tartány üzembe helyezés előtti vizsgálatának ki kell terjednie a szerkezeti jellemzők ellenőrzésére, a mobil tartány és szerelvényeinek külső és belső vizsgálatra, különös tekintettel a szállítandó anyagok szempontjából, és nyomáspróbára. Mielőtt a mobil tartányt üzembe helyezik, tömörségi próbát is kell végezni és az üzemi szerelvények megfelelő működését is ellenőrizni kell. Amennyiben a nyomáspróbát a tartányon és a szerelvényeken külön végezték, a tömörségi próbát az összeszerelést követően kell végrehajtani.
- 6.7.2.19.4** Az 5 évenkénti időszakos vizsgálatnak belső és külső állapot vizsgálatából és általában folyadéknyomás-próbából kell állnia. A hő- vagy egyéb szigetelőborításokat csak annyira kell eltávolítani, amennyire a tartány jellemzőinek biztonságos megítéléséhez feltétlenül szükséges. Amennyiben a nyomáspróbát a tartányon és a szerelvényeken külön végezték, a tömörségi próbát az összeszerelést követően kell végrehajtani.
- 6.7.2.19.5** A 2,5 évenkénti közbenső időszakos vizsgálatnak ki kell terjednie legalább a mobil tartány és szerelvényeinek külső és belső vizsgálatra, különös tekintettel a szállítandó anyagok szempontjából, és tömörségi próbára, továbbá az üzemi szerelvények megfelelő működését is ellenőrizni kell. A hő- vagy egyéb szigetelőborításokat csak annyira kell eltávolítani, amennyire a tartány jellemzőinek biztonságos megítéléséhez feltétlenül szükséges. A csak egyetlen anyag szállítására szolgáló mobil tartánynál a 2,5 évenkénti közbenső időszakos vizsgálat elhagyható, vagy az illetékes hatóság vagy az általa felhatalmazott szervezet által előírt más vizsgálati módszerrel vagy ellenőrzéssel helyettesíthető.
- 6.7.2.19.6** A mobil tartányok a 6.7.2.19.2 pontban előírt utolsó 5 évenkénti vagy 2,5 évenkénti időszakos vizsgálat érvényességének lejártá után nem tölthetők meg és nem adhatók át szállításra. Az utolsó időszakos vizsgálat lejártá előtt megtöltött mobil tartányok az utolsó időszakos vizsgálat érvényességének letelte után legfeljebb három hónapig szállíthatók. Ezen kívül a mobil tartány az utolsó időszakos vizsgálat érvényességének letelte után is szállítható
- a) kiürítés után, de tisztítás előtt az újratöltés előtt szükséges vizsgálat elvégzésének céljából, és
  - b) a veszélyes anyag ártalmatlanítására (megfelelő elhelyezésére) vagy visszaforgatására történő visszaszállítása céljából az időszakos vizsgálat érvényességének lejártá után legfeljebb hat hónapig, hacsak az illetékes hatóság másként nem rendelkezik. Ezt a mentességet a fuvarokmányba be kell jegyezni.
- 6.7.2.19.7** Soron kívüli vizsgálatot szükséges végezni, ha a mobil tartány sérült, rozsdás, szivárog vagy bármely más körülmény a mobil tartány sértetlenségét befolyásolhatja. A soron kívüli vizsgálatnak mértékét az határozza meg, hogy a mobil tartány mennyire sérült vagy hibás. A soron kívüli vizsgálatnak azonban legalább a 6.7.2.19.5 pont szerinti 2,5 évenkénti vizsgálatokra kell kiterjednie.
- 6.7.2.19.8** A külső és a belső vizsgálat során biztosítani kell, hogy
- a) ellenőrizzék a tartányt, hogy nincs rajta rozsdás, kipattogzás, kopás, horpadás, torzulás, hegesztési hiba vagy bármi más (pl. szivárgás), ami miatt a mobil tartány szállítása nem lenne biztonságos;
  - b) ellenőrizzék a csővezeték, a szelepek, a fűtő/hűtő rendszert és a tömítéseket, hogy nincs rajtuk rozsdás, sérülés vagy bármi más (pl. szivárgás), ami miatt a mobil tartány töltése, ürítése vagy szállítása nem lenne biztonságos;
  - c) a bűvónyílások fedelének rögzítését biztosító szerkezetek jól működjenek, és a bűvónyílás fedelekénél, ill. a tömítéseknél ne legyen szivárgás;

- d) a csőkarima csatlakozásoknál és vakkarimáknál a hiányzó vagy laza csavarokat vagy csavaranyákat pótolják, ill. meghúzzák;
- e) minden vészlefúvó szerkezet és szelep mentes legyen a korróziótól és minden olyan sérüléstől vagy meghibásodástól, ami megakadályozhatja normális működését. A távműködtetésű zárószerkezeteket és az önzáró szelepeket ki kell próbálni, hogy megfelelően működnek-e;
- f) az esetleges béléseket a gyártó előírásai alapján megvizsgálják;
- g) az előírt jelölések a mobil tartányon olvashatóak, és a vonatkozó követelményeknek megfeleljenek; és
- h) a mobil tartány váz- és tartószerkezete, ill. az emelésre szolgáló berendezései megfelelő állapotban legyenek.

**6.7.2.19.9** A 6.7.2.19.1, 6.7.2.19.3, 6.7.2.19.4, 6.7.2.19.5 és 6.7.2.19.7 pont szerinti vizsgálatokat az illetékes hatóság vagy az általa felhatalmazott szervezet által elismert szakértőnek kell elvégeznie vagy tanúsítania. Ha a nyomáspróba a vizsgálat részét képezi, a vizsgálatot a mobil tartány adattábláján feltüntetett nyomással kell végezni. A nyomás alatt lévő mobil tartányon a tartány, a csővezeték és a szerelvények szivárgásmentességét is vizsgálni kell.

**6.7.2.19.10** Minden esetben, amikor a mobil tartányt vágással, melegítéssel vagy hegesztéssel javítják, ezt a munkát az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek jóvá kell hagynia, figyelembe véve azt a nyomástartó edényekre vonatkozó szabályzatot, amely alapján a tartányt gyártották. A munka befejezése után az eredeti próbanyomással nyomáspróbát kell végezni.

**6.7.2.19.11** Amennyiben a biztonságot veszélyeztető körülményeket tapasztalnak, a mobil tartány addig nem használható újra, amíg meg nem javították és az ismételt vizsgálatot ki nem állta.

## **6.7.2.20 Jelölés**

**6.7.2.20.1** Ellenőrzés céljából könnyen elérhető, szembetűnő helyre minden mobil tartányra nem korrodálódó fémtáblát kell tartósan rögzíteni. Ha a mobil tartány kialakítása folytán a tábla nem erősíthető tartósan a tartányhoz, legalább a nyomástartó edényekre vonatkozó szabályzatban előírt információkat kell a tartányon feltüntetni. A fémtáblán legalább a következőkben felsorolt adatokat kell feltüntetni beütéssel vagy más hasonló módon:

Gyártási ország:

<b>U</b>	Jóváhagyó	Jóváhagyási	Alternatív kialakítás esetén (lásd a 6.7.1.2 pontot)
<b>N</b>	ország	sorszám	„AA”

A gyártó neve vagy jele

A gyártó sorszám

A típusjóváhagyásra felhatalmazott szervezet

A tulajdonos nyilvántartási száma

A gyártási év

A nyomástartó edényekre vonatkozó szabályzat, amely szerint a tartányt méretezték

A próbanyomás ..... bar/kPa (túlnyomás<sup>2)</sup>)

A megengedett legnagyobb üzemi nyomás ... bar/ kPa (túlnyomás<sup>2)</sup>)

A külső tervezési nyomás<sup>3)</sup> ..... bar/kPa (túlnyomás<sup>2)</sup>)

2) A mértékegységet fel kell tüntetni.

A tervezési hőmérséklet-tartomány ..... °C-tól ..... °C-ig  
A víztérfogat 20 °C-on ..... liter  
Az egyes kamrák víztérfogata 20°C-on ..... liter  
Az üzembe helyezés előtti nyomáspróba ideje és tanúsító azonosítója  
A fűtő/hűtőrendszer megengedett legnagyobb üzemi nyomása ... bar/kPa (túlnyomás)<sup>2)</sup>  
A tartány anyaga(i) és anyagszabvány hivatkozás(ok)  
Az egyenértékű vastagság referencia acélra ..... mm  
A bélés anyaga (ha van)  
A legutóbbi időszakos vizsgálat időpontja és típusa  
Hónap ..... év ..... Próbanyomás ... bar/kPa (túlnyomás)<sup>2)</sup>  
A legutóbbi vizsgálatot végző vagy tanúsító szakértő bélyegzőlenyomata.

**6.7.2.20.2** A következő adatokat magán a mobil tartányon vagy a mobil tartányhoz biztosan rögzített fémtáblán kell feltüntetni:

Az üzemben tartó neve  
A szállított anyag(ok) neve és legnagyobb átlagos hőmérséklete, ha az magasabb, mint 50 °C  
Megengedett legnagyobb bruttó tömeg ..... kg  
Üres (tára) tömeg ..... kg.

**Megjegyzés:** A szállított anyagok azonosítására lásd az 5. részt is.

**6.7.2.20.3** A nyílt tengeren történő kezelésre tervezett és jóváhagyott mobil tartány esetén az „OFFSHORE PORTABLE TANK” feliratot kell feltüntetni az azonosító táblán.

**6.7.3** A nem mélyhűtött, cseppfolyósított gázokhoz használt mobil tartányok gyártására és vizsgálatára vonatkozó követelmények

**6.7.3.1** *Meghatározások*

E szakasz alkalmazásában:

Az *alternatív kialakítási engedély* az e fejezetben meghatározottaktól eltérő műszaki előírások alapján tervezett, gyártott vagy eltérő vizsgálati módszer szerint vizsgált (alternatív kialakítású) mobil tartányra vagy MEG-konténerre az illetékes hatóság által kiadott engedély.

A *mobil tartány* olyan multimodális tartány, amelynek befogadóképessége 450 liternél nagyobb és amelyet a 2 osztály nem mélyhűtött, cseppfolyósított gázainak szállítására használnak. A mobil tartány fogalmába maga a tartány és a gázok szállításához szükséges üzemi és szerkezeti szerelvényei tartoznak. A mobil tartánynak a szerkezeti szerelvények eltávolítása nélkül tölthetőnek és üríthetőnek kell lennie. A tartány külső részén stabilizáló elemeknek kell lenniük, és alkalmasnak kell lennie arra, hogy megtöltött állapotban felemeljék. Úgy kell kialakítani, hogy elsősorban közúti járműre, vasúti kocsira, ill. tengerjáró vagy belvízi hajóba lehessen rakni, a gépi rakodás megkönnyítésére kerettel vagy egyéb szerkezetekkel kell ellátni. A közúti tartányjárművek, a vasúti tartálykocsik, a nem fémből készült tartányok és a nagyméretű csomagolóeszközök (IBC-k), a gázpalackok és a nagypalackok e meghatározás értelmében nem minősülnek mobil tartánynak.

A *tartány* a mobil tartány azon része, amely a szállítandó, nem mélyhűtött, cseppfolyósított gáz megtartására szolgál (maga a tartány), beleértve a nyílásokat és azok zárószerkezeteit, de

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3) Lásd a 6.7.2.2.10 pontot.

kizárva az üzemi szerelvényeket és a külső szerkezeti szerelvényeket.

Az *üzemi szerelvények* a töltő- és ürítő-, a szellőző-, a biztonsági és a hőszigetelő berendezések, valamint a mérőeszközök.

A *szerkezeti szerelvények* a tartány külső részén található erősítő-, rögzítő- védő- vagy stabilizáló elemek.

A *megengedett legnagyobb üzemi nyomás* a tartány üzemi helyzetében, annak tetején mérhető nyomás, amely nem lehet kisebb, mint a következő két nyomás érték közül a nagyobbik érték, de semmilyen esetben sem lehet 7 bar-nál kisebb:

- a) a tartányban a töltés, ill. ürítés során megengedett legnagyobb tényleges nyomás (túlnyomás); vagy
- b) a legnagyobb tényleges túlnyomás, amelyre a tartány méretezve van, ami
  - i) a 4.2.5.2.6 pontban, a T50 mobil tartány utasításban felsorolt, nem mélyhűtött, cseppfolyósított gázok esetében a gázra a T50 mobil tartány utasításban megadott megengedett legnagyobb üzemi nyomás (bar-ban);
  - ii) egyéb nem mélyhűtött, cseppfolyósított gázok esetében legalább a következő nyomások összege:
    - a nem mélyhűtött, cseppfolyósított gáz abszolút gőznyomása (bar-ban) a tervezési referencia hőmérsékleten mínusz 1 bar; és
    - a folyadékszint feletti térben levő levegő, ill. egyéb gáz parciális nyomásai (bar-ban), amelyet a következők alapulvételével kell meghatározni: tervezési referencia hőmérséklet, valamint az átlagos hőmérséklet  $t_r - t_f$  értékű növekedéséből adódó folyadék-fázis tágulás (ahol  $t_f$  = a töltési hőmérséklet, rendszerint 15 °C;  $t_r$  = a legnagyobb átlagos hőmérséklet, 50 °C).

A *tervezési nyomás* a nyomástartó edényekre vonatkozó szabályzat szerint a számításokhoz használandó nyomás. A tervezési nyomás nem lehet kisebb, mint a következő nyomások közül a legnagyobb:

- a) a tartányban a töltés, ill. ürítés során megengedett legnagyobb tényleges nyomás (túlnyomás) vagy
- b) a következők összege:
  - i) a legnagyobb tényleges túlnyomás, amelyre a tartány méretezve van, mint azt a megengedett legnagyobb üzemi nyomás fogalmának b) pontja meghatározza; és
  - ii) a 6.7.3.2.9 pontban meghatározott statikus erők alapján meghatározott folyadéknomás, de legalább 0,35 bar.

A *próbanyomás* a nyomáspróba alatt a tartány tetején fellépő legnagyobb túlnyomás.

A *tömörségi próba* az a gázzal végzett vizsgálat, amelynek során a tartányt az üzemi szerelvényeivel a megengedett legnagyobb üzemi nyomás legalább 25%-át elérő tényleges belső nyomásnak teszik ki.

A *megengedett legnagyobb bruttó tömeg* a mobil tartány saját tömege és a szállításra engedélyezett legnagyobb rakomány össztömege.

A *referencia acél* a 370 N/mm<sup>2</sup> szakítószilárdságú és 27% szakadási nyúlású acél.

A *szerkezeti acél* olyan acél, amelynek szavatolt legkisebb szakítószilárdsága 360...440 N/mm<sup>2</sup> között van, és szakadási nyúlása megfelel a 6.7.3.3.3.3 pontnak.

A *tervezési hőmérséklet-tartomány* a környezeti hőmérsékleten szállított nem mélyhűtött, cseppfolyósított gázokhoz használt tartányok esetében  $-40\text{ }^{\circ}\text{C} \dots +50\text{ }^{\circ}\text{C}$ . Szükséges éghajlati körülményeknek kitett mobil tartányok esetében szigorúbb tervezési hőmérsékleteket kell alkalmazni.

A *tervezési referencia hőmérséklet* az a hőmérséklet, amelyen a tartalom gőznyomását meghatározzák a megengedett legnagyobb üzemi nyomás kiszámításához. A tervezési referencia hőmérsékletnek kisebbnek kell lennie, mint a szállítandó, nem mélyhűtött, cseppfolyósított gáz kritikus hőmérséklete, annak biztosítására, hogy a gáz mindenkor cseppfolyós maradjon. Ez az érték az egyes mobil tartány típusokra a következő:

- a) 1,5 m, vagy annál kisebb átmérőjű tartányra:  $65\text{ }^{\circ}\text{C}$ ;
- b) 1,5 m-nél nagyobb átmérőjű tartányra:
  - i) hőszigetelés és napsugárzás elleni védőlemez nélkül:  $60\text{ }^{\circ}\text{C}$ ;
  - ii) napsugárzás elleni védőlemezzel (lásd a 6.7.3.2.12 pontot):  $55\text{ }^{\circ}\text{C}$ ; és
  - iii) szigeteléssel (lásd a 6.7.3.2.12 pontot):  $50\text{ }^{\circ}\text{C}$ .

A *töltési sűrűség* a nem mélyhűtött, cseppfolyósított gáznak a tartány befogadóképességére vetített átlagos tömegét ( $\text{kg/l}$ ) jelenti. A töltési sűrűség adatokat a 4.2.5.2.6 pontban a T50 mobil tartány utasítás tartalmazza.

### **6.7.3.2** *Általános tervezési és gyártási követelmények*

**6.7.3.2.1** A tartányokat az illetékes hatóság által elismert, a nyomástartó edényekre vonatkozó szabályzat előírásainak megfelelően kell tervezni és gyártani. A tartányt alakításra alkalmas acélból kell készíteni. Az anyagoknak általában a belföldi vagy nemzetközi anyagszabványoknak kell megfelelniük. Hegesztett tartányokhoz csak olyan anyagok használhatók, amelyek hegeszthetősége teljes mértékben szavatolt. A hegesztéseket szakszerűen kell elkészíteni, és teljesen biztonságosnak kell lenniük. Ha a gyártási folyamat vagy az anyag szükségessé teszi, a tartányt megfelelően hőkezelni kell, hogy a hegesztéseknél és a hőhatásnak kitett zónákban biztosítsák a kielégítő szívósságot. Az anyagok kiválasztásánál a ridegtörés veszélye, a feszültség alatti korróziós repedezések és az ütésállóság szempontjából figyelembe kell venni a tervezési hőmérséklet-tartományt. Finom szemcseszerkezetű acélok használata esetén a szavatolt folyáshatár nem lehet nagyobb, mint  $460\text{ N/mm}^2$ , és a szavatolt szakítószilárdság felső határa nem lehet nagyobb, mint  $725\text{ N/mm}^2$  az anyagspecifikáció szerint. A mobil tartány anyagainak alkalmasnak kell lenniük ahhoz a külső környezethez, amelyben a tartányt szállíthatják.

**6.7.3.2.2** A mobil tartányokat, a szerelvényeiket és a csővezetéseket olyan anyagból kell készíteni,

- a) amelyet a szállított anyag(ok) eleve nem támad(nak) meg; vagy
- b) amely kémiai reakció révén megfelelően passzíválódik vagy semlegesítődik.

**6.7.3.2.3** A tömítéseket olyan anyagokból kell készíteni, amelyeket a szállítandó, nem mélyhűtött, cseppfolyósított gáz(ok) nem támad(nak) meg.

**6.7.3.2.4** Kerülni kell a különböző fémek érintkezését, ami a galvanikus hatás folytán károsodást okozhat.

**6.7.3.2.5** A mobil tartány, a szerelvények, a tömítések és a tartozékok anyaga nem gyakorolhat kedvezőtlen hatást a mobil tartányban szállítandó, nem mélyhűtött, cseppfolyósított gáz(ok)ra.

**6.7.3.2.6** A mobil tartányt megfelelő emelő és rögzítő szerelvényekkel és olyan tartószerkezettel kell

tervezni és kialakítani, amely a szállítás során biztos alátámasztást nyújt.

- 6.7.3.2.7** A mobil tartányt olyanra kell tervezni, hogy a szállított anyag vesztesége nélkül ellenálljon legalább a szállított anyag által kifejtett belső nyomásnak és a normális szállítási és kezelési feltételek mellett fellépő statikus, dinamikus és hőterhelésnek. A tervezés során bizonyítani kell, hogy az ezen terheléseknek a mobil tartány várható élettartama alatti ismétlődése folytán kialakuló kifáradást figyelembe vették.
- 6.7.3.2.8** A tartányokat úgy kell tervezni, hogy tartós alakváltozás nélkül ellenálljanak akkora külső nyomásnak, amely a belső nyomásnál legalább 0,4 bar-ral nagyobb. Amennyiben a tartány jelentős vákuumnak van kitéve a töltés előtt vagy az ürítés során, akkor úgy kell tervezni, hogy tartós alakváltozás nélkül ellenálljon akkora külső nyomásnak, amely a belső nyomásnál legalább 0,9 bar-ral nagyobb, és a tartányt erre a nyomásra kell vizsgálni.
- 6.7.3.2.9** A mobil tartányoknak és rögzítőelemeiknek a megengedett legnagyobb töltési tömeg mellett a következő, külön-külön fellépő, statikus erők elviselésére kell alkalmasnak lenniük:
- a) menetirányban: a megengedett legnagyobb bruttó tömeg kétszerese szorozva a nehézségi gyorsulással ( $g$ )<sup>4)</sup>;
  - b) vízszintesen a menetirányra merőlegesen: a megengedett legnagyobb bruttó tömeg (amennyiben a menetirány nincs egyértelműen meghatározva, a megengedett legnagyobb bruttó tömeg kétszerese) szorozva a nehézségi gyorsulással ( $g$ )<sup>4)</sup>;
  - c) függőlegesen felfelé: a megengedett legnagyobb bruttó tömeg szorozva a nehézségi gyorsulással ( $g$ )<sup>4)</sup>; és
  - d) függőlegesen lefelé: a megengedett legnagyobb bruttó tömeg (összes terhelés beleértve a gravitáció hatását) kétszerese szorozva a nehézségi gyorsulással ( $g$ )<sup>4)</sup>.
- 6.7.3.2.10** A 6.7.3.2.9 pontban felsorolt erőknél a következő biztonsági tényezőket kell figyelembe venni:
- a) határozott folyáshatárral rendelkező acélnál a szavatolt folyáshatárra vonatkozóan 1,5-es biztonsági tényezőt; vagy
  - b) határozott folyáshatárral nem rendelkező acélnál: a 0,2%-os (vagy ausztenites acélokra az 1%-os) szavatolt, egyezményes folyáshatárra vonatkozóan 1,5-es biztonsági tényezőt.
- 6.7.3.2.11** A tényleges, ill. az egyezményes folyáshatár értékére a belföldi vagy nemzetközi anyagszabványok által meghatározott értékeket kell használni. Ausztenites acélok használata esetén a tényleges, ill. az egyezményes folyáshatárra az anyagszabványokban előírt legkisebb értékeket legfeljebb 15%-kal meg lehet haladni, ha ezeket a magasabb értékeket a vizsgálati bizonyítvány hitelesíti. Ha a szóban forgó fémre nincs anyagszabvány, a használt tényleges, ill. egyezményes folyáshatár értéket az illetékes hatóságnak jóvá kell hagynia.
- 6.7.3.2.12** Ha a nem mélyhűtött, cseppfolyósított gázok szállítására szolgáló tartányokat hőszigeteléssel látják el, a hőszigetelő rendszernek a következő követelményeket kell kielégítenie:
- a) a hőszigetelésnek fényvédő tetőből kell állnia, amely a tartány felületének legalább a felső harmadát, de legfeljebb a felső felét takarja, és attól legalább 4 cm-es légréteg választja el; vagy
  - b) szigetelőanyagból készült, elegendő vastagságú teljes burkolat, amely úgy van védve,

4) A számítások céljára  $g = 9,81 \text{ m/s}^2$ .



hogy normális szállítási körülmények között nem sérülhet meg és a nedvesség sem szívároghat bele, ill. hőátadási együtthatója legfeljebb  $0,67 \text{ W} \cdot \text{m}^{-2} \cdot \text{K}^{-1}$ ;

- c) ha a védőburkolat gázzáró, külön szerkezettel meg kell akadályozni, hogy a szigetelőrétegben a tartány vagy a szerelvények tömítetlensége esetén veszélyes nyomás lépjen fel;
- d) a hőszigetelés nem akadályozhatja a szerelvényekhez és ürítő berendezésekhez való hozzáférést.

**6.7.3.2.13** A gyúlékony, nem mélyhűtött, cseppfolyósított gázok szállítására használt mobil tartányoknak elektromosan földelhetőnek kell lenniük.

### **6.7.3.3** *Tervezési kritériumok*

**6.7.3.3.1** A tartányoknak körkeresztmetszetűeknek kell lenniük.

**6.7.3.3.2** A tartányokat úgy kell tervezni és gyártani, hogy a tervezési nyomás legalább 1,3-szeresével végrehajtott nyomáspróbát kiállják. A tartány tervezésénél a szállítandó, nem mélyhűtött, cseppfolyósított gázra a 4.2.5.2.6 pontban a T50 mobil tartány utasításban a megengedett legnagyobb üzemi nyomásra megadott legkisebb értékeket kell figyelembe venni. Ezeknél a tartányoknál tekintettel kell lenni a 6.7.3.4 bekezdésben meghatározott, legkisebb falvastagságra vonatkozó követelményekre is.

**6.7.3.3.3** A határozott folyáshatárral rendelkező, ill. szavatolt, egyezményes folyáshatárral (általában a 0,2%-os, ausztenites acéloknál az 1%-os egyezményes folyáshatárral) jellemzett acéloknál a tartányban a próbanyomáson fellépő  $\sigma$  primer membránfeszültség nem haladhatja meg a  $0,75R_e$  vagy a  $0,50R_m$  értékek közül az alacsonyabbat, ahol

$R_e$  = a tényleges folyáshatár  $\text{N/mm}^2$ -ben vagy a 0,2%-os vagy ausztenites acéloknál az 1%-os egyezményes folyáshatár;

$R_m$  = a legkisebb szakítószilárdság  $\text{N/mm}^2$ -ben.

**6.7.3.3.3.1** Az  $R_e$  és  $R_m$  értékre a belföldi vagy nemzetközi anyagszabványok által meghatározott legkisebb értékeket kell használni. Ausztenites acélok használata esetén az anyagszabványokban előírt legkisebb értékeket legfeljebb 15%-kal meg lehet haladni, ha ezeket a magasabb értékeket az anyagvizsgálati bizonyítvány hitelesíti. Ha a szóban forgó fémre nincs anyagszabvány, a használt  $R_e$  és  $R_m$  értéket az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek kell jóváhagynia.

**6.7.3.3.3.2** Hegesztett tartányok gyártásához használt acéloknál 0,85-öt meghaladó  $R_e/R_m$  arány nem megengedett. Az anyagvizsgálati bizonyítványban szereplő értékeket kell alapul venni az egyes esetekben az  $R_e/R_m$  arány meghatározásához.

**6.7.3.3.3.3** A tartány gyártásához használt acélnál a szakadási nyúlás értéke %-ban nem lehet kisebb, mint  $10\ 000/R_m$ , azonban finom szemcseszerkezetű acélok esetében 16%-nál, más acélok esetében 20%-nál semmi esetre sem lehet kisebb.

**6.7.3.3.3.4** Az anyagokra a tényleges értékek meghatározásánál figyelembe kell venni, hogy fémlemez esetén a szakítópróba-hoz használt próbatest tengelye a hengerlési irányra merőleges legyen. A szakadási nyúlást négyzet keresztmetszetű próbatesten kell mérni az ISO 6892:1998 szabvány szerint, 50 mm-es befogási hossz mellett.

#### 6.7.3.4 *Legkisebb falvastagság*

**6.7.3.4.1** A legkisebb falvastagságnak a következők szerint adódó nagyobbik vastagságnak kell lennie:

- a) a 6.7.3.4 bekezdés szerint meghatározott legkisebb vastagság;
- b) a nyomástartó edényekre vonatkozó, elismert szabályzat és a 6.7.3.3 bekezdés követelményei szerint meghatározott legkisebb vastagság; és

**6.7.3.4.2** Az 1,80 m-nél nem nagyobb átmérőjű tartányoknál a palást, a fenekek és a bűvönnyílás fedelek falvastagságának legalább 5 mm-nek kell lennie referencia acélra számolva, vagy a felhasználandó acélból azzal egyenértékű vastagságúnak. Ha az átmérő meghaladja az 1,80 m-t, a falvastagságnak legalább 6 mm-nek kell lennie referencia acél esetében, ill. más acél használata esetén ezzel egyenértékű vastagságnak.

**6.7.3.4.3** A tartány palást, a fenekek és a bűvönnyílás fedelek vastagsága a szerkezeti anyagtól függetlenül nem lehet 4 mm-nél kisebb.

**6.7.3.4.4** Valamely acél egyenértékű vastagságát, kivéve a 6.7.3.4.2 pontban a referencia acélra előírt vastagságot, a következő képlettel kell kiszámítani:

$$e_I = \frac{21,4e_0}{\sqrt[3]{R_{mI}A_I}},$$

ahol

$e_I$  = a felhasználandó acél esetén megkövetelt egyenértékű falvastagság (mm-ben);

$e_0$  = a legkisebb falvastagság (mm-ben) a 6.7.3.4.2 pontban meghatározott referencia acél esetében;

$R_{mI}$  = a felhasználandó acél szavatolt legkisebb szakítószilárdsága (N/mm<sup>2</sup>-ben, lásd a 6.7.3.3.3 pontot);

$A_I$  = a felhasználandó acél belföldi vagy nemzetközi szabványok szerinti szavatolt legkisebb szakadási nyúlása (%-ban).

**6.7.3.4.5** A falvastagság semmilyen esetben sem lehet kisebb a 6.7.3.4.1 – 6.7.3.4.3 pontban meghatározott értéknél. A tartány egyetlen részének sem lehet kisebb a falvastagsága, mint a 6.7.3.4.1 – 6.7.3.4.3 pontban meghatározott legkisebb vastagság. Ebbe a falvastagságba nem szabad beszámítani a korrózió miatti esetleges ráhagyásokat.

**6.7.3.4.6** Szerkezeti acél (lásd a 6.7.3.1 bekezdést) használata esetén a 6.7.3.4.4 pontban található képlettel való számításra nincs szükség.

**6.7.3.4.7** A lemezvastagságban nem lehet hirtelen változás ott, ahol a tartány hengeres része és a fenekek csatlakoznak.

#### 6.7.3.5 *Üzemi szerelvények*

**6.7.3.5.1** Az üzemi szerelvényeket úgy kell elhelyezni, hogy a szállítás és a kezelés során leszakadás vagy sérülés veszélye ellen biztosítva legyenek. Amennyiben a váz és a tartány közötti kapcsolat lehetővé teszi a szerkezeti részegységek egymáshoz képesti elmozdulását, a szerelvényeket úgy kell rögzíteni, hogy az ilyen elmozdulás a részegységek sérülésének veszélye nélkül lehetővé váljon. A külső üritő szerelvényeket (csőcsonkokat, záró-



szervezeteket), a belső zárószelepet és annak ülékét védeni kell a külső erők hatására történő leszakadás veszélyével szemben (például nyíródő keresztmetszet kialakításával). A töltő- és ürítőszervezeteket (beleértve a karimákat és a menetes dugókat is), valamint az esetleges védőkupakokat a nem szándékos kinyitás ellen biztosítani kell.

- 6.7.3.5.2** A mobil tartányok minden 1,5 mm-nél nagyobb átmérőjű nyílását – kivéve a nyomáscsökkentő szerkezetek nyílásait, a vizsgálónyílásokat és a lezárt légtelenítő nyílásokat – legalább három, egymás mögött elhelyezett, egymástól független zárószerkezettel kell ellátni, amelyek közül az első egy belső zárószelep, túlfolyószelep vagy más, egyenértékű szerkezet, a második egy külső zárószelep, a harmadik egy vakkarima vagy más, egyenértékű szerkezet.
- 6.7.3.5.2.1** Ha a mobil tartány túlfolyószeleppel van ellátva, a túlfolyószelepet úgy kell elhelyezni, hogy szelephüelke a tartányon belül vagy egy hegesztett karimán belül legyen, vagy ha kívül van elhelyezve, szerelését úgy kell megtervezni, hogy ütközés esetén is hatásos maradjon. A túlfolyószelepeket úgy kell kiválasztani és felszerelni, hogy automatikusan zárjanak, ha a gyártó által meghatározott névleges átfolyási mennyiséget elérték. Az ilyen szelepekhez vezető és az utánuk levő csatlakozásoknak és szerelvényeknek nagyobb átfolyási mennyiséget kell felvenniük, mint a túlfolyó szelepek névleges áteresztési mennyisége.
- 6.7.3.5.3** A töltő- és ürítőnyílások esetén az első zárószerkezetnek egy belső zárószelepnek kell lennie, a másodiknak egy zárószelepnek, amelyet minden töltő- és ürítőcsövön hozzáférhető helyen kell elhelyezni.
- 6.7.3.5.4** A gyúlékony és/vagy mérgező, nem mélyhűtött, cseppfolyósított gázok szállítására használt mobil tartányok alsó töltő- és ürítőnyílásait el kell látni olyan, azonnal záródó belső biztonsági szerkezettel, amely a tartány töltés vagy ürítés közbeni véletlen elmozdulása vagy tűz esetén önműködően lezár. Az 1000 l-nél nagyobb befogadóképességű mobil tartányok esetén a zárószerkezetnek távolról is működtethetőnek kell lennie.
- 6.7.3.5.5** A töltő, ürítő és gőznyomás kiegyenlítő nyílásokon kívül a tartányokat el lehet látni mérőeszközök, nyomásmérő és hőmérő behelyezésére alkalmas nyílásokkal. Az ilyen eszközök csatlakozásait alkalmas hegesztett csomakkal vagy zsebbel kell kialakítani, a tartányon keresztül csavarkötés nem lehet.
- 6.7.3.5.6** A belső részek vizsgálata, karbantartása és javítása céljából a mobil tartányokat megfelelő méretű búvónyílással vagy vizsgálónyílással kell ellátni.
- 6.7.3.5.7** A külső szerelvényeket – amennyire csak lehet – egy helyre csoportosítva kell elhelyezni.
- 6.7.3.5.8** A mobil tartány minden csatlakozásán jól láthatóan fel kell tüntetni a rendeltetését.
- 6.7.3.5.9** A zárószelepeket és zárószerkezeteket úgy kell tervezni és kialakítani, hogy a névleges nyomásuk legalább akkora legyen, mint a tartány megengedett legnagyobb üzemi nyomása, figyelembe véve a szállítás alatt várható hőmérsékleteket. A csavarorsós zárószelepeknek a kézikerek óramutató járásával megegyező irányba történő elforgatásával kell záródniuk. Másfajta zárószelepeknél a zárószelep (nyitott és zárt) állását és a zárás irányát jól láthatóan fel kell tüntetni. Minden zárószelepet úgy kell kialakítani, hogy akaratlanul ne lehessen kinyitni.
- 6.7.3.5.10** A csővezetéseket úgy kell tervezni, gyártani és felszerelni, hogy ne jöjjön létre sérülésveszély a hőtágulás és összehúzódás, a mechanikai ütések és rezgések következtében. Minden csövet megfelelő fémes anyagból kell készíteni. Ahol csak lehetséges, hegesztett csököttéseket kell alkalmazni.
- 6.7.3.5.11** A rézcsövek csatlakozásait keményforrasztással kell készíteni vagy azzal azonos szilárdságú,

fémes csökötetést kell alkalmazni. A forrasztófém (keményforrasztó) olvadáspontja nem lehet 525 °C-nál alacsonyabb. A kötések nem csökkenthetik a csővezeték szilárdságát, mint az csavarmenetes kötéseknel előfordulhat.

**6.7.3.5.12** Egyetlen csővezeték és csőszelvény repesztőnyomása sem lehet kisebb, mint a tartány megengedett legnagyobb üzemi nyomásának négyszerese és azon nyomás négyszerese közül a nagyobb, amelynek a használat során, szivattyú vagy egyéb szerkezet (kivéve a nyomáscsökkentő szerkezeteket) működése révén ki lehetnek téve.

**6.7.3.5.13** A szelepek és a tartozékok gyártásához kovácsolható fémet kell használni.

**6.7.3.6** *Alsó nyílások*

**6.7.3.6.1** Bizonyos nem mélyhűtött, cseppfolyósított gázok nem szállíthatók alsó nyílásokkal ellátott mobil tartányokban, ha a 4.2.5.2.6 pontban a T50 mobil tartány utasítás jelzi, hogy alsó nyílás nem megengedett. Ekkor a megengedett legnagyobb töltési szint esetén a tartány folyadékszintje alatt nem lehetnek nyílások.

**6.7.3.7** *Nyomáscsökkentő szerkezetek*

**6.7.3.7.1** A mobil tartányokat egy vagy több, rugóterhelésű nyomáscsökkentő szerkezettel kell ellátni. A nyomáscsökkentő szerkezetnek legalább a megengedett legnagyobb üzemi nyomással megegyező nyomáson automatikusan kell nyílnia, és a megengedett legnagyobb üzemi nyomás 110%-ának megfelelő nyomáson teljesen nyitva kell lennie. Lefűvás után a szerkezetnek a nyitónyomásánál legfeljebb 10%-kal alacsonyabb nyomáson záródnia kell, minden ennél alacsonyabb nyomáson zárva kell maradnia. A nyomáscsökkentő szerkezetnek olyan típusúnak kell lennie, ami ellenáll a dinamikus hatásoknak, beleértve a folyadék hullámzását is. Olyan hasadótárcsa, amely nem rugóterhelésű nyomáscsökkentő szerkezet előtt van elhelyezve, nem alkalmazható.

**6.7.3.7.2** A nyomáscsökkentő szerkezetet úgy kell kialakítani, hogy megakadályozza az idegen anyagoknak a tartányba való bejutását, a gáz kiszivárgását és mindenféle veszélyes túlnyomás kialakulását.

**6.7.3.7.3** A 4.2.5.2.6 pontban a T50 mobil tartány utasításban meghatározott, egyes, nem mélyhűtött, cseppfolyósított gázok szállítására szolgáló mobil tartányokat olyan nyomáscsökkentő szerkezettel kell ellátni, amelyet az illetékes hatóság jóváhagyott. A nyomáscsökkentő szerkezetnek egy rugóterhelésű nyomáscsökkentő szelepből és egy elhelyezett hasadótárcsából kell állnia, kivéve, ha – különleges rendeltetésű mobil tartány esetén – a szállítandó anyaggal összeférhető anyagból készült, jóváhagyott típusú nyomáscsökkentő szerkezet van a tartányon. Ha a nyomáscsökkentő szerkezet elé hasadótárcsa van elhelyezve, akkor a hasadótárcsa és a nyomáscsökkentő szerkezet közti térbe nyomásmérőt vagy más, alkalmas jelzőeszközt kell csatlakoztatni, ami lehetővé teszi, hogy észleljék a hasadótárcsa repedését, kilyukadását vagy szivárgását, ami a nyomáscsökkentő rendszer hibás működését okozhatja. A hasadótárcsának ebben az esetben a nyomáscsökkentő szelep nyitónyomását 10%-kal meghaladó névleges nyomásnál kell felszakadnia.

**6.7.3.7.4** Többcélú mobil tartány esetében a nyomáscsökkentő szerkezeteknek a mobil tartányban szállítható gázok közül a legnagyobb megengedett legnagyobb üzemi nyomással rendelkező gázra a 6.7.3.7.1 pontban meghatározott nyomáson ki kell nyílniuk.

**6.7.3.8** *A nyomáscsökkentő szerkezetek teljesítménye*

**6.7.3.8.1** A nyomáscsökkentő szerkezetek összes lefűvási teljesítményének elégnek kell lennie ahhoz,

hogy abban az esetben, ha a mobil tartányt teljesen elfedi a tűz, a tartányban a nyomás (beszámítva a nyomás növekedését) ne múlja felül a megengedett legnagyobb üzemi nyomás 120%-át. A szükséges összes lefúvási teljesítmény eléréséhez rugóterhelésű nyomáscsökkentő szerkezeteket kell alkalmazni. Többcélú tartányok esetében a nyomáscsökkentő szerkezetek összes lefúvási teljesítményét arra a gázra kell méretezni, amely a mobil tartányban szállítható gázok közül a legnagyobb lefúvási teljesítményt igényli.

**6.7.3.8.1.1** A nyomáscsökkentő szerkezetek szükséges összes teljesítményének meghatározására, ami úgy tekintendő, mint az együttműködő szerkezetek egyedi teljesítményének összege, a következő képlet<sup>5)</sup> kell használni:

$$Q = 12,4 \frac{FA^{0,82}}{LC} \sqrt{\frac{ZT}{M}},$$

ahol

$Q$  = a szükséges legkisebb lefúvási teljesítmény léghőméter per sec-ban ( $\text{m}^3/\text{s}$ ) 1 bar és  $0^\circ\text{C}$  ( $273\text{ K}$ ) normálfeltételek mellett;

$F$  = együtható, amelynek értéke a következő:

nem szigetelt tartányra  $F = 1$ ;

szigetelt tartányra  $F = U(649 - t)/13,6$ , de legalább  $0,25$ ,

ahol

$U$  = a szigetelőréteg hőátadási együthatója,  $\text{kW}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$ ,  $38^\circ\text{C}$ -on;

$t$  = a nem mélyhűtött, cseppfolyósított gáz tényleges hőmérséklete a töltés alatt ( $^\circ\text{C}$ -ban); ha ez a hőmérséklet ismeretlen, akkor  $t = 15^\circ\text{C}$ ;

Szigetelt tartányra az előzőekben megadott  $F$  érték akkor használható, ha a szigetelés megfelel a 6.7.3.8.1.2 pont előírásainak;

$A$  = a tartány teljes külső felülete  $\text{m}^2$ -ben;

$Z$  = a gáz kompresszibilitási tényezője lefúváskor (ha ez a tényező ismeretlen,  $Z = 1$ );

$T$  = az abszolút hőmérséklet Kelvinben ( $^\circ\text{C} + 273$ ) a nyomáscsökkentő szerkezet felett lefúváskor;

$L$  = a folyadék látens párolgáshője  $\text{kJ/kg}$ -ban lefúváskor;

$M$  = a távozó gáz molekulatömege;

$C$  = a következő képletek egyikéből származtatott állandó, mint a fajhők aránya,  $k$ :

$$k = \frac{C_p}{C_v},$$

ahol

5) Ez a képlet csak azon nem mélyhűtött, cseppfolyósított gázokra alkalmazható, amelyek kritikus hőmérséklete jóval magasabb a lefúváskor fennálló hőmérsékletnél. Olyan gázokra, amelyek kritikus hőmérséklete a lefúváskor fennálló hőmérséklet közelében vagy az alatt van, a nyomáscsökkentő szerkezetek teljesítményének számításához figyelembe kell venni a gáz további termodinamikai tulajdonságait (lásd például a CGA S-1.2-2003 „Pressure Relief Device Standards – Part 2 – Cargo and Portable Tanks for Compressed Gases” (Nyomáscsökkentő szerkezet szabványok – 2. rész – Árutartányok és mobil tartányok sűrített gázokhoz) kiadványt).

$C_p$  = a fajhő állandó nyomáson; és

$C_v$  = a fajhő állandó térfogaton.

Ha  $k > 1$ :

$$C = \sqrt{k \left( \frac{2}{k+1} \right)^{\frac{k+1}{k-1}}}.$$

Ha  $k = 1$  vagy  $k$  ismeretlen:

$$C = \frac{1}{\sqrt{e}} = 0,607,$$

ahol az  $e$  matematikai állandó, melynek értéke 2,7183.

$C$  értékei a következő táblázatból is vehetők:

$k$	$C$	$k$	$C$	$k$	$C$
1,00	0,607	1,26	0,660	1,52	0,704
1,02	0,611	1,28	0,664	1,54	0,707
1,04	0,615	1,30	0,667	1,56	0,710
1,06	0,620	1,32	0,671	1,58	0,713
1,08	0,624	1,34	0,674	1,60	0,716
1,10	0,628	1,36	0,678	1,62	0,719
1,12	0,633	1,38	0,681	1,64	0,722
1,14	0,637	1,40	0,685	1,66	0,725
1,16	0,641	1,42	0,688	1,68	0,728
1,18	0,645	1,44	0,691	1,70	0,731
1,20	0,649	1,46	0,695	2,00	0,770
1,22	0,652	1,48	0,698	2,20	0,793
1,24	0,656	1,50	0,701		

**6.7.3.8.1.2** A lefúvási teljesítmény csökkentése érdekében alkalmazott szigetelési rendszert az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek jóvá kell hagynia. Az erre a célra jóváhagyott szigetelési rendszernek minden esetben:

- 649 °C-ig minden hőmérsékleten hatásosnak kell maradnia; és
- olyan anyaggal kell bevonni, amelynek olvadáspontja legalább 700 °C.

### **6.7.3.9** *A nyomáscsökkentő szerkezetek jelölése*

**6.7.3.9.1** Minden nyomáscsökkentő szerkezeten jól olvashatóan és tartósan fel kell tüntetni a következő adatokat:

- a nyitónyomást (bar-ban vagy kPa-ban);
- rugóterhelésű szerkezeteknél a nyitónyomás megengedett tűrését;
- a hasadótárcsák névleges nyomásához tartozó referencia hőmérsékletet;
- a szerkezet névleges átfolyási teljesítményét normál légköbméter per sec (m<sup>3</sup>/s)

egységben.

Amennyiben lehetséges, a következő információt ugyancsak fel kell tüntetni:

e) a gyártó nevét és az eszköz vonatkozó katalógus számát.

**6.7.3.9.2** A nyomáscsökkentő szerkezeteken feltüntetett névleges átfolyási teljesítményt az ISO 4126-1:1991 szabvány szerint kell meghatározni.

**6.7.3.10** *A nyomáscsökkentő szerkezetek csatlakoztatása*

**6.7.3.10.1** A nyomáscsökkentő szerkezetekhez történő csatlakozásnak akkorának kell lennie, hogy szabad átfolyást biztosítson a biztonsági szerkezethez. A tartány és a nyomáscsökkentő szerkezet közé nem szabad zárószelepet elhelyezni, kivéve a karbantartási vagy egyéb okból kialakított kettős nyomáscsökkentő szerkezeteknél, ha a ténylegesen működő nyomáscsökkentő szerkezet zárószelepe nyitott állapotban reteszelve van, vagy a zárószelepek úgy vannak összekapcsolva, hogy a kettős nyomáscsökkentő szerkezetek közül legalább az egyik mindig működőképes, és kielégíti a 6.7.3.8 bekezdés követelményeit. A szellőző vagy nyomáscsökkentő szerkezethez vezető nyílásban nem lehet semmiféle akadály, ami korlátozná vagy elzárná az áramlást a tartányból a szerkezethez. A szellőző vagy nyomáscsökkentő szerkezet kimenetéhez csatlakozó csővezetéknek, ha illet használnak, a kiszabadult gőzt vagy folyadékot a szerkezetre gyakorolt minimális torlóhatással kell a szabadba vezetniük.

**6.7.3.11** *A nyomáscsökkentő szerkezetek elhelyezése*

**6.7.3.11.1** Minden nyomáscsökkentő szerkezet bemenetet a tartány tetején úgy kell elhelyezni, hogy a tartány középpontjához a lehető legközelebb legyenek. Minden nyomáscsökkentő szerkezet bemenetnek a megengedett legnagyobb töltési feltételek mellett a tartány gőzterében kell lennie, és a szerkezetet úgy kell elhelyezni, hogy biztosítva legyen a kiszabadult gőz akadálytalan távozása. Gyűlékony, nem mélyhűtött, cseppfolyósított gázok esetében a kiszabaduló gőzt a tartánytól el kell terelni oly módon, hogy az ne csapódhasson a tartánynak. A gőz áramlását elterelő védőszerkezetek engedélyezettek, ha nem csökkentik a nyomáscsökkentő szerkezet szükséges teljesítményét.

**6.7.3.11.2** Intézkedéseket kell tenni annak érdekében, hogy megakadályozzák illetéktelen személyeknek a nyomáscsökkentő szerkezethez való hozzáférését, és hogy megvédjék a szerkezetet attól, hogy a tartány felborulása esetén megsérüljön.

**6.7.3.12** *Mérőeszközök*

**6.7.3.12.1** Ha a mobil tartányt nem tömegre töltik, akkor egy vagy több szintmérő eszközzel kell ellátni. A tartány tartalmával közvetlenül érintkező, üvegből készült szintjelzők és egyéb törékeny anyagú mérőeszközök nem használhatók.

**6.7.3.13** *A mobil tartány tartószerkezete, keretváza, emelő és rögzítő szerelvényei*

**6.7.3.13.1** A mobil tartányt tartószerkezettel kell tervezni és gyártani, ami biztos alátámasztást nyújt a szállítás során. Erre vonatkozóan a tervezésnél a 6.7.3.2.9 pontban meghatározott erőket és a 6.7.3.2.10 pontban meghatározott biztonsági tényezőt kell figyelembe venni. Talpak, keretvázak, csúszótalpak vagy egyéb hasonló szerkezetek elfogadhatók.

**6.7.3.13.2** A mobil tartányra szerelt eszközöktől (pl. talpaktól, keretvázától) és a mobil tartány emelő és rögzítő szerelvényeitől származó összetett feszültségek a tartány egyetlen részén sem

okozhatnak túlzott feszültségeket. Minden mobil tartányt állandó emelő és rögzítő szerelvényekkel kell ellátni. Ezeket lehetőleg a mobil tartány tartószerkezetéhez kell erősíteni, de rögzíthetők a tartányon a megtámasztási pontokon elhelyezett erősítőlemezekhez is.

**6.7.3.13.3** A tartószerkezet és a keretváz tervezésénél figyelembe kell venni a környezet korróziós hatását is.

**6.7.3.13.4** Az emelővilla zsebeket zárhatóra kell kialakítani. Az emelővilla zsebek zárószerkezetének a keretváz állandó részét kell képeznie, vagy a keretvázhoz tartósan hozzá kell erősíteni. Az olyan, egyetlen tartánykamrából álló mobil tartányoknál, amelyek 3,65 m-nél rövidebbek, nem kell az emelővilla zsebeknek zárhatónak lenniük, amennyiben

- a) a tartány és a szerelvények kellőképpen védve vannak, nehogy az emelővillák megüssék; és
- b) az emelővilla zsebek középpontjai közötti távolság legalább a fele a mobil tartány legnagyobb hosszúságának.

**6.7.3.13.5** Ha a mobil tartány nincs a 4.2.2.3 bekezdés szerinti védelemmel ellátva, a tartányt és az üzemi szerelvényeit védeni kell a szállítás alatt a hosszirányú és oldalirányú lökésekkel vagy felborulásból adódóan a tartányt vagy a szerelvényeit érő sérülésekkel szemben. A külső szerelvényeket úgy kell védeni, hogy az ütések hatására, ill. a mobil tartánynak a szerelvényekre való ráborulása esetén a tartányban szállított anyag ne szabaduljon ki. Példák a védelemre:

- a) az oldalirányú ütésekkel szembeni védelem, ami állhat a tartány mindkét oldalán a középvonal szintjében védő hosszirányú rudakból;
- b) a mobil tartány felborulás elleni védelme, ami állhat erősítő gyűrűkből vagy a kereten keresztben elhelyezett rudakból;
- c) a hátulról jövő ütésekkel szembeni védelem, ami lökhárítóból vagy keretből állhat;
- d) a tartány ütésekkel vagy felborulásból eredő sérüléssel szembeni védelme az ISO 1496-3:1995 szabvány szerinti ISO keret használatával.

#### **6.7.3.14** *Típusjóváhagyás*

**6.7.3.14.1** Minden új mobil tartány típus esetén az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek gyártási típus bizonyítványt kell kiállítani. Ennek a bizonyítványnak tanúsítania kell, hogy a mobil tartányt ez a hatóság megvizsgálta, az a kívánt célra alkalmas, és megfelel e fejezet követelményeinek és ha alkalmazandó, akkor a 4.2.5.2.6 pontban levő T50 mobil tartány utasításban meghatározott, az egyes gázokra vonatkozó követelményeknek. Ha a mobil tartányokat sorozatban gyártják módosítás nélkül, ez a bizonyítvány a teljes sorozatra érvényes. A bizonyítványban utalni kell a gyártási típus vizsgálati jegyzőkönyvére, azokra a gázokra, amelyek szállíthatók, a tartány és a bélés (ha van) gyártási anyagára és a jóváhagyási számra. A jóváhagyási számnak annak az államnak a megkülönböztető jeléből [A közúti közlekedésről szóló Bécsi Egyezmény (Bécs, 1968) által előírt államjelzés a nemzetközi forgalomban résztvevő gépjárművekre], amelyben az engedélyt kiadták, és egy nyilvántartási számból kell állnia. A 6.7.1.2 bekezdés szerinti esetleges alternatív kialakítást a bizonyítványban fel kell tüntetni. A típusjóváhagyás az azonos anyagból és azonos falvastagsággal gyártott, kisebb mobil tartányok jóváhagyásának is tekinthető, amelyeket ugyanolyan gyártási technológiával és azonos tartószerkezetekkel, egyenértékű zárószerkezetekkel és egyéb tartozékokkal gyártottak.



**6.7.3.14.2** A gyártási típus vizsgálati jegyzőkönyvének a típusjóváahagyáshoz legalább a következőket kell tartalmaznia:

- a) a keretvázra vonatkozó, ISO 1496-3:1995 szabványban meghatározott vizsgálatok eredményeit;
- b) a 6.7.3.15.3 pont szerinti üzembe helyezés előtti vizsgálat eredményeit; és
- c) a 6.7.3.15.1 pont szerinti ütközési próba eredményeit, ha alkalmazható.

**6.7.3.15** *Vizsgálat*

**6.7.3.15.1** Azokat a mobil tartányokat, amelyek „A Biztonságos Konténerekről szóló 1972. évi Nemzetközi Egyezmény” (CSC) módosított kiadása meghatározása szerint konténernek minősülnek, csak azután szabad használni, hogy a gyártási típus prototípusa sikeresen kiállta a „Vizsgálatok és kritériumok kézikönyv” IV. rész, 41 fejezetében előírt dinamikus, hosszirányú ütközési próbát.

**6.7.3.15.2** Az első üzembe helyezés előtt minden mobil tartányt és szerelvényeit vizsgálatnak kell alávetni (üzembe helyezés előtti vizsgálat) és azután legfeljebb ötéves időközönként (5 évenkénti időszakos vizsgálat), és az 5 éves időközök közepén közbenső vizsgálat (2,5 évenkénti közbenső időszakos vizsgálat). A 2,5 évenkénti vizsgálatot az előírt időponthoz képes 3 hónapon belül kell elvégezni. Ha a 6.7.3.15.7 pont szerint soron kívüli vizsgálatra van szükség, azt a legutóbbi időszakos vizsgálat időpontjától függetlenül el kell végezni.

**6.7.3.15.3** A mobil tartány üzembe helyezés előtti vizsgálatának ki kell terjednie a szerkezeti jellemzők ellenőrzésére, a mobil tartány és szerelvényeinek külső és belső vizsgálatra, különös tekintettel a szállítandó nem mélyhűtött, cseppfolyósított gázok szempontjából, és a 6.7.3.3.2 pont szerinti próbanyomással végzett nyomáspróbára. A nyomáspróba vízzel vagy az illetékes hatóság vagy az általa felhatalmazott szervezet hozzájárulásával más folyadékkal vagy gázzal is végezhető. Mielőtt a mobil tartányt üzembe helyezik, tömörségi próbát is kell végezni és az üzemi szerelvények megfelelő működését is ellenőrizni kell. Amennyiben a nyomáspróbát a tartányon és a szerelvényeken külön végezték, a tömörségi próbát az összeszerelést követően kell végrehajtani. A tartányon levő, minden, teljes feszültség szintnek kitett hegesztési varratot az első alkalommal végzett vizsgálat során radiográfiás, ultrahangos vagy más, alkalmas, roncsolásmentes vizsgálati módszerrel kell ellenőrizni. Ez azonban nem vonatkozik a burkolatra.

**6.7.3.15.4** Az 5 évenkénti időszakos vizsgálatnak belső és külső állapot vizsgálatából és általában folyadéknyomás-próbából kell állnia. A hő- vagy egyéb szigetelőborításokat csak annyira kell eltávolítani, amennyire a tartány jellemzőinek biztonságos megítéléséhez feltétlenül szükséges. Amennyiben a nyomáspróbát a tartányon és a szerelvényeken külön végezték, a tömörségi próbát az összeszerelést követően kell végrehajtani.

**6.7.3.15.5** A 2,5 évenkénti közbenső időszakos vizsgálatnak ki kell terjednie legalább a mobil tartány és szerelvényeinek külső és belső vizsgálatra, különös tekintettel a szállítandó nem mélyhűtött, cseppfolyósított gázok szempontjából, és tömörségi próbára, továbbá az üzemi szerelvények megfelelő működését is ellenőrizni kell. A hő- vagy egyéb szigetelőborításokat csak annyira kell eltávolítani, amennyire a tartány jellemzőinek biztonságos megítéléséhez feltétlenül szükséges. A csak egyetlen nem mélyhűtött, cseppfolyósított gáz szállítására szolgáló mobil tartánynál a 2,5 évenkénti közbenső időszakos vizsgálat elhagyható, vagy az illetékes hatóság vagy az általa felhatalmazott szervezet által előírt más vizsgálati módszerrel vagy ellenőrzéssel helyettesíthető.

**6.7.3.15.6** A mobil tartányok a 6.7.3.15.2 pontban előírt utolsó 5 évenkénti vagy 2,5 évenkénti időszakos vizsgálat érvényességének lejártá után nem tölthetők meg és nem adhatók át

szállításra. Az utolsó időszakos vizsgálat lejárta előtt megtöltött mobil tartányok az utolsó időszakos vizsgálat érvényességének letelte után legfeljebb három hónapig szállíthatók. Ezen kívül a mobil tartány az utolsó időszakos vizsgálat érvényességének letelte után is szállítható

- a) kiürítés után, de tisztítás előtt az újratöltés előtt szükséges vizsgálat elvégzésének céljából, és
- b) a veszélyes anyag ártalmatlanítására (megfelelő elhelyezésére) vagy visszaforgatására történő visszaszállítása céljából az időszakos vizsgálat érvényességének lejárta után legfeljebb hat hónapig, hacsak az illetékes hatóság másként nem rendelkezik. Ezt a mentességet a fuvarokmányba be kell jegyezni.

**6.7.3.15.7** Soron kívüli vizsgálatot szükséges végezni, ha a mobil tartány sérült, rozsdás, szivárog vagy bármely más körülmény a mobil tartány sértetlenségét befolyásolhatja. A soron kívüli vizsgálat mértékét az határozza meg, hogy a mobil tartány mennyire sérült vagy hibás. A soron kívüli vizsgálatnak azonban legalább a 6.7.3.15.5 pont szerinti 2,5 évenkénti vizsgálatokra kell kiterjednie.

**6.7.3.15.8** A külső és a belső vizsgálat során biztosítani kell, hogy

- a) ellenőrizzék a tartányt, hogy nincs rajta rozsdás, kipattogzás, kopás, horpadás, torzulás, hegesztési hiba vagy bármi más (pl. szivárgás), ami miatt a mobil tartány szállítása nem lenne biztonságos;
- b) ellenőrizzék a csővezeték, a szelepeket, a fűtő/hűtő rendszert és a tömítéseket, hogy nincs rajtuk rozsdás, sérülés vagy bármi más (pl. szivárgás), ami miatt a mobil tartány töltése, ürítése vagy szállítása nem lenne biztonságos;
- c) a bűvönnyílások fedelének rögzítését biztosító szerkezetek jól működjenek, és a bűvönnyílás fedeleknél, ill. a tömítéseknél ne legyen szivárgás;
- d) a csőkarima csatlakozásoknál és vakkarimáknál a hiányzó vagy laza csavarokat vagy csavaranyákat pótolják, ill. meghúzzák;
- e) minden vészlefévő szerkezet és szelep mentes legyen a korróziótól és minden olyan sérüléstől vagy meghibásodástól, ami megakadályozhatja normális működését. A távműködtetésű zárószerkezeteket és az önzáró szelepeket ki kell próbálni, hogy megfelelően működnek-e;
- f) az előírt jelölések a mobil tartányon olvashatóak, és a vonatkozó követelményeknek megfelelnek; és
- g) a mobil tartány váz- és tartószerkezete, ill. az emelésre szolgáló berendezései megfelelő állapotban legyenek.

**6.7.3.15.9** A 6.7.3.15.1, 6.7.3.15.3, 6.7.3.15.4, 6.7.3.15.5 és 6.7.3.15.7 pont szerinti vizsgálatokat az illetékes hatóság vagy az általa felhatalmazott szervezet által elismert szakértőnek kell elvégeznie vagy tanúsítania. Ha a nyomáspróba a vizsgálat részét képezi, a vizsgálatot a mobil tartány adattábláján feltüntetett nyomással kell végezni. A nyomás alatt lévő mobil tartányon a tartány, a csővezeték és a szerelvények szivárgásmentességét is vizsgálni kell.

**6.7.3.15.10** Minden esetben, amikor a mobil tartányt vágással, melegítéssel vagy hegesztéssel javítják, a munkát az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek jóvá kell hagynia, figyelembe véve azt a nyomástartó edényekre vonatkozó szabályzatot, amely alapján a tartányt gyártották. A munka befejezése után az eredeti próbanyomással nyomáspróbát kell végezni.

**6.7.3.15.11** Amennyiben a biztonságot veszélyeztető körülményeket tapasztalnak, a mobil tartány addig



nem használható újra, amíg meg nem javították és az ismételt vizsgálatot ki nem állta.

#### 6.7.3.16 Jelölés

**6.7.3.16.1** Ellenőrzés céljából könnyen elérhető, szembetűnő helyre minden mobil tartányra nem korrodálódó fémtáblát kell tartósan rögzíteni. Ha a mobil tartány kialakítása folytán a tábla nem erősíthető tartósan a tartányhoz, legalább a nyomástartó edényekre vonatkozó szabályzatban előírt információkat kell a tartányon feltüntetni. A fémtáblán legalább a következőkben felsorolt adatokat kell feltüntetni beütéssel vagy más hasonló módon:

Gyártási ország:

U	Jóváhagyó	Jóváhagyási	Alternatív kialakítás esetén (lásd a 6.7.1.2 pontot)
N	ország	szám	„AA”

A gyártó neve vagy jele

A gyártó sorozatszám

A típusjóváhagyásra felhatalmazott szervezet

A tulajdonos nyilvántartási száma

A gyártási év

A nyomástartó edényekre vonatkozó szabályzat, amely szerint a tartányt méretezték

A próbanyomás ..... bar/kPa (túlnyomás)<sup>6)</sup>

A megengedett legnagyobb üzemi nyomás ..... bar/ kPa (túlnyomás)<sup>6)</sup>

A külső tervezési nyomás<sup>7)</sup> ..... bar/kPa (túlnyomás)<sup>6)</sup>

A tervezési hőmérséklet-tartomány ..... °C-tól ..... °C-ig

A tervezési referencia hőmérséklet ..... °C

A víztérfogat 20 °C-on ..... liter

Az üzembe helyezés előtti nyomáspróba ideje és tanúsító azonosítója

A tartány anyaga(i) és anyagszabvány hivatkozás(ok)

Az egyenértékű vastagság referencia acélra ..... mm

A legutóbbi időszakos vizsgálat időpontja és típusa

Hónap ..... év ..... Próbanyomás ..... bar/kPa (túlnyomás)<sup>6)</sup>

A legutóbbi vizsgálatot végző vagy tanúsító szakértő bélyegzőlenyomata.

**6.7.3.16.2** A következő adatokat magán a mobil tartányon vagy a mobil tartányhoz biztosan rögzített fémtáblán kell feltüntetni:

Az üzemben tartó neve

A szállításra engedélyezett nem mélyhűtött, cseppfolyósított gáz(ok) neve

A töltet megengedett legnagyobb tömege minden egyes szállításra engedélyezett, nem mélyhűtött, cseppfolyósított gázra ..... kg

Megengedett legnagyobb bruttó tömeg ..... kg

Üres (tára) tömeg ..... kg.

**Megjegyzés:** A szállított nem mélyhűtött, cseppfolyósított gázok azonosítására lásd az 5. részt is.

**6.7.3.16.3** A nyílt tengeren történő kezelésre tervezett és jóváhagyott mobil tartány esetén az „OFFSHORE PORTABLE TANK” feliratot kell feltüntetni az azonosító táblán.

6) A mértékegységet fel kell tüntetni.

7) Lásd a 6.7.3.2.8 pontot.

#### 6.7.4 A mélyhűtött, cseppfolyósított gázokhoz használt mobil tartányok gyártására és vizsgálatára vonatkozó követelmények

##### 6.7.4.1 Meghatározások

E szakasz alkalmazásában:

Az *alternatív kialakítási engedély* az e fejezetben meghatározottaktól eltérő műszaki előírások alapján tervezett, gyártott vagy eltérő vizsgálati módszer szerint vizsgált (alternatív kialakítású) mobil tartányra vagy MEG-konténerre az illetékes hatóság által kiadott engedély.

A *mobil tartány* olyan hőszigetelt, multimodális tartány, amelynek befogadóképessége 450 liternél nagyobb, és amelyet a mélyhűtött, cseppfolyósított gázok szállítására használnak. A mobil tartány fogalmába maga a tartány és a gázok szállításához szükséges üzemi és szerkezeti szerelvényei tartoznak. A mobil tartánynak a szerkezeti szerelvények eltávolítása nélkül tölthetőnek és üríthetőnek kell lennie. A tartány külső részén stabilizáló elemeknek kell lenniük, és alkalmasnak kell lennie arra, hogy megtöltött állapotban felemeljék. Úgy kell kialakítani, hogy elsősorban közúti járműre, vasúti kocsira, ill. tengerjáró vagy belvízi hajóba lehessen rakni, a gépi rakodás megkönnyítésére kerettel vagy egyéb szerkezetekkel kell ellátni. A közúti tartányjárművek, a vasúti tartálykocsik, a nem fémből készült tartányok és a nagyméretű csomagolóeszközök (IBC-k), a gázpalackok és a nagypalackok e meghatározás értelmében nem minősülnek mobil tartánynak.

A *tartány* olyan konstrukció, amely rendszerint a következőkből áll:

- a) vagy egy burkolatból és egy vagy több belső tartányból, ahol a tartány(ok) és a burkolat közötti tér légtelenítve van (vákuum szigetelés), és hőszigetelő rendszert is tartalmazhat;
- b) vagy egy burkolatból és egy belső tartányból köztes szilárd hőszigetelő réteggel (pl. szilárd habbal).

A tartány a mobil tartány azon része, amely a szállítandó, mélyhűtött, cseppfolyósított gáz megtartására szolgál (maga a tartány), beleértve a nyílásokat és azok zárószerkezeteit, de kizárva az üzemi szerelvényeket és a külső szerkezeti szerelvényeket.

A *burkolat* a külső szigetelő burkolat vagy borítás, ami a szigetelő rendszer részét képezheti.

Az *üzemi szerelvények* a töltő- és ürítő-, a szellőző-, a biztonsági-, a fűtő-, a hűtő-, a hőszigetelő és a hermetizáló berendezések, valamint a mérőeszközök.

A *szerkezeti szerelvények* a tartány külső részén található erősítő-, rögzítő-, védő- vagy stabilizáló elemek.

A *megengedett legnagyobb üzemi nyomás* a megtöltött tartány üzemi helyzetében, annak tetején megengedett, tényleges túlnyomás, beleértve a töltés és ürítés alatti legnagyobb tényleges nyomást is.

A *próbanyomás* a nyomáspróba alatt a tartány tetején fellépő legnagyobb túlnyomás.

A *tömörségi próba* az a gázzal végzett vizsgálat, amelynek során a tartányt az üzemi szerelvényeivel a megengedett legnagyobb üzemi nyomás legalább 90%-át elérő tényleges belső nyomásnak teszik ki.

A *megengedett legnagyobb bruttó tömeg* a mobil tartány saját tömege és a szállításra engedélyezett legnagyobb rakomány össztömege.

A *megtartási idő* az az időtartam, ami a kezdeti töltési körülmények létrejöttétől addig telik el, amíg a nyomás a hőfelvétel következtében a nyomáshatároló eszköz(ök) legkisebb nyitónyomását eléri.

A *referencia acél* a 370 N/mm<sup>2</sup> szakítószilárdságú és 27% szakadási nyúlású acél.

A *legkisebb tervezési hőmérséklet* a tartány tervezésénél és gyártásánál alkalmazott hőmérséklet, ami nem magasabb, mint a tartalom legalacsonyabb hőmérséklete (üzemi hőmérséklet) normális töltési, ürítési és szállítási feltételek esetén.

#### **6.7.4.2** *Általános tervezési és gyártási követelmények*

- 6.7.4.2.1** A tartányokat az illetékes hatóság által elismert, a nyomástartó edényekre vonatkozó szabályzat előírásainak megfelelően kell tervezni és gyártani. A burkolatot és a tartányt alakításra alkalmas fémes anyagból kell készíteni. A burkolatot acélból kell készíteni. A burkolat és a tartány közötti csatlakozásokat és támasztékokat nem fémes anyagból is lehet készíteni, ha az anyag tulajdonságai a legkisebb tervezési hőmérsékleten bizonyítottan kielégítőek. Az anyagoknak általában a belföldi vagy nemzetközi anyagszabványoknak kell megfelelniük. Hegesztett burkolatokhoz és tartányokhoz csak olyan anyagok használhatók, amelyek hegeszthetősége teljes mértékben szavatolt. A hegesztéseket szakszerűen kell elkészíteni, és teljesen biztonságosnak kell lenniük. Ha a gyártási folyamat vagy az anyag szükségesé teszi, a tartányt megfelelően hőkezelní kell, hogy a hegesztéseknél és a hőhatásnak kitett zónákban biztosítsák a kielégítő szívósságot. Az anyagok kiválasztásánál a ridegtörés veszélye, a hidrogénes elridegedés, a feszültség alatti korróziós repedezések és az ütésállóság szempontjából figyelembe kell venni a legkisebb tervezési hőmérsékletet. Finom szemcseszerkezetű acélok használata esetén a szavatolt folyáshatár nem lehet nagyobb, mint 460 N/mm<sup>2</sup>, és a szavatolt szakítószilárdság felső határa nem lehet nagyobb, mint 725 N/mm<sup>2</sup> az anyagspecifikáció szerint. A mobil tartány anyagainak alkalmasnak kell lenniük ahhoz a külső környezethez, amelyben a tartányt szállíthatják.
- 6.7.4.2.2** A mobil tartány minden részének, beleértve a szerelvényeket, a tömítéseket és csővezetéseket, amely rendes körülmények között érintkezhet a szállított mélyhűtött, cseppfolyósított gázzal, összeférhetőnek kell lennie ezzel a gázzal.
- 6.7.4.2.3** Kerülni kell a különböző fémek érintkezését, ami a galvanikus hatás folytán károsodást okozhat.
- 6.7.4.2.4** A hőszigetelő rendszernek a tartány(oka)t teljesen beburkoló külső burkolatot és hatásos szigetelő anyagot kell tartalmaznia. A külső szigetelést burkolattal kell védeni, hogy a nedvesség ne hatolhasson be, és a szigetelés ne sérülhessen meg normális szállítási feltételek esetén.
- 6.7.4.2.5** Ha a burkolat gázzáró, külön szerkezettel meg kell akadályozni, hogy a szigetelő térben veszélyes nyomás lépjen fel.
- 6.7.4.2.6** Az atmoszferikus nyomáson –182 °C alatti forráspontú, mélyhűtött, cseppfolyósított gázok szállítására szolgáló mobil tartányok esetén a hőszigetelés nem tartalmazhat olyan anyagokat, amelyek az oxigénnel vagy oxigénben dús atmoszférában veszélyesen reagálnak, ha ezek az anyagok a hőszigetelés olyan részében találhatók, ahol fennáll az oxigénnel vagy az oxigénben feldúsult folyadékkal való érintkezés veszélye.
- 6.7.4.2.7** A szigetelőanyagok minősége a használat során nem csökkenhet túlzott mértékben.
- 6.7.4.2.8** A referencia megtartási időt minden egyes, a mobil tartányban szállítandó mélyhűtött, cseppfolyósított gázra meg kell határozni.

**6.7.4.2.8.1** A megtartási időt az illetékes hatóság által elismert módszerrel a következő tényezők alapján kell meghatározni:

- a) a szigetelőrendszer 6.7.4.2.8.2 pont szerint meghatározott hatékonysága;
- b) a nyomáshatároló eszköz(ök) legkisebb nyitónyomása;
- c) a kezdeti töltési körülmények;
- d) 30 °C feltételezett környezeti hőmérséklet;
- e) a szállítandó mélyhűtött, cseppfolyósított gáz(ok) fizikai tulajdonságai.

**6.7.4.2.8.2** A szigetelőrendszer hatékonyságát (hőátadás wattban) a mobil tartány típusvizsgálata során kell meghatározni, az illetékes hatóság által elfogadott eljárással. Ennek a vizsgálatnak a következők egyikéből kell állnia:

- a) állandó nyomáson (pl. atmoszferikus nyomáson) végzett próba, amely során a mélyhűtött, cseppfolyósított gáz veszteségét mérik meghatározott idő alatt; vagy
- b) zárt rendszerű próba, amelynek során a tartányban a nyomás növekedését mérik meghatározott idő alatt.

Az állandó nyomáson végzett próbánál az atmoszferikus nyomás változásait figyelembe kell venni. Mindkét próbánál korrekciót kell végezni a környezeti hőmérsékletnek a feltételezett 30 °C-os referencia környezeti hőmérséklettől való eltérése miatt.

**Megjegyzés:** Az egyes szállítások előtt a tényleges megtartási idő meghatározására lásd a 4.2.3.7 bekezdést.

**6.7.4.2.9** A kettős falú, vákuumszigetelésű tartány burkolatát vagy a nyomástartó edényekre vonatkozó szabályzatot szerint legalább 100 kPa (1 bar) túlnyomásra mint külső tervezési nyomásra, vagy legalább 200 kPa (2 bar) (túlnyomás) számított kritikus repesztőnyomásra kell méretezni. A belső és külső erősítő szerkezetek figyelembe vehetők a tartány külső nyomással szembeni ellenállóképességének számításánál.

**6.7.4.2.10** A mobil tartányt megfelelő emelő és rögzítő szerelvényekkel és olyan tartószerkezettel kell tervezni és kialakítani, amely a szállítás során biztos alátámasztást nyújt.

**6.7.4.2.11** A mobil tartányt olyanra kell tervezni, hogy a szállított anyag vesztesége nélkül ellenálljon legalább a szállított anyag által kifejtett belső nyomásnak és a normális szállítási és kezelési feltételek mellett fellépő statikus, dinamikus és hőterhelésnek. A tervezés során bizonyítani kell, hogy az ezen terheléseknek a mobil tartány várható élettartama alatti ismétlődése folytán kialakuló kifáradást figyelembe vették.

**6.7.4.2.12** A mobil tartányoknak és rögzítőelemeiknek a megengedett legnagyobb töltési tömeg mellett a következő, külön-külön fellépő, statikus erők elviselésére kell alkalmasnak lenniük:

- a) menetirányban: a megengedett legnagyobb bruttó tömeg kétszerese szorozva a nehézségi gyorsulással ( $g$ )<sup>8)</sup>;
- b) vízszintesen a menetirányra merőlegesen: a megengedett legnagyobb bruttó tömeg (amennyiben a menetirány nincs egyértelműen meghatározva, a megengedett legnagyobb bruttó tömeg kétszerese) szorozva a nehézségi gyorsulással ( $g$ )<sup>8)</sup>;
- c) függőlegesen felfelé: a megengedett legnagyobb bruttó tömeg szorozva a nehézségi gyorsulással ( $g$ )<sup>8)</sup>; és

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8) A számítások céljára  $g = 9,81 \text{ m/s}^2$ .

- d) függőlegesen lefelé: a megengedett legnagyobb bruttó tömeg (összes terhelés beleértve a gravitáció hatását) kétszerese szorozva a nehézségi gyorsulással ( $g$ )<sup>8)</sup>.

**6.7.4.2.13** A 6.7.4.2.12 pontban felsorolt erőknél a következő biztonsági tényezőket kell figyelembe venni:

- a) határozott folyáshatárral rendelkező anyagoknál a szavatolt folyáshatárra vonatkozóan 1,5-es biztonsági tényezőt; vagy
- b) határozott folyáshatárral nem rendelkező anyagoknál: a 0,2%-os (vagy ausztenites acéloknál az 1%-os) szavatolt, egyezményes folyáshatárra vonatkozóan 1,5-es biztonsági tényezőt.

**6.7.4.2.14** A tényleges, ill. az egyezményes folyáshatár értékére a belföldi vagy nemzetközi anyagszabványok által meghatározott értékeket kell használni. Ausztenites acélok használata esetén a tényleges, ill. az egyezményes folyáshatárra az anyagszabványokban előírt legkisebb értékeket legfeljebb 15%-kal meg lehet haladni, ha ezeket a magasabb értékeket a vizsgálati bizonyítvány hitelesíti. Ha a szóban forgó fémre nincs anyagszabvány, a használt tényleges, ill. egyezményes folyáshatár értéket az illetékes hatóságnak jóvá kell hagynia.

**6.7.4.2.15** A gyűlékony, mélyhűtött, cseppfolyósított gázok szállítására használt mobil tartányoknak elektromosan földelhetőnek kell lenniük.

### **6.7.4.3** *Tervezési kritériumok*

**6.7.4.3.1** A tartányoknak körkeresztmetszetűnek kell lenniük.

**6.7.4.3.2** A tartányokat úgy kell tervezni és gyártani, hogy a megengedett legnagyobb üzemi nyomás legalább 1,3-szeresével végrehajtott nyomáspróbát kiállják. A vákuumszigetelésű tartányoknál a próbanyomás nem lehet kisebb, mint a megengedett legnagyobb üzemi nyomás és 100 kPa (1 bar) összegének 1,3-szerese. A próbanyomás semmilyen esetben sem lehet 300 kPa (3 bar) túlnyomásnál kisebb. Ezenkívül tekintettel kell lenni a 6.7.4.4.2–6.7.4.4.7 pontban meghatározott, legkisebb falvastagságra vonatkozó követelményekre is.

**6.7.4.3.3** A határozott folyáshatárral rendelkező, ill. szavatolt, egyezményes folyáshatárral (általában a 0,2%-os, ausztenites acéloknál az 1%-os egyezményes folyáshatárral) jellemzett fémeknél a tartányban a próbanyomáson fellépő  $\sigma$  primer membránfeszültség nem haladhatja meg a  $0,75R_e$  vagy a  $0,50R_m$  értékek közül az alacsonyabbat, ahol

$R_e$  = a tényleges folyáshatár N/mm<sup>2</sup>-ben vagy a 0,2%-os vagy ausztenites acéloknál az 1%-os egyezményes folyáshatár;

$R_m$  = a legkisebb szakítószilárdság N/mm<sup>2</sup>-ben.

**6.7.4.3.3.1** Az  $R_e$  és  $R_m$  értékére a belföldi vagy nemzetközi anyagszabványok által meghatározott legkisebb értékeket kell használni. Ausztenites acélok használata esetén az anyagszabványokban előírt legkisebb értékeket legfeljebb 15%-kal meg lehet haladni, ha ezeket a magasabb értékeket az anyagvizsgálati bizonyítvány hitelesíti. Ha a szóban forgó fémre nincs anyagszabvány, a használt  $R_e$  és  $R_m$  értéket az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek kell jóváhagynia.

**6.7.4.3.3.2** Hegesztett tartányok gyártásához használt acéloknál 0,85-öt meghaladó  $R_e/R_m$  arány nem megengedett. Az anyagvizsgálati bizonyítványban szereplő értékeket kell alapul venni az egyes esetekben az  $R_e/R_m$  arány meghatározásához.

**6.7.4.3.3.3** A tartány gyártásához  $R_e$  acélnál a szakadási nyúlás értéke %-ban nem lehet kisebb, mint

10 000/ $R_m$ , azonban finom szemcseszerkezetű acélok esetében 16%-nál, más acélok esetében 20%-nál semmi esetre sem lehet kisebb. Alumínium esetében a szakadási nyúlás %-ban nem lehet kisebb mint 10 000/6 $R_m$ , de 12%-nál semmi esetre sem lehet kisebb.

**6.7.4.3.3.4** Az anyagokra a tényleges értékek meghatározásánál figyelembe kell venni, hogy fémlemez esetén a szakítópróbához használt próbatest tengelye a hengerlési irányra merőleges legyen. A szakadási nyúlást négyszög keresztmetszetű próbatesten kell mérni az ISO 6892:1998 szabvány szerint, 50 mm-es befogási hossz mellett.

#### **6.7.4.4** *Legkisebb falvastagság*

**6.7.4.4.1** A legkisebb falvastagságnak a következők szerint adódó nagyobbik vastagságnak kell lennie:

- a) a 6.7.4.4.2 – 6.7.4.4.7 pont szerint meghatározott legkisebb vastagság;
- b) a nyomástartó edényekre vonatkozó, elismert szabályzat és a 6.7.4.3 bekezdés követelményei szerint meghatározott legkisebb vastagság.

**6.7.4.4.2** Az 1,80 m-nél nem nagyobb átmérőjű tartányok falvastagságának legalább 5 mm-nek kell lennie referencia acélra számolva, vagy a felhasználandó fémből azzal egyenértékű vastagságúnak. Ha az átmérő meghaladja az 1,80 m-t, a falvastagságnak legalább 6 mm-nek kell lennie referencia acélra számolva, vagy a felhasználandó fémből azzal egyenértékű vastagságúnak.

**6.7.4.4.3** Az 1,80 m-nél nem nagyobb átmérőjű, vákuumszigetelt tartányok falvastagságának legalább 3 mm-nek kell lennie referencia acélra számolva, vagy a felhasználandó fémből azzal egyenértékű vastagságúnak. Ha az átmérő meghaladja az 1,80 m-t, a falvastagságnak legalább 4 mm-nek kell lennie referencia acélra számolva, vagy a felhasználandó fémből azzal egyenértékű vastagságúnak.

**6.7.4.4.4** Vákuumszigetelt tartányoknál a burkolat és a tartány együttes vastagságának kell megfelelnie a 6.7.4.4.2 pontban meghatározott legkisebb vastagságnak, azonban magának a tartánynak a falvastagsága nem lehet kisebb, mint a 6.7.4.4.3 pontban meghatározott legkisebb falvastagság.

**6.7.4.4.5** A tartányok falvastagsága a szerkezeti anyagtól függetlenül nem lehet 3 mm-nél kisebb.

**6.7.4.4.6** Valamely fém egyenértékű vastagságát, kivéve a 6.7.4.4.2 és a 6.7.4.4.3 pontban a referencia acélra előírt vastagságot, a következő képlettel kell kiszámítani:

$$e_I = \frac{21,4e_0}{\sqrt[3]{R_{mI}A_I}},$$

ahol

$e_I$  = a felhasználandó fém esetén megkövetelt egyenértékű falvastagság (mm-ben);

$e_0$  = a legkisebb falvastagság (mm-ben) a 6.7.4.4.2 és a 6.7.4.4.3 pontban meghatározott referencia acél esetében;

$R_{mI}$  = a felhasználandó fém szavatolt legkisebb szakítószilárdsága (N/mm<sup>2</sup>-ben) (lásd a 6.7.4.3.3 pontot);

$A_I$  = a felhasználandó fém belföldi vagy nemzetközi szabványok szerinti szavatolt legkisebb szakadási nyúlása (%-ban).



- 6.7.4.4.7** A falvastagság semmilyen esetben sem lehet kisebb a 6.7.4.4.1 – 6.7.4.4.5 pontban meghatározott értéknél. A tartány egyetlen részének sem lehet kisebb a falvastagsága, mint a 6.7.4.4.1 – 6.7.4.4.6 pontban meghatározott legkisebb vastagság. Ebbe a falvastagságba nem szabad beszámítani a korrózió miatti esetleges ráhagyásokat.
- 6.7.4.4.8** A lemezvastagságban nem lehet hirtelen változás ott, ahol a tartány hengeres része és a fenekek csatlakoznak.
- 6.7.4.5** *Üzemi szerelvények*
- 6.7.4.5.1** Az üzemi szerelvényeket úgy kell elhelyezni, hogy a szállítás és a kezelés során leszakadás vagy sérülés veszélye ellen biztosítva legyenek. Amennyiben a váz és a tartány közötti kapcsolat lehetővé teszi a szerkezeti részegységek egymáshoz képesti elmozdulását, a szerelvényeket úgy kell rögzíteni, hogy az ilyen elmozdulás a részegységek sérülésének veszélye nélkül lehetővé váljon. A külső ürítő szerelvényeket (csöcsonkokat, zárószerveket), a belső zárószelepet és annak ülékét védeni kell a külső erők hatására történő leszakadás veszélyével szemben (például nyíródő keresztmetszet kialakításával). A töltő- és ürítőszerveket (beleértve a karimákat és a menetes dugókat is), valamint az esetleges védőkupakokat a nem szándékos kinyitás ellen biztosítani kell.
- 6.7.4.5.2** A gyúlékony, mélyhűtött, cseppfolyósított gázok szállítására használt mobil tartányok minden töltő- és ürítőnyílását legalább három, egymás mögött elhelyezett, egymástól független zárószervezzel kell ellátni, amelyek közül az első egy, a burkolathoz a lehető legközelebb elhelyezett zárószelep, a második egy zárószelep és a harmadik egy vakkarima vagy más, egyenértékű szerkezet. A burkolathoz legközelebb levő zárószeleppnek pillanat záró szerkezetnek kell lennie, amely automatikusan lezár a mobil tartány töltés vagy ürítés alatti nem szándékos elmozdulása esetén, ill. ha tűzbe kerül. Ennek a szerkezetnek távvezérléssel is működtethetőnek kell lennie.
- 6.7.4.5.3** A nem gyúlékony, mélyhűtött, cseppfolyósított gázok szállítására szolgáló mobil tartányok minden töltő- és ürítőnyílását legalább két, egymás mögött elhelyezett, egymástól független zárószervezzel kell ellátni, amelyek közül az első egy, a külső burkolathoz a lehető legközelebb elhelyezett zárószelep, a második pedig egy vakkarima vagy más, egyenértékű szerkezet.
- 6.7.4.5.4** Azokat a csőszakaszokat, amelyek mindkét végükön zárhatóak és amelyekben folyékony termék maradhat vissza, a csőszakaszban a túlnyomás elkerülésére automatikus nyomáscsökkentő rendszerrel kell ellátni.
- 6.7.4.5.5** A vákuumszigetelésű tartányokat nem szükséges vizsgálonnyílással ellátni.
- 6.7.4.5.6** A külső szerelvényeket – amennyire csak lehet – egy helyre csoportosítva kell elhelyezni.
- 6.7.4.5.7** A mobil tartány minden csatlakozásán jól láthatóan fel kell tüntetni a rendeltetését.
- 6.7.4.5.8** A zárószelepeket és zárószerveket úgy kell tervezni és kialakítani, hogy a névleges nyomásuk legalább akkora legyen, mint a tartány megengedett legnagyobb üzemi nyomása, figyelembe véve a szállítás alatt várható hőmérsékleteket. A csavarorsós zárószelepeknek a kézikerek óramutató járásával megegyező irányba történő elforgatásával kell záródniuk. Másfajta zárószelepeknél a zárószelep (nyitott és zárt) állását és a zárás irányát jól láthatóan fel kell tüntetni. Minden zárószelepet úgy kell kialakítani, hogy akaratlanul ne lehessen kinyitni.
- 6.7.4.5.9** Ha nyomás fenntartó egységeket használnak, az egységhez vezető folyadék és gőz csatlakozásokat a burkolathoz a lehető legközelebb szeleppel kell ellátni, ami

megakadályozza a tartalom elvesztését a nyomás fenntartó egység meghibásodása esetén.

- 6.7.4.5.10** A csővezetékeket úgy kell tervezni, gyártani és felszerelni, hogy ne jöjjön létre sérülésveszély a hőtágulás és összehúzódás, a mechanikai ütések és rezgések következtében. Minden csövet megfelelő fémes anyagból kell készíteni. A tűz hatására bekövetkező szivárgás elkerülésére a burkolat és minden kimeneti nyílás első zárószerkezetéhez való csatlakozás között csak acél csővezeték és hegesztett csőkötés alkalmazható. A zárószerkezet ehhez a csatlakozáshoz való hozzárősítését az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek jóvá kell hagynia. Ahol csak lehetséges, hegesztett csőkötésekkel kell alkalmazni.
- 6.7.4.5.11** A rézcsövek csatlakozásait keményforrasztással kell készíteni vagy azzal azonos szilárdságú, fémes csőkötetést kell alkalmazni. A forrasztófém (keményforrasztó) olvadáspontja nem lehet 525 °C-nál alacsonyabb. A kötések nem csökkenthetik a csővezeték szilárdságát, mint az csavarmentes kötéseknel előfordulhat.
- 6.7.4.5.12** A szelepek és a tartozékok gyártásához csak olyan anyagok használhatók, amelyek a mobil tartány legkisebb üzemi hőmérsékletén is megfelelő anyagjellemzőkkel rendelkeznek.
- 6.7.4.5.13** Egyetlen csővezeték és csőszervizelési repesztőnyomása sem lehet kisebb, mint a tartány megengedett legnagyobb üzemi nyomásának négyszerese és azon nyomás négyszerese közül a nagyobb, amelynek a használat során, szivattyú vagy egyéb szerkezet (kivéve a nyomáscsökkentő szerkezeteket) működése révén ki lehetnek téve.
- 6.7.4.6** *Nyomáscsökkentő szerkezetek*
- 6.7.4.6.1** A mobil tartányokat egy vagy több, rugóterhelésű nyomáscsökkentő szerkezettel kell ellátni. A nyomáscsökkentő szerkezetnek legalább a megengedett legnagyobb üzemi nyomással megegyező nyomáson automatikusan kell nyílnia, és a megengedett legnagyobb üzemi nyomás 110%-ának megfelelő nyomáson teljesen nyitva kell lennie. Lefűvás után a szerkezetnek a nyitónyomásánál legfeljebb 10%-kal alacsonyabb nyomáson záródnia kell, minden ennél alacsonyabb nyomáson zárva kell maradnia. A nyomáscsökkentő szerkezetnek olyan típusúnak kell lennie, ami ellenáll a dinamikus hatásoknak, beleértve a folyadék hullámzását is.
- 6.7.4.6.2** A nem gyúlékony, mélyhűtött, cseppfolyósított gázokhoz és a hidrogénhez használt tartányok ezenkívül a rugóterhelésű szerkezetekkel párhuzamosan hasadótárcsákkal is elláthatók, mint azt a 6.7.4.7.2 és a 6.7.4.7.3 pont meghatározza.
- 6.7.4.6.3** A nyomáscsökkentő szerkezeteket úgy kell kialakítani, hogy megakadályozzák az idegen anyagoknak a tartányba való bejutását, a gáz kiszivárgását és mindenféle veszélyes túlnyomás kialakulását.
- 6.7.4.6.4** A nyomáscsökkentő szerkezetet az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek jóvá kell hagynia.
- 6.7.4.7** *A nyomáscsökkentő szerkezetek teljesítménye*
- 6.7.4.7.1** Vákuumszigetelésű tartányoknál a vákuum megszűnése vagy a szilárd anyaggal szigetelt tartánynál a szigetelés 20%-ának tönkremenetele esetén a nyomáscsökkentő szerkezetek összes lefűvási teljesítményének elegendőnek kell lennie ahhoz, hogy a nyomás (beleszámítva a nyomásnövekedést) a tartány belsejében ne haladja meg a megengedett legnagyobb üzemi nyomás 120%-át.
- 6.7.4.7.2** A nem gyúlékony, mélyhűtött, cseppfolyósított gázok (az oxigén kivételével) és a hidrogén



esetében ez a teljesítmény a szükséges nyomáscsökkentő szerkezetekkel párhuzamosan elhelyezett hasadótárcsák alkalmazásával is elérhető. A hasadótárcsáknak a tartány próbanyomásával megegyező névleges nyomáson át kell szakadniuk.

**6.7.4.7.3** A 6.7.4.7.1 és a 6.7.4.7.2 pontban leírt körülmények között, ha a tartányt a tűz teljesen elfedi, a nyomáscsökkentő szerkezetek összes teljesítményének elegendőnek kell lenni ahhoz, hogy a nyomást a tartányban a próbanyomásra korlátozza.

**6.7.4.7.4** A nyomáscsökkentő szerkezetek szükséges teljesítményét az illetékes hatóság által elismert, jól bevált műszaki szabályzat<sup>9)</sup> szerint kell kiszámítani.

**6.7.4.8** *A nyomáscsökkentő szerkezetek jelölése*

**6.7.4.8.1** Minden nyomáscsökkentő szerkezeten jól olvashatóan és tartósan fel kell tüntetni a következő adatokat:

- a) a nyitónyomást (bar-ban vagy kPa-ban);
- b) rugóterhelésű szerkezeteknél a nyitónyomás megengedett túrésát;
- c) a hasadótárcsák névleges nyomásához tartozó referencia hőmérsékletet;
- d) a szerkezet névleges átfolyási teljesítményét normál légköbméter per sec (m<sup>3</sup>/s) egységben.

Amennyiben lehetséges, a következő információt ugyancsak fel kell tüntetni:

- e) a gyártó neve és az eszköz vonatkozó katalógus száma.

**6.7.4.8.2** A nyomáscsökkentő szerkezeteken feltüntetett névleges átfolyási teljesítményt az ISO 4126-1:1991 szabvány szerint kell meghatározni.

**6.7.4.9** *A nyomáscsökkentő szerkezetek csatlakoztatása*

**6.7.4.9.1** A nyomáscsökkentő szerkezetekhez történő csatlakozásnak akkorának kell lennie, hogy szabad átfolyást biztosítson a biztonsági szerkezethez. A tartány és a nyomáscsökkentő szerkezet közé nem szabad zárószelepet elhelyezni, kivéve a karbantartási vagy egyéb okból kialakított kettős nyomáscsökkentő szerkezeteknél, ha a ténylegesen működő nyomáscsökkentő szerkezet zárószelepe nyitott állapotban reteszelve van, vagy a zárószelepek úgy vannak összekapcsolva, hogy mindig kielégíti a 6.7.4.7 bekezdés követelményeit. A szellőző vagy nyomáscsökkentő szerkezethez vezető nyílásban nem lehet semmiféle akadály, ami korlátozná vagy elzárná az áramlást a tartányból a szerkezethez. A szellőző vagy nyomáscsökkentő szerkezet kimenetéhez csatlakozó csővezetéknek, ha ilyet használnak, a kiszabadult gőzt vagy folyadékot a szerkezetre gyakorolt minimális torlóhatással kell a szabadba vezetniük.

**6.7.4.10** *A nyomáscsökkentő szerkezetek elhelyezése*

**6.7.4.10.1** Minden nyomáscsökkentő szerkezet bemenetet a tartány tetején úgy kell elhelyezni, hogy a tartány középpontjához a lehető legközelebb legyen. Minden nyomáscsökkentő szerkezet bemenetnek a megengedett legnagyobb töltési feltételek mellett a tartány gőzterében kell lennie, és a szerkezetet úgy kell elhelyezni, hogy biztosítva legyen a kiszabadult gőz

9) Lásd például a CGA-S-1.2-(lásd például a CGA S-1.2-2003 „Pressure Relief Device Standards – Part 2 – Cargo and Portable Tanks for Compressed Gases” (Nyomáscsökkentő szerkezet szabványok – 2. rész – Árutartányok és mobil tartányok sűrített gázokhoz) kiadványt.

akadálytalan távozása. Mélyhűtött, cseppfolyósított gázok esetében a kiszabaduló gőzt a tartánytól el kell terelni oly módon, hogy az ne csapódhasson a tartánynak. A gőz áramlását elterelő védőszerkezetek engedélyezettek, ha nem csökkentik a nyomáscsökkentő szerkezet szükséges teljesítményét.

**6.7.4.10.2** Intézkedéseket kell tenni annak érdekében, hogy megakadályozzák illetéktelen személyeknek a nyomáscsökkentő szerkezethez való hozzáférését, és hogy megvédjék a szerkezetet attól, hogy a tartány felborulása esetén megsérüljön.

**6.7.4.11** *Mérőeszközök*

**6.7.4.11.1** A mobil tartányokat egy vagy több mérőeszkőzzel kell ellátni, kivéve ha tömegre töltik. A tartány tartalmával közvetlenül érintkező, üvegből készült szintjelzők és egyéb törekeny anyagú mérőeszközök nem használhatók.

**6.7.4.11.2** A vákuumszigetelésű mobil tartányok burkolatán a vákuummérő számára csatlakozást kell kialakítani.

**6.7.4.12** *A mobil tartány tartószerkezete, keretváza, emelő és rögzítő szerelvényei*

**6.7.4.12.1** A mobil tartányt tartószerkezettel kell tervezni és gyártani, ami biztos alátámasztást nyújt a szállítás során. Erre vonatkozóan a tervezésnél a 6.7.4.2.12 pontban meghatározott erőket és a 6.7.4.2.13 pontban meghatározott biztonsági tényezőt kell figyelembe venni. Talpak, keretvázak, csúszótalpak vagy egyéb hasonló szerkezetek elfogadhatók.

**6.7.4.12.2** A mobil tartányra szerelt eszközöktől (pl. talpaktól, keretvázától) és a mobil tartány emelő és rögzítő szerelvényeitől származó összetett feszültségek a tartány egyetlen részén sem okozhatnak túlzott feszültségeket. Minden mobil tartányt állandó emelő és rögzítő szerelvényekkel kell ellátni. Ezeket lehetőleg a mobil tartány tartószerkezetéhez kell erősíteni, de rögzíthetők a tartányon a megtámasztási pontokon elhelyezett erősítő-lemezekhez is.

**6.7.4.12.3** A tartószerkezet és a keretváz tervezésénél figyelembe kell venni a környezet korróziós hatását is.

**6.7.4.12.4** Az emelővilla zsebeket zárhatóra kell kialakítani. Az emelővilla zsebek zárószerkezetének a keretváz állandó részét kell képeznie, vagy a keretvázhoz tartósan hozzá kell erősíteni. Az olyan, egyetlen tartánykamrából álló mobil tartányoknál, amelyek 3,65 m-nél rövidebbek, nem kell az emelővilla zsebeknek zárhatónak lenniük, amennyiben

- a) a tartány és a szerelvények kellőképpen védve vannak, nehogy az emelővillák megüssék; és
- b) az emelővilla zsebek középpontjai közötti távolság legalább a fele a mobil tartány legnagyobb hosszúságának.

**6.7.4.12.5** Ha a mobil tartány nincs a 4.2.3.3 bekezdés szerinti védelemmel ellátva, a tartányt és az üzemi szerelvényeit védeni kell a szállítás alatt a hosszirányú és oldalirányú lökésekkel vagy felborulásból adódóan a tartányt vagy a szerelvényeit érő sérülésekkel szemben. A külső szerelvényeket úgy kell védeni, hogy az ütések hatására, ill. a mobil tartánynak a szerelvényekre való ráborulása esetén a tartányban szállított anyag ne szabaduljon ki. Példák a védelemre:

- a) az oldalirányú ütésekkel szembeni védelem, ami állhat a tartány mindkét oldalán a középvonal szintjében védő hosszirányú rudakból;

- b) a mobil tartány felborulás elleni védelme, ami állhat erősítő gyűrűkből vagy a kereten keresztben elhelyezett rudakból;
- c) a hátulról jövő ütésekkel szembeni védelem, ami lökhárítóból vagy keretből állhat;
- d) a tartány ütésekkel vagy felborulásból eredő sérüléssel szembeni védelme az ISO 1496-3:1995 szabvány szerinti ISO keret használatával;
- e) a mobil tartány ütésekkel és felborulással szembeni védelme vákuumszigetelő burkolattal.

#### **6.7.4.13** *Típusjóváhagyás*

##### **6.7.4.13.1**

Minden új mobil tartány típus esetén az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek gyártási típus bizonyítványt kell kiállítani. Ennek a bizonyítványnak tanúsítania kell, hogy a mobil tartányt ez a hatóság megvizsgálta, az a kívánt célra alkalmas, és megfelel e fejezet követelményeinek. Ha a mobil tartányokat sorozatban gyártják módosítás nélkül, ez a bizonyítvány a teljes sorozatra érvényes. A bizonyítványban utalni kell a gyártási típus vizsgálati jegyzőkönyvére, azokra a mélyhűtött, cseppfolyósított gázokra, amelyek szállíthatók, a tartány és a burkolat gyártási anyagára és a jóváhagyási számra. A jóváhagyási számnak annak az államnak megkülönböztető jeléből [A közúti közlekedésről szóló Bécsi Egyezmény (Bécs, 1968) által előírt államjelzés a nemzetközi forgalomban résztvevő gépjárművekre], amelyben az engedélyt kiadták, és egy nyilvántartási számból kell állnia. A 6.7.1.2 bekezdés szerinti esetleges alternatív kialakítást a bizonyítványban fel kell tüntetni. A típusjóváhagyás az azonos anyagból és azonos falvastagsággal gyártott, kisebb mobil tartányok jóváhagyásának is tekinthető, amelyeket ugyanolyan gyártási technológiával és azonos tartószerkezetekkel, egyenértékű zárószerkezetekkel és egyéb tartozékokkal gyártottak.

##### **6.7.4.13.2**

A gyártási típus vizsgálati jegyzőkönyvének a típusjóváhagyáshoz legalább a következőket kell tartalmaznia:

- a) a keretvázra vonatkozó, ISO 1496-3:1995 szabványban meghatározott vizsgálatok eredményeit;
- b) a 6.7.4.14.3 pont szerinti üzembe helyezés előtti vizsgálat eredményeit; és
- c) a 6.7.4.14.1 pont szerinti ütközési próba eredményeit, ha alkalmazható.

#### **6.7.4.14** *Vizsgálat*

##### **6.7.4.14.1**

Azokat a mobil tartányokat, amelyek „A Biztonságos Konténerekről szóló 1972. évi Nemzetközi Egyezmény” (CSC) módosított kiadása meghatározása szerint konténernek minősülnek, csak azután szabad használni, hogy a gyártási típus prototípusa sikeresen kiállta a „Vizsgálatok és kritériumok kézikönyv” IV. rész, 41 fejezetében előírt dinamikus, hosszirányú ütközési próbát.

##### **6.7.4.14.2**

Az első üzembe helyezés előtt minden mobil tartányt és szerelvényeit vizsgálatnak kell alávetni (üzembe helyezés előtti vizsgálat) és azután legfeljebb ötéves időközönként (5 évenkénti időszakos vizsgálat), és az 5 éves időközök közepén közbenső vizsgálat (2,5 évenkénti közbenső időszakos vizsgálat). A 2,5 évenkénti vizsgálatot az előírt időponthoz képes 3 hónapon belül kell elvégezni. Ha a 6.7.4.14.7 pont szerint soron kívüli vizsgálatra van szükség, azt a legutóbbi időszakos vizsgálat időpontjától függetlenül el kell végezni.

##### **6.7.4.14.3**

A mobil tartány üzembe helyezés előtti vizsgálatának ki kell terjednie a szerkezeti jellemzők ellenőrzésére, a mobil tartány és szerelvényeinek külső és belső vizsgálatra, különös

tekintettel a szállítandó mélyhűtött, cseppfolyósított gázok szempontjából, és a 6.7.4.3.2 pont szerinti próbanyomással végzett nyomáspróbára. A nyomáspróba vízzel vagy az illetékes hatóság vagy az általa felhatalmazott szervezet hozzájárulásával más folyadékkal vagy gázzal is végezhető. Mielőtt a mobil tartányt üzembe helyezik, tömörségi próbát is kell végezni és az üzemi szerelvények megfelelő működését is ellenőrizni kell. Amennyiben a nyomáspróbát a tartányon és a szerelvényeken külön végezték, a tömörségi próbát az összeszerelést követően kell végrehajtani. A tartányon levő minden, teljes feszültség szintnek kitett hegesztési varratot az első alkalommal végzett vizsgálat során radiográfiás, ultrahangos vagy más, alkalmas, roncsolásmentes vizsgálati módszerrel kell ellenőrizni. Ez azonban nem vonatkozik a burkolatra.

**6.7.4.14.4** Az 5 és a 2,5 évenkénti közbenső időszakos vizsgálatnak ki kell terjednie legalább a mobil tartány és szerelvényeinek külső és belső vizsgálatra, különös tekintettel a szállítandó mélyhűtött, cseppfolyósított gázok szempontjából, és tömörségi próbára, továbbá az üzemi szerelvények és az esetleges vákuummérő megfelelő működését is ellenőrizni kell. Nem vákuumszigetelt tartányok esetében a burkolatot és a szigetelést csak annyira kell eltávolítani, amennyire az 5 és a 2,5 évenkénti közbenső időszakos vizsgálat során a tartány jellemzőinek biztonságos megítéléséhez feltétlenül szükséges.

**6.7.4.14.5** (törölve)

**6.7.4.14.6** A mobil tartányok a 6.7.4.14.2 pontban előírt utolsó 5 évenkénti vagy 2,5 évenkénti időszakos vizsgálat érvényességének lejártá után nem tölthetők meg és nem adhatók át szállításra. Az utolsó időszakos vizsgálat lejártá előtt megtöltött mobil tartányok az utolsó időszakos vizsgálat érvényességének letelte után legfeljebb három hónapig szállíthatók. Ezen kívül a mobil tartány az utolsó időszakos vizsgálat érvényességének letelte után is szállítható:

- a) kiürítés után, de tisztítás előtt az újratöltés előtt szükséges vizsgálat elvégzésének céljából, és
- b) a veszélyes anyag ártalmatlanítására (megfelelő elhelyezésére) vagy visszaforgatására történő visszaszállítása céljából az időszakos vizsgálat érvényességének lejártá után legfeljebb hat hónapig, ha csak az illetékes hatóság másként nem rendelkezik. Ezt a mentességet a fuvarokmányba be kell jegyezni.

**6.7.4.14.7** Soron kívüli vizsgálatot szükséges végezni, ha a mobil tartány sérült, rozsdás, szivárog vagy bármely más körülmény a mobil tartány sértetlenségét befolyásolhatja. A soron kívüli vizsgálat mértékét az határozza meg, hogy a mobil tartány mennyire sérült vagy hibás. A soron kívüli vizsgálatnak azonban legalább a 6.7.4.14.4 pont szerinti 2,5 évenkénti vizsgálatokra kell kiterjednie.

**6.7.4.14.8** A belső vizsgálatnak az üzembe helyezés előtti vizsgálat során biztosítani kell, hogy ellenőrizzék a tartányt, hogy nincs rajta rozsdás, kipattogzás, kopás, horpadás, torzulás, hegesztési hiba vagy bármi más (pl. szivárgás), ami miatt a mobil tartány szállítása nem lenne biztonságos.

**6.7.4.14.9** A mobil tartány külső vizsgálata során biztosítani kell, hogy

- a) ellenőrizzék a csővezeték, a szelepek, a hermetizáló/hűtő rendszert és a tömítéseket, hogy nincs rajtuk rozsdás, sérülés vagy bármi más (pl. szivárgás), ami miatt a mobil tartány töltése, ürítése vagy szállítása nem lenne biztonságos;
- b) bűvönnyílás fedeleknél, ill. a tömítéseknél ne legyen szivárgás;
- c) a csőkarima csatlakozásoknál és vakkarimáknál a hiányzó vagy laza csavarokat és csavaranyákat pótolják, ill. meghúzzák;

- d) minden vészlefüvő szerkezet és szelep mentes legyen a korróziótól és minden olyan sérüléstől vagy meghibásodástól, ami megakadályozhatja normális működését. A távműködtetésű zárószerkezeteket és az önzáró szelepeket ki kell próbálni, hogy megfelelően működnek-e;
- e) az előírt jelölések a mobil tartányon olvashatóak, és a vonatkozó követelményeknek megfeleljenek; és
- f) a mobil tartány váz- és tartószerkezete, ill. az emelésre szolgáló berendezései megfelelő állapotban legyenek.

**6.7.4.14.10** A 6.7.4.14.1, 6.7.4.14.3, 6.7.4.14.4, 6.7.4.14.5 és 6.7.4.14.7 pont szerinti vizsgálatokat az illetékes hatóság vagy az általa felhatalmazott szervezet által elismert szakértőnek kell elvégeznie vagy tanúsítania. Ha a nyomáspróba a vizsgálat részét képezi, a vizsgálatot a mobil tartány adattábláján feltüntetett nyomással kell végezni. A nyomás alatt lévő mobil tartányon a tartány, a csövezeték és a szerelvények szivárgásmentességét is vizsgálni kell.

**6.7.4.14.11** Minden esetben, amikor a mobil tartányt vágással, melegítéssel vagy hegesztéssel javítják, ezt a munkát az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek jóvá kell hagynia, figyelembe véve azt a nyomástartó edényekre vonatkozó szabályzatot, amely alapján a tartányt gyártották. A munka befejezése után az eredeti próbanyomással nyomáspróbát kell végezni.

**6.7.4.14.12** Amennyiben a biztonságot veszélyeztető körülményeket tapasztalnak, a mobil tartány addig nem használható újra, amíg meg nem javították és az ismételt vizsgálatot ki nem állta.

#### **6.7.4.15 Jelölés**

**6.7.4.15.1** Ellenőrzés céljából könnyen elérhető, szembetűnő helyre minden mobil tartányra nem korrodálódó fémtáblát kell tartósan rögzíteni. Ha a mobil tartány kialakítása folytán a tábla nem erősíthető tartósan a tartányhoz, legalább a nyomástartó edényekre vonatkozó szabályzatban előírt információkat kell a tartányon feltüntetni. A fémtáblán legalább a következőkben felsorolt adatokat kell feltüntetni beütéssel vagy más hasonló módon:

Gyártási ország:

<b>U</b>	Jóváhagyó	Jóváhagyási	Alternatív kialakítás esetén (lásd a 6.7.1.2 pontot)
<b>N</b>	ország	szám	

A gyártó neve vagy jele

A gyártó sorozatszáma

A típusjóváhagyásra felhatalmazott szervezet

A tulajdonos nyilvántartási száma

A gyártási év

A nyomástartó edényekre vonatkozó szabályzat, amely szerint a tartányt méretezték

A próbanyomás ..... bar/kPa (túlnyomás)<sup>10)</sup>

A megengedett legnagyobb üzemi nyomás ..... bar/ kPa (túlnyomás)<sup>10)</sup>

A legkisebb tervezési hőmérséklet ..... °C

A víztérfogat 20 °C-on ..... liter

Az üzembe helyezés előtti nyomáspróba időpontja és tanúsító azonosítója

A tartány anyaga(i) és anyagszabvány hivatkozás(ok)

Az egyenértékű vastagság referencia acélra ..... mm

10) A mértékegységet fel kell tüntetni.

A legutóbbi időszakos vizsgálat időpontja és típusa

Hónap ..... év ..... Próbanyomás ..... bar/kPa (túlnyomás)<sup>10)</sup>

A legutóbbi vizsgálatot végző vagy tanúsító szakértő bélyegzőlenyomata

Azon gáz(ok) teljes neve, amelyek szállítására a mobil tartányt engedélyezték

„Hőszigetelt” vagy „vákuumszigetelt” felirat

A szigetelőrendszer hatékonysága (hőátadás) watt (W)

Referencia megtartási idő ..... nap (vagy óra) és kezdeti nyomás ..... bar/kPa<sup>10)</sup> és a töltési fok ... kg-ban a szállításra engedélyezett minden egyes mélyhűtött, cseppfolyósított gázra.

**6.7.4.15.2** A következő adatokat magán a mobil tartányon vagy a mobil tartányhoz biztosan rögzített fémtáblán kell feltüntetni:

A tulajdonos és az üzemben tartó neve

A szállításra engedélyezett mélyhűtött, cseppfolyósított gáz(ok) neve (és a legkisebb átlagos hőmérséklete)

A megengedett legnagyobb bruttó tömeg ..... kg

Az üres (tára) tömeg ..... kg

A tényleges megtartási idő a szállított gázra ..... nap (vagy óra)<sup>10)</sup>

**Megjegyzés:** A szállított mélyhűtött, cseppfolyósított gáz(ok) azonosítására lásd az 5. részt is.

**6.7.4.15.3** A nyílt tengeren történő kezelésre tervezett és jóváhagyott mobil tartány esetén az „OFFSHORE PORTABLE TANK” feliratot kell feltüntetni az azonosító táblán.

**6.7.5** A nem mélyhűtött gázokhoz használt, UN többelemes gázkonténerek (UN MEG-konténerek) tervezésére, gyártására és vizsgálatára vonatkozó előírások

**6.7.5.1** *Meghatározások*

E szakasz alkalmazásában:

Az *alternatív kialakítási engedély* az e fejezetben meghatározottaktól eltérő műszaki előírások alapján tervezett, gyártott vagy eltérő vizsgálati módszer szerint vizsgált (alternatív kialakítású) mobil tartányra vagy MEG-konténerre az illetékes hatóság által kiadott engedély.

A (MEG-konténer) *elemei* palackok, nagypalackok, ill. palackkötegek.

A *tömörégi próba* az a gázzal végzett vizsgálat, amelynek során a MEG-konténer elemeit és üzemi szerelvényeit a próbanyomás legalább 20%-át elérő tényleges belső nyomásnak teszik ki.

A *gyűjtőcső* az elemek töltő- és/vagy ürítő nyílásait összekötő csővezeték és szelepei.

A *megengedett legnagyobb bruttó tömeg* a MEG-konténer saját tömegének és a szállításra engedélyezett legnagyobb rakomány tömegének összege.

Az *UN többelemes gázkonténer (MEG-konténer)* vázra szerelt és egymással gyűjtőcsővel összekötött palackokból, nagypalackokból, ill. palackkötegekből álló multimodális szállítóeszköz. A MEG-konténer fogalmába a gázokállításához szükséges üzemi és szerkezeti szerelvények is beletartoznak.

Az *üzemi szerelvények* a töltő- és ürítő-, a szellőző- és a biztonsági berendezések, valamint a



mérőeszközök.

A szerkezeti szerelvények a tartány külső részén található erősítő-, rögzítő- védő- és stabilizáló elemek.

#### **6.7.5.2** *Általános tervezési és gyártási követelmények*

**6.7.5.2.1** A MEG-konténernek a szerkezeti szerelvények eltávolítása nélkül tölthetőnek és üríthetőnek kell lennie. A MEG-konténer elemei külső részén stabilizáló elemeknek kell lenniük a kezelés és szállítás során a szerkezeti sértetlenség biztosításához. A MEG-konténert olyan tartószerkezettel kell tervezni és kialakítani, amely a szállítás során biztos alátámasztást nyújt, és megfelelő emelő és rögzítő szerelvényekkel kell ellátni, amelyek lehetővé teszik a MEG-konténer felemelését akkor is, ha a megengedett legnagyobb bruttó tömegig meg van töltve. A MEG-konténert úgy kell kialakítani, hogy közúti járműre, vasúti kocsira, ill. tengerjáró vagy belvízi hajóba lehessen rakni, a gépi rakodás megkönnyítésére kerettel vagy egyéb szerkezetekkel kell ellátni

**6.7.5.2.2** A MEG-konténert úgy kell megtervezni, gyártani és szerelvényekkel ellátni, hogy a normális szállítási és kezelési feltételek mellett előforduló minden körülményt elviseljen. A tervezés során a dinamikus terhelés és a kifáradás hatását figyelembe kell venni.

**6.7.5.2.3** A MEG-konténer elemeit acélból kell gyártani, varrat nélküli kivitelben, és gyártásuk, ill. vizsgálatuk során be kell tartani a 6.2.1 és a 6.2.2 szakasz előírásait. Egy MEG-konténer minden elemének ugyanahhoz a gyártási típushoz kell tartoznia.

**6.7.5.2.4** A MEG-konténer elemeit, a szerelvényeit és a csővezetékeket olyan anyagból kell gyártani, amely:

- a) összeférhető a szállítandó anyagokkal (lásd az ISO 11114-1:1997 és az ISO 11114-2:2000 szabványt); vagy
- b) kémiai reakció révén megfelelően passzíválódik vagy semlegesítődik.

**6.7.5.2.5** Kerülni kell a különböző fémek érintkezését, ami a galvanikus hatás folytán károsodást okozhat.

**6.7.5.2.6** A MEG-konténer, a szerelvények, a tömítések és a tartozékok anyaga nem gyakorolhat kedvezőtlen hatást a MEG-konténerben szállítandó gáz(ok)ra.

**6.7.5.2.7** A MEG-konténert olyanra kell tervezni, hogy a szállított anyag vesztesége nélkül ellenálljon legalább a szállított anyag által kifejtett belső nyomásnak és a normális szállítási és kezelési feltételek mellett fellépő statikus, dinamikus és hőterhelésnek. A tervezés során bizonyítani kell, hogy az ezen terheléseknek a MEG-konténer várható élettartama alatti ismétlődése folytán kialakuló kifáradást figyelembe vették.

**6.7.5.2.8** A MEG-konténereknek és rögzítőelemeiknek a megengedett legnagyobb töltési tömeg mellett a következő, külön-külön fellépő, statikus erők elviselésére kell alkalmasnak lenniük:

- a) menetirányban: a megengedett legnagyobb bruttó tömeg kétszerese szorozva a nehézségi gyorsulással ( $g$ )<sup>11)</sup>;
- b) vízszintesen a menetirányra merőlegesen: a megengedett legnagyobb bruttó tömeg (amennyiben a menetirány nincs egyértelműen meghatározva, a megengedett legnagyobb bruttó tömeg kétszerese) szorozva a nehézségi gyorsulással ( $g$ )<sup>11)</sup>;

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11) A számítások céljára  $g = 9,81 \text{ m/s}^2$ .

- c) függőlegesen felfelé: a megengedett legnagyobb bruttó tömeg szorozva a nehézségi gyorsulással ( $g$ )<sup>11)</sup>; és
- d) függőlegesen lefelé: a megengedett legnagyobb bruttó tömeg (összes terhelés beleértve a gravitáció hatását) kétszerese szorozva a nehézségi gyorsulással ( $g$ )<sup>11)</sup>.

**6.7.5.2.9** A 6.7.5.2.8 pontban meghatározott erők hatására a feszültség az elemek leginkább igénybe vett részén nem lehet nagyobb, mint a 6.2.2.1 bekezdésben hivatkozott, vonatkozó szabványokban meghatározott érték, ill. a nem ezen szabványok szerint tervezett, gyártott és vizsgált elemek esetében a felhasználó ország illetékes hatósága által elismert műszaki előírásban vagy szabványban meghatározott érték (lásd a 6.2.5 szakaszt).

**6.7.5.2.10** A 6.7.5.2.8 pontban felsorolt erőknél a keretvázra és a rögzítésekre a következő biztonsági tényezőket kell figyelembe venni:

- a) határozott folyáshatárral rendelkező acéloknál a szavatolt folyáshatárra vonatkozóan 1,5-es biztonsági tényezőt; vagy
- b) határozott folyáshatárral nem rendelkező acéloknál a 0,2%-os (vagy ausztenites acélnál az 1%-os) szavatolt, egyezményes folyáshatárra vonatkozóan 1,5-es biztonsági tényezőt.

**6.7.5.2.11** A gyúlékony gázok szállítására használt MEG-konténereknek elektromosan földelhetőnek kell lenniük.

**6.7.5.2.12** Az elemeket úgy kell rögzíteni, hogy a vázszerkezethez képest nemkívánt módon ne mozdulhassanak el, és ne alakuljon ki veszélyes helyi feszültségkoncentráció.

### **6.7.5.3** *Üzemi szerelvények*

**6.7.5.3.1** Az üzemi szerelvényeket úgy kell kialakítani vagy elrendezni, hogy normális szállítási és kezelési körülmények között ne sérülhessenek úgy meg, hogy a nyomástartó tartály tartalma a szabadba jusson. Amennyiben a váz és az elemek közötti kapcsolat lehetővé teszi a szerkezeti részek egymáshoz képesti elmozdulását, a szerelvényeket úgy kell rögzíteni, hogy az ilyen elmozdulás a működő részek sérülésének veszélye nélkül lehetővé váljon. Az összekötő csővezetéseket, az ürítő szerelvényeket (csőcsonkokokat, zárószerkezeteket) és a zárószelepet védeni kell a külső erők hatására történő leszakadás ellen. A gyűjtőcső rendszer zárószelepekhez vezető részeinek kellően rugalmasnak kell lenniük, hogy megvédjék a szelepeket és a vezetéket az elnyíródástól, ill. attól, hogy a nyomástartó tartályban levő anyagot kiengedjék. A töltő- és ürítő szerkezeteket (beleértve a karimákat és a menetes dugókat is), valamint az esetleges védőkupakokat a nem szándékos kinyitás ellen biztosítani kell.

**6.7.5.3.2** A mérgező gázok (T, TF, TC, TO, TFC és TOC csoport gázai) szállítására szolgáló elemeket szeleppel kell ellátni. A cseppfolyósított, mérgező gázok (2T, 2TF, 2TC, 2TO, 2TFC és 2TOC osztályozási kód alá tartozó gázok) esetén a gyűjtőcsövet úgy kell kialakítani, hogy az elemek külön-külön tölthetők és rögzíthető szelepekkel elválaszthatók legyenek. A gyúlékony gázok (F csoport gázai) szállításához az elemeket egymástól szeleppel elválasztott, legfeljebb 3000 liter befogadóképességű csoportokra kell osztani.

**6.7.5.3.3** A MEG-konténer töltő és ürítőnyílásaihoz két, egymás mögött elhelyezett szelepet kell minden töltő- és ürítőcsövön hozzáférhető helyre elhelyezni. Az egyik szelep lehet visszacsapó szelep is. A töltő- és ürítő szerkezetek gyűjtőcsövön is elhelyezhetők. Azokon a csőszakaszokon, amelyek mindkét végükön zárhatók és bennük folyékony termék maradhat vissza, a túlzott nyomás kialakulásának megakadályozására nyomáscsökkentő szelepet kell elhelyezni. A MEG-konténer fő leválasztó szelepein jól láthatóan fel kell tüntetni a zárás



irányát. A zárószelepeket és egyéb zárószerkezetet úgy kell tervezni és kialakítani, hogy a MEG-konténer próbanyomásának legalább 1,5-szeresét elérő nyomásnak ellenálljanak. A csavarorsós zárószelepeknek a kézikerek óramutató járásával megegyező irányba történő elforgatásával kell záródniuk. Másfajta zárószelepeknél a zárószelep (nyitott és zárt) állását és a zárás irányát jól láthatóan fel kell tüntetni. Minden zárószelepet úgy kell kialakítani, hogy akaratlanul ne lehessen kinyitni. A szelepek és a tartozékok gyártásához kovácsolható fémet kell használni.

- 6.7.5.3.4** A csővezetékeket úgy kell tervezni, gyártani és felszerelni, hogy ne jöjjön létre sérülésveszély a hőtágulás és összehúzódás, a mechanikai ütések és rezgések következtében. A csővezetékek csatlakozásait keményforrasztással kell készíteni vagy azzal azonos szilárdságú, fémes csökötetést kell alkalmazni. A forrasztófém (keményforrasztó) olvadáspontja nem lehet 525 °C-nál alacsonyabb. A gyújtócső és az üzemi szerelvények névleges nyomása nem lehet az elemek próbanyomásának kétharmadánál kisebb.

**6.7.5.4** *Nyomáscsökkentő szerkezetek*

- 6.7.5.4.1** Az UN 1013 szén-dioxid és az UN 1070 dinitrogén-oxid szállítására használt MEG-konténer elemeit egymástól szeleppel elválasztott, legfeljebb 3000 liter befogadóképességű csoportokra kell osztani. Az egyes csoportokat legalább egy nyomáscsökkentő szerkezettel kell ellátni. Az egyéb gázok szállításához használt MEG-konténereket azon ország illetékes hatósága által meghatározott módon kell nyomáscsökkentő szerkezettel ellátni, amelyben használják.

- 6.7.5.4.2** Ha nyomáscsökkentő szerkezetek vannak elhelyezve, a MEG-konténer minden elválasztható elemét vagy elem-csoportját egy vagy több nyomáscsökkentő szerkezettel kell ellátni. A nyomáscsökkentő szerkezetnek olyan típusúnak kell lennie, ami ellenáll a dinamikus hatásoknak, beleértve a folyadék hullámozását is, és úgy kell kialakítani, hogy megakadályozza az idegen anyagoknak a tartányba való bejutását, a gáz kiszivárgását és mindenféle veszélyes túlnyomás kialakulását.

- 6.7.5.4.3** A 4.2.5.2.6 pontban a T50 mobil tartány utasításban meghatározott, egyes, nem mélyhűtött, cseppfolyósított gázok szállítására szolgáló MEG-konténereket olyan nyomáscsökkentő szerkezettel lehet ellátni, amelyet annak az országnak az illetékes hatósága ír elő, amelyben használják. A nyomáscsökkentő szerkezetnek egy rugóterhelésű nyomáscsökkentő szelepből és egy elhelyezett hasadótárcsából kell állnia, kivéve, ha – különleges rendeltetésű MEG-konténer esetén – a szállítandó gázzal összeférhető anyagból készült, jóváhagyott típusú nyomáscsökkentő szerkezet van rajta. A hasadótárcsa és a rugóterhelésű szerkezet közti térbe nyomásmérőt vagy más, alkalmas jelzőeszközt kell csatlakoztatni, ami lehetővé teszi, hogy észleljék a hasadótárcsa repedését, kilyukadását vagy szivárgását, ami a nyomáscsökkentő rendszer hibás működését okozhatja. A hasadótárcsának ebben az esetben a rugóterhelésű szerkezet nyitónyomását 10%-kal meghaladó névleges nyomásnál kell felszakadnia.

- 6.7.5.4.4** A kis nyomáson cseppfolyósított gázok szállítására szolgáló, többcélú MEG-konténer esetében a nyomáscsökkentő szerkezeteknek a MEG-konténerben szállítható gázok közül a legnagyobb megengedett legnagyobb üzemi nyomással rendelkező gázra a 6.7.3.7.1 pontban meghatározott nyomáson ki kell nyílniuk.

**6.7.5.5** *A nyomáscsökkentő szerkezetek teljesítménye*

- 6.7.5.5.1** A nyomáscsökkentő szerkezetek – ha vannak – összes lefúvási teljesítményének elégnek kell lennie ahhoz, hogy abban az esetben, ha a MEG-konténert teljesen elfedi a tűz, az elemekben a nyomás (beszámítva a nyomás növekedését) ne múlja felül a nyomáscsökkentő szerkezetek nyitónyomásának 120%-át. A nyomáscsökkentő szerkezetekből álló rendszer legkisebb

összegzett átfolyási kapacitásának meghatározására a CGA S-1.2-2003 „Pressure Relief Device Standards – Part 2 – Cargo and Portable Tanks for Compressed Gases” (Nyomáscsökkentő szerkezet szabványok – 2. rész – Árutartányok és mobil tartányok sűrített gázokhoz) kiadványban található képletet kell használni. Az egyes elemek lefúvási teljesítményének meghatározására a CGA S-1.1-2003 „Pressure Relief Device Standards – Part 1 – Cylinders for Compressed Gases” (Nyomáscsökkentő szerkezet szabványok – 1. rész – Sűrített gáz palackok) kiadvány használható. Kis nyomáson cseppfolyósított gázok esetén az előírt összes lefúvási teljesítmény eléréséhez rugóterhelésű nyomáscsökkentő szerkezetek alkalmazhatók. Többcélú MEG-konténer esetén a nyomáscsökkentő szerkezetek összes lefúvási teljesítményét arra a gázra kell méretezni, amely a MEG-konténerben szállítható gázok közül a legnagyobb lefúvási teljesítményt igényli.

**6.7.5.5.2** A cseppfolyósított gázok szállítására szolgáló elemekre felszerelt nyomáscsökkentő szerkezetek szükséges összes lefúvási teljesítményének számításánál figyelembe kell venni a gáz termodinamikai tulajdonságait (lásd például kis nyomáson cseppfolyósított gázokra a CGA S-1.2-2003 „Pressure Relief Device Standards – Part 2 – Cargo and Portable Tanks for Compressed Gases” (Nyomáscsökkentő szerkezet szabványok – 2. rész – Árutartányok és mobil tartányok sűrített gázokhoz), ill. nagy nyomáson cseppfolyósított gázokra a CGA S-1.1-2003 „Pressure Relief Device Standards – Part 1 – Cylinders for Compressed Gases” (Nyomáscsökkentő szerkezet szabványok – 1. rész – Sűrített gáz palackok) kiadványt).

**6.7.5.6** *A nyomáscsökkentő szerkezetek jelölése*

**6.7.5.6.1** A nyomáscsökkentő szerkezeteken jól olvashatóan és tartósan fel kell tüntetni a következő adatokat:

- a) a gyártó nevét és a szerkezet vonatkozó katalógus számát;
- b) a nyitónyomást és/vagy hőmérsékletet;
- c) a legutóbbi vizsgálat időpontját.

**6.7.5.6.2** A kis nyomáson cseppfolyósított gázokhoz használt rugóterhelésű nyomáscsökkentő szerkezeteken feltüntetett névleges átfolyási teljesítményt az ISO 4126-1:1991 szabvány szerint kell meghatározni.

**6.7.5.7** *A nyomáscsökkentő szerkezetek csatlakoztatása*

**6.7.5.7.1** A nyomáscsökkentő szerkezetekhez történő csatlakozásnak akkorának kell lennie, hogy szabad átfolyást biztosítson a nyomáscsökkentő szerkezethez. Az elem és a nyomáscsökkentő szerkezet közé nem szabad zárószelepet elhelyezni, kivéve a karbantartási vagy egyéb okból kialakított kettős nyomáscsökkentő szerkezeteknél, ha a ténylegesen működő nyomáscsökkentő szerkezet zárószelepe nyitott állapotban reteszelve van, vagy a zárószelepek úgy vannak összekapcsolva, hogy a kettős nyomáscsökkentő szerkezetek közül legalább az egyik mindig működőképes, és kielégíti a 6.7.5.5 bekezdés követelményeit. A szellőző vagy nyomáscsökkentő szerkezethez vezető nyílásban nem lehet semmiféle akadály, ami korlátozná vagy elzárná az áramlást az elemből a szerkezethez. Minden csővezeték és szerelvény átfolyási keresztmetszetének legalább akkorának kell lennie, mint annak a nyomáscsökkentő szerkezetnek a bemeneti nyílása, amelyhez csatlakoztatva van. A lefúvácső névleges méretének legalább akkorának kell lennie, mint a nyomáscsökkentő szerkezet kimeneti nyílása. A nyomáscsökkentő szerkezetek kimenetéhez csatlakozó lefúvácsőnek, ha ilyet használnak, a kiszabadult gőzt vagy folyadékot a szerkezetre gyakorolt minimális torlóhatással kell a szabadba vezetnie.

**6.7.5.8** *A nyomáscsökkentő szerkezetek elhelyezése*

**6.7.5.8.1** Minden nyomáscsökkentő szerkezetnek a megengedett legnagyobb töltési feltételek mellett a cseppfolyósított gázok szállítására szolgáló elem gőzteréhez kell csatlakoznia. A nyomáscsökkentő szerkezetet – ha ilyen van – úgy kell elhelyezni, hogy biztosítva legyen a kiszabadult gőz felfelé történő akadálytalan távozása, és elkerüljék hogy a kiszabaduló gáz vagy folyadék a MEG-konténernek, a konténer elemeinek vagy a kezelőszemélyzetnek ütközzön. A gyúlékony, a piroforos és a gyújtó hatású gázok esetében a kiszabaduló gázt az elemtől el kell terelni oly módon, hogy az ne csapódhasson a többi elemnek. A gőz áramlását elterelő, hőálló védőszerkezetek engedélyezettek, ha nem csökkentik a nyomáscsökkentő szerkezet szükséges teljesítményét.

**6.7.5.8.2** Intézkedéseket kell tenni annak érdekében, hogy megakadályozzák illetéktelen személyeknek a nyomáscsökkentő szerkezethez való hozzáférését, és hogy megvédjék a szerkezetet attól, hogy a MEG-konténer felborulása esetén megsérüljön.

**6.7.5.9** *Mérőeszközök*

**6.7.5.9.1** Ha a MEG-konténert tömegre töltik, akkor egy vagy több szintmérő eszközzel kell ellátni. Üvegből vagy egyéb törekeny anyagból készült szintjelzők nem használhatók.

**6.7.5.10** *A MEG-konténer tartószerkezete, keretváza, emelő és rögzítő szerelvényei*

**6.7.5.10.1** A MEG-konténert tartószerkezettel kell tervezni és gyártani, ami biztos alátámasztást nyújt a szállítás során. Erre vonatkozóan a tervezésnél a 6.7.5.2.8 pontban meghatározott erőket és a 6.7.5.2.10 pontban meghatározott biztonsági tényezőt kell figyelembe venni. Talpak, keretvázak, csúszótalpak vagy egyéb hasonló szerkezetek elfogadhatók.

**6.7.5.10.2** A MEG-konténerre szerelt eszközöktől (pl. talpaktól, keretvázától) és a MEG-konténer emelő és rögzítő szerelvényeitől származó összetett feszültségek egyetlen elemben sem eredményezhetnek túlzott feszültségeket. Minden MEG-konténert állandó emelő és rögzítő szerelvényekkel kell ellátni. Az emelő vagy rögzítő szerelvényeket nem szabad az elemekre hegeszteni.

**6.7.5.10.3** A tartószerkezet és a keretváz tervezésénél figyelembe kell venni a környezet korróziós hatását is.

**6.7.5.10.4** Ha a MEG-konténer nincs a 4.2.5.3 bekezdés szerinti védelemmel ellátva, az elemeket és az üzemi szerelvényeket védeni kell a szállítás alatt a hosszirányú és oldalirányú lökésekkel vagy felborulásból adódó sérülésekkel szemben. A külső szerelvényeket úgy kell védeni, hogy az ütések hatására, ill. a MEG-konténernek a szerelvényekre való ráborulása esetén az elemek tartalma ne szabaduljon ki. Különös figyelmet kell fordítani az összekötő csövezetek védelmére. Példák a védelemre:

- a) az oldalirányú ütésekkel szembeni védelem, ami állhat hosszirányú rudakból;
- b) felborulás elleni védelem, ami állhat erősítő gyűrűkből vagy a kereten keresztben elhelyezett rudakból;
- c) a hátulról jövő ütésekkel szembeni védelem, ami lökhárítóból vagy keretből állhat;
- d) az elemek és az üzemi szerelvények ütésekkel vagy felborulásból eredő sérüléssel szembeni védelme az ISO 1496-3:1995 szabvány szerinti ISO keret használatával.

**6.7.5.11** *Típusjóváhagyás*

**6.7.5.11.1** Minden új MEG-konténer típus esetén az illetékes hatóságnak vagy az általa felhatalmazott szervezetnek gyártási típus bizonyítványt kell kiállítani. Ennek a bizonyítványnak tanúsítania kell, hogy a MEG-konténert ez a hatóság megvizsgálta, az a kívánt célra alkalmas, és megfelel e fejezet követelményeinek, valamint a 4.1 fejezetben és a P200 csomagolási utasításban az egyes gázokra vonatkozó követelményeknek. Ha a MEG-konténereket sorozatban gyártják módosítás nélkül, ez a bizonyítvány a teljes sorozatra érvényes. A bizonyítványban utalni kell a gyártási típus vizsgálati jegyzőkönyvére, a gyűjtőcső gyártási anyagaina, azon szabványokra, amely szerint az elemeket gyártották és a jóváhagyási számra. A jóváhagyási számnak annak az államnak a megkülönböztető jeléből [A közúti közlekedésről szóló Bécsi Egyezmény (Bécs, 1968) által előírt államjelzés a nemzetközi forgalomban résztvevő gépjárművekre], amelyben az engedélyt kiadták, és egy nyilvántartási számból kell állnia. A 6.7.1.2 bekezdés szerinti esetleges alternatív kialakítást a bizonyítványban fel kell tüntetni. A típusjóváhagyás az azonos anyagból és azonos falvastagsággal gyártott, kisebb MEG-konténerek jóváhagyásának is tekinthető, amelyeket ugyanolyan gyártási technológiával és azonos tartószerkezetekkel, egyenértékű zárószerkezetekkel és egyéb tartozékokkal gyártottak.

**6.7.5.11.2** A gyártási típus vizsgálati jegyzőkönyvének a típusjóváhagyáshoz legalább a következőket kell tartalmaznia:

- a) a keretvázra vonatkozó, ISO 1496-3:1995 szabványban meghatározott vizsgálatok eredményeit;
- b) a 6.7.5.12.3 pont szerinti üzembe helyezés előtti vizsgálat eredményeit; és
- c) a 6.7.5.12.1 pont szerinti ütközési próba eredményeit, ha alkalmazható; és
- d) annak tanúsítására szolgáló bizonyítványok és dokumentumok, hogy a palackok és nagypalackok megfelelnek a vonatkozó szabványoknak.

**6.7.5.12** *Vizsgálat*

**6.7.5.12.1** Azokat a MEG-konténereket, amelyek „A Biztonságos Konténerekről szóló 1972. évi Nemzetközi Egyezmény” (CSC) módosított kiadása meghatározása szerint konténernek minősülnek, csak azután szabad használni, hogy a gyártási típus prototípusa sikeresen kiállta a „Vizsgálatok és kritériumok kézikönyv” IV. rész, 41 fejezetében előírt dinamikus, hosszirányú ütközési próbát.

**6.7.5.12.2** Az első üzembe helyezés előtt a MEG-konténer elemeit és szerelvényeit vizsgálatnak kell alávetni (üzembe helyezés előtti vizsgálat) és azután legfeljebb ötéves időközönként (5 évenkénti időszakos vizsgálat) időszakos vizsgálatot kell végezni. Függetlenül az utolsó időszakos vizsgálat időpontjától, soron kívüli vizsgálatot kell végezni, ha a 6.7.5.12.5 pont szerint erre szükség van.

**6.7.5.12.3** A MEG-konténer üzembe helyezés előtti vizsgálatának ki kell terjednie a szerkezeti jellemzők ellenőrzésére, a MEG-konténer és szerelvényeinek külső vizsgálatra, különös tekintettel a szállítandó gázokra és a 4.1.4.1 bekezdés P200 csomagolási utasítása szerinti próbanyomással végzett nyomáspróbára. A gyűjtőcső víznyomás-próbája az illetékes hatóság vagy az általa felhatalmazott szervezet hozzájárulásával más folyadékkal vagy gázzal is végezhető. Mielőtt a MEG-konténert üzembe helyezik, tömörségi próbát is kell végezni és az üzemi szerelvények megfelelő működését is ellenőrizni kell. Amennyiben a nyomáspróbát az elemeken és a szerelvényeken külön végezték, a tömörségi próbát az összeszerelést követően kell végrehajtani.

**6.7.5.12.4** Az 5 évenkénti időszakos vizsgálatnak a szerkezet, az elemek és az üzemi szerelvények 6.7.5.12.6 pont szerinti külső állapotvizsgálatából kell állnia. Az elemeket és a csővezetékeket a P200 csomagolási utasításban előírt időszakonként a 6.2.1.6 bekezdés előírásai szerint kell vizsgálni. Amennyiben a nyomáspróbát az elemeken és a szerelvényeken külön végezték, a tömörségi próbát az összeszerelést követően kell végrehajtani.

**6.7.5.12.5** Soron kívüli vizsgálatot szükséges végezni, ha a MEG-konténer sérült, rozsdás, szivárog vagy bármely más körülmény a MEG-konténer sértetlenségét befolyásolhatja. A soron kívüli vizsgálat mértékét az határozza meg, hogy a MEG-konténer mennyire sérült vagy hibás. A soron kívüli vizsgálatnak azonban legalább a 6.7.5.12.6 pont szerinti vizsgálatokra kell kiterjednie.

**6.7.5.12.6** A vizsgálat során biztosítani kell, hogy:

- a) ellenőrizték az elemeket, hogy nincs rajtuk rozsdá, kipattogzás, kopás, horpadás, torzulás, hegesztési hiba vagy bármi más (pl. szivárgás), ami miatt a MEG-konténer szállítása nem lenne biztonságos;
- b) ellenőrizték a csővezetéket, a szelepeket és a tömítéseket, hogy nincs rajtuk rozsdá, sérülés vagy bármi más (pl. szivárgás), ami miatt a MEG-konténer töltése, ürítése vagy szállítása nem lenne biztonságos;
- c) a csőkarima csatlakozásoknál és vakkarimáknál a hiányzó vagy laza csavarokat vagy csavaranyákat pótolják, ill. meghúzzák;
- d) minden vészlefévő szerkezet és szelep mentes legyen a korróziótól és minden olyan sérüléstől vagy meghibásodástól, ami megakadályozhatja normális működését. A távműködtetésű zárószerkezeteket és az önzáró szelepeket ki kell próbálni, hogy megfelelően működnek-e;
- e) az előírt jelölések a MEG-konténeren olvashatóak, és a vonatkozó követelményeknek megfelelnek; és
- f) a váz- és tartószerkezet, ill. az emelésre szolgáló berendezések megfelelő állapotban legyenek.

**6.7.5.12.7** A 6.7.5.12.1, 6.7.5.12.3, 6.7.5.12.4 és 6.7.5.12.5 pont szerinti vizsgálatokat az illetékes hatóság által felhatalmazott szervezetnek kell elvégeznie vagy hitelesítenie. Ha a nyomáspróba a vizsgálat részét képezi, a vizsgálatot a MEG-konténer adattábláján feltüntetett nyomással kell végezni. A nyomás alatt lévő MEG-konténeren az elemek, a csővezeték és a szerelvények szivárgásmentességét is vizsgálni kell.

**6.7.5.12.8** Amennyiben a biztonságot veszélyeztető körülményeket tapasztalnak, a MEG-konténer addig nem használható újra, amíg meg nem javították és az ismételt vizsgálatot és ellenőrzéseket ki nem állta.

### **6.7.5.13** *Jelölés*

**6.7.5.13.1** Ellenőrzés céljából könnyen elérhető, szembetűnő helyre minden MEG-konténerre nem korrodálódó fémtáblát kell tartósan rögzíteni. Az elemeket a 6.2 fejezet szerint kell jelölni. A fémtáblán legalább a következőkben felsorolt adatokat kell feltüntetni beütéssel vagy más hasonló módon:

Gyártási ország:

U	Jóváhagyó	Jóváhagyási	Alternatív kialakítás esetén (lásd a 6.7.1.2 pontot)
N	ország	szám	„AA”

A gyártó neve vagy jele

A gyártó sorozatszáma

A típusjóváhagyásra felhatalmazott szervezet

A gyártási év

A próbanyomás ..... bar (túlnyomás)

A tervezési hőmérséklet-tartomány ..... °C-tól ..... °C-ig

Az elemek száma

Az elemek összes víztérfogata ..... liter

Az üzembe helyezés előtti nyomáspróba ideje és a felhatalmazott szervezet azonosítója

A legutóbbi időszakos vizsgálat időpontja és típusa

Hónap ..... év .....

A felhatalmazott szervezet bélyegzőlenyomata, amelyik a legutolsó vizsgálatot végezte vagy hitelesítette.

**Megjegyzés:** *A fémtábla nem erősíthető az elemekre.*

#### 6.7.5.13.2

A következő adatokat a MEG-konténerhez biztosan rögzített fémtáblán kell feltüntetni:

Az üzemben tartó neve

A töltet megengedett legnagyobb tömege ..... kg

Üzemi nyomás 15 °C-on ..... bar (túlnyomás)

Megengedett legnagyobb bruttó tömeg ..... kg

Az üres (tára) tömeg ..... kg.

## 6.8 fejezet

### **A fémből gyártott tartánnyal rendelkező tartálykocsik, leszerelhető tartányok, tankkonténerek és tartányos cserefelépítmények, valamint battériás kocsik és többemeles gázkonténerek (MEG-konténerek) gyártására, szerelvényeire, típusjóváhagyására, vizsgálatára és jelölésére vonatkozó követelmények**

*Megjegyzés: A mobil tartányokra és az UN többemeles gázkonténerekre (UN MEG-konténerekre) lásd a 6.7 fejezetet; a szálvázaz műanyag tankkonténerekre lásd a 6.9 fejezetet; a hulladékok szállítására szolgáló, vákuummal üzemelő tartányokra lásd a 6.10 fejezetet.*

#### **6.8.1 Alkalmazási terület**

**6.8.1.1** Az oldal teljes szélességében nyomtatott követelményeket a tartálykocsikra, a leszerelhető tartányokra, a battériás kocsikra, valamint a tankkonténerekre, tartányos cserefelépítményekre és MEG-konténerekre egyaránt alkalmazni kell. Az egyetlen oszlopban nyomtatott előírásokat csak

- a tartálykocsikra, a leszerelhető tartányokra és a battériás kocsikra (bal oldali oszlop);
- a tankkonténerekre, a tartányos cserefelépítményekre és a MEG-konténerekre (jobb oldali oszlop)

kell alkalmazni.

**6.8.1.2** Ezeket a követelményeket a gáz alakú, a folyékony, a porszerű vagy szemcsés anyagok szállításához használt tartálykocsikra, leszerelhető tartányokra és battériás kocsikra tankkonténerekre, tartányos cserefelépítményekre és MEG-konténerekre kell alkalmazni.

**6.8.1.3** A 6.8.2 szakasz tartalmazza az összes osztály anyagainak szállítására szolgáló tartálykocsikra, leszerelhető tartányokra, tankkonténerekre és tartányos cserefelépítményekre, valamint a 2 osztály gázainak szállítására szolgáló battériás kocsikra és MEG-konténerekre vonatkozó követelményeket. A 6.8.3 – 6.8.5 szakasz különleges követelményeket tartalmaz, amelyek kiegészítik vagy módosítják a 6.8.2 szakasz követelményeit.

**6.8.1.4** Az ezen tartányok használatára vonatkozó előírásokra lásd a 4.3 fejezetet.

#### **6.8.2 Az összes osztályra vonatkozó követelmények**

##### **6.8.2.1 Gyártás**

###### *Alapelvek*

**6.8.2.1.1** A tartányt, a tartozékait, az üzemi és szerkezeti szerelvényeit úgy kell kialakítani, hogy a szállított anyag vesztesége nélkül (nem számítva az esetleges szelepeken keresztül kiszabaduló gázmennyiséget) ellenálljon:

- a 6.8.2.1.2 és a 6.8.2.1.13 pontban meghatározott, normális szállítási körülmények között előforduló statikus és dinamikus igénybevételeknek;
- a 6.8.2.1.15 pontban meghatározott legkisebb igénybevételeknek.



- 6.8.2.1.2** A tartálykocsikat úgy kell gyártani, hogy a megengedett legnagyobb töltési tömeg mellett elviseljék a vasúti közlekedésben fellépő igénybevételeket. Ezen igénybevételek tekintetében azokra a próbákra kell támaszkodni, amelyeket az illetékes hatóság előír.
- A tankkonténereknek és rögzítőelemeiknek a megengedett legnagyobb töltési tömeg mellett a következő igénybevételeket kell elviselniük:
- menetirányban a kétszeres összes tömeget;
  - vízszintesen a menetirányra merőlegesen az egyszeres összes tömeget (ha a menetirány egyértelműen nem határozható meg, akkor minden irányban a kétszeres összes tömeget);
  - függőlegesen felfelé az egyszeres összes tömeget;
  - függőlegesen lefelé a kétszeres összes tömeget.
- 6.8.2.1.3** A tartályok falvastagságának legalább a 6.8.2.1.17 és a 6.8.2.1.18 pontban meghatározottnak kell lennie.
- a 6.8.2.1.17 – 6.8.2.1.20
- 6.8.2.1.4** A tartályokat a 6.8.2.6 bekezdésben felsorolt szabványok, ill. az illetékes hatóság által a 6.8.2.7 bekezdés alapján elismert műszaki szabályzat követelményeinek megfelelően kell tervezni és gyártani, amelyek a gyártási anyag megválasztásánál és a tartály falvastagság meghatározásánál számításba veszik a legnagyobb és a legkisebb töltési és üzemi hőmérsékleteket is; a 6.8.2.1.6 – 6.8.2.1.26 pont minimális előírásait azonban be kell tartani.
- 6.8.2.1.5** Bizonyos veszélyes anyagok szállítására használt tartályokat kiegészítő védelemmel kell ellátni. Ez állhat a tartály (nagyobb tervezési nyomásból adódó) nagyobb falvastagságából (ezt az illető veszélyes anyag veszélyességi foka alapján kell meghatározni) vagy valamely védőszerkezetből (lásd a 6.8.4 szakasz különleges előírásait).
- 6.8.2.1.6** A hegesztéseket szakszerűen kell elkészíteni, és azoknak teljes biztonságot kell nyújtaniuk. A hegesztési varratok kivitelezésére és ellenőrzésére a 6.8.2.1.23 pont követelményeit kell betartani.
- 6.8.2.1.7** Intézkedni kell annak érdekében, hogy a tartályok a belső vákuum következtében fellépő deformáció veszélye ellen védve legyenek.
- A 6.8.2.2.6 pontban említett tartályokon kívüli egyéb tartályoknak, amelyekre vákuumszelepet terveztek, olyan külső nyomást kell maradandó alakváltozás nélkül elviselniük, amely a belső nyomást legalább 21 kPa-lal (0,21 bar-ral) meghaladja. A belső nyomást kisebb mértékben, de legalább 5 kPa-lal (0,05 bar-ral) meghaladó külső nyomásra is méretezhetők azok a tartályok, amelyeket kizárólag olyan szilárd (porszerű vagy szemcsés) anyagok szállítására használnak, amelyek a II vagy a III csomagolási csoportba tartoznak és a szállítás alatt nem válnak folyékonnyá. A vákuumszelepeket úgy kell beállítani, hogy akkora (vagy annál kisebb) vákuumnál nyissanak ki, mint amekkorára a tartályt méretezték. Azoknak a tartályoknak, amelyekre nem terveztek vákuumszelepeket, olyan külső nyomást kell maradandó alakváltozás nélkül elviselniük, amely legalább 40 kPa-lal (0,4 bar-ral) meghaladja a belső nyomást.
- A tartályok anyaga*
- 6.8.2.1.8** A tartályokat olyan alkalmas fémből kell készíteni, amely ellenáll a ridegtörésnek és a feszültség alatti korróziós repedezésnek  $-20\text{ }^{\circ}\text{C}$  és  $+50\text{ }^{\circ}\text{C}$  között, hacsak az egyes osztályoknál nincsenek más hőmérséklet-tartományok előírva.



- 6.8.2.1.9** A tartálynak vagy védőburkolatának a tartalommal érintkező részei a tartalommal veszélyes reakcióba lépő (a „veszélyes reakció” fogalmát lásd az 1.2.1 szakaszban) vagy veszélyes vegyületet képező, vagy a tartány anyagát lényegesen gyengítő anyagot nem tartalmazhatnak.

Ha a szállított anyag és a tartány gyártásához felhasznált anyag érintkezése a falvastagság folyamatos csökkenését idézi elő, akkor a falvastagságot a gyártás folyamán megfelelően meg kell növelni. A korrózió miatt ráhagyott falvastagságot a tartány falvastagságának kiszámításakor nem szabad tekintetbe venni.

- 6.8.2.1.10** Hegesztett tartányokhoz csak olyan hibátlanul hegeszthető anyagok használhatók fel, amelyek ütőszilárdsága  $-20\text{ }^{\circ}\text{C}$  környezeti hőmérsékleten – különösen a hegesztési varratokban és a velük szomszédos övezetekben – szavatolható.

Hegesztett acéltartányokhoz vízvezetési acélt nem szabad használni. Finom szemcseszerkezetű acélok használata esetén a szavatolt folyáshatár nem lehet nagyobb, mint  $460\text{ N/mm}^2$ , és a szavatolt szakítószilárdság felső határa nem lehet nagyobb, mint  $725\text{ N/mm}^2$  az anyagspecifikáció szerint.

- 6.8.2.1.11** Hegesztett tartányok gyártásához használt acéloknál  $0,85$ -öt meghaladó  $R_e/R_m$  arány nem megengedett, ahol

$R_e$  = a határozott folyáshatárral rendelkező acéloknál a tényleges folyáshatár, vagy a határozott folyáshatárral nem rendelkező acéloknál a  $0,2\%$ -os (ausztenites acéloknál az  $1\%$ -os) szavatolt, egyezményes folyáshatár; és

$R_m$  = a szakítószilárdság.

A minőségi tanúsítványban szereplő értékeket kell alapul venni az egyes esetekben az  $R_e/R_m$  arány meghatározásához.

- 6.8.2.1.12** Acéloknál a szakadási nyúlás értéke %-ban nem lehet kisebb, mint

$$\frac{10000}{\text{meghatározott szakítószilárdság, N/mm}^2},$$

azonban finom szemcseszerkezetű acéloknál  $16\%$ -nál, más acéloknál  $20\%$ -nál semmi esetre sem lehet kisebb.

Alumíniumötvözetek szakadási nyúlása  $12\%$ -nál kisebb nem lehet.<sup>1)</sup>

*A tartány falvastagságának méretezése*

- 6.8.2.1.13** A tartány falvastagságának méretezésekor a mértékadó nyomás nem lehet kisebb, mint a tervezési nyomás, de figyelembe kell venni a 6.8.2.1.1 pontban említett igénybevételeket és – szükség esetén – a következő igénybevételeket is:

Az olyan kocsiknál, ahol a tartány a kocsi önhordó részét képezi, a tartányt úgy kell méretezni, hogy az egyébként fellépő hatásokon kívül az ebből eredő igénybevételeket is kiállja.

Az igénybevételeknél a következő biztonsági tényezőket kell figyelembe venni:

– határozott folyáshatárral rendelkező fémeknél: a tényleges folyáshatárra vonatkozóan  $1,5$ -es biztonsági tényezőt; vagy

1) Fémlemez esetén a szakítópróbahez használt próbatest tengelyének a hengerlési irányra merőlegesnek kell lennie. A szakadási nyúlást olyan kör keresztmetszetű próbatesten kell mérni, amelyen a két jel közötti  $l$  távolság a  $d$  átmérő ötszöröse ( $l = 5d$ ). Négyzetű keresztmetszetű próbatest esetén a jelek közötti távolságot az  $l = 5,65 \sqrt{F_0}$  képlettel kell kiszámítani, ahol  $F_0$  a próbatest kezdeti keresztmetszetének területe.

- határozott folyáshatárral nem rendelkező fémeknél: a 0,2%-os (vagy ausztenites acélokra az 1%-os) szavatolt, egyezményes folyáshatárra vonatkozóan 1,5-es biztonsági tényezőt.

**6.8.2.1.14** A tervezési nyomás a 3.2 fejezet „A” táblázat 12 oszlopa szerinti tartánykód második részében (lásd a 4.3.4.1 bekezdést) szerepel.

Ha a kódban „G” szerepel, a következő követelményeket kell alkalmazni::

- a) Az 50 °C-on 110 kPa (1,1 bar) (abszolút nyomás) értéket meg nem haladó gőznyomású anyagok szállítására használt, gravitációs töltésű és ürítésű tartányokat a szállítandó anyag statikus nyomásának kétszeresére, de legalább a víz statikus nyomásának kétszeresére kell méretezni.
- b) Az 50 °C-on 110 kPa (1,1 bar) (abszolút nyomás) értéket meg nem haladó gőznyomású anyagok szállítására használt, nyomás alatt töltendő vagy ürítendő tartányokat a töltési vagy ürítési nyomás 1,3-szeresére kell méretezni.

Ha a legkisebb tervezési nyomás (túlnyomás) számértéke adott, akkor a tartányt erre a nyomásra kell méretezni, ez azonban nem lehet kisebb, mint a töltési vagy ürítési nyomás 1,3-szerese. Ezekben az esetekben a következő minimális követelményeket kell alkalmazni:

- c) Az 50 °C-on 110 kPa (1,1 bar) értéknél nagyobb gőznyomású és 35 °C-nál magasabb forráspontú anyagok szállítására használt tartányokat – függetlenül a töltés vagy az ürítés módjától – a 150 kPa (1,5 bar) túlnyomás, ill. a töltési vagy ürítési nyomás 1,3-szerese közül a nagyobbik nyomásértékre kell méretezni.
- d) A 35 °C-nál nem magasabb forráspontú anyagok szállítására használt tartányokat – függetlenül a töltés vagy az ürítés módjától – a töltési vagy ürítési nyomás 1,3-szeresére, de legalább 0,4 MPa (4 bar) túlnyomásra kell méretezni.

**6.8.2.1.15** A nyomáspróba révén a tartány legjobban igénybe vett helyén keletkező  $\sigma$  feszültség nem haladhatja meg a gyártási anyagtól függően a következőkben előírt határértékeket. A hegesztés miatti gyengülést figyelembe kell venni.

**6.8.2.1.16** Minden fémnél és ötvözetnél a próbanyomás által keltett  $\sigma$  feszültségnek kisebbnek kell lennie, mint a következő képletekkel kapott kisebbik érték:

$$\sigma \leq 0,75 R_e \text{ vagy } \sigma \leq 0,5 R_m,$$

ahol

$R_e$  = a határozott folyáshatárral rendelkező acéloknál a tényleges folyáshatár, vagy a határozott folyáshatárral nem rendelkező acéloknál a 0,2%-os (ausztenites acélok az 1%-os) szavatolt, egyezményes folyáshatár; és

$R_m$  = a szakítószilárdság.

Az  $R_e$  és  $R_m$  értékére az anyagszabványok által meghatározott legkisebb értékeket kell használni. Ha a szóban forgó fémre vagy ötvözetre nincs anyagszabvány, a használt  $R_e$  és  $R_m$  értéket az illetékes hatóságnak vagy e hatóság által kijelölt szervezetnek kell jóváhagynia.

Ausztenites acélok használata esetén az anyagszabványokban előírt legkisebb értékeket legfeljebb 15%-kal meg lehet haladni, ha ezeket a magasabb értékeket a vizsgálati bizonyítvány hitelesíti. A 6.8.2.1.18 pontban megadott képlet alkalmazása esetén azonban a legkisebb értékeket nem lehet meghaladni.

*A tartány legkisebb falvastagsága*

**6.8.2.1.17** A tartányok falvastagságának legalább akkorának kell lennie, mint a következő képletekből adódó nagyobbik érték:

$$e = \frac{P_T D}{2\sigma\lambda}$$

$$e = \frac{P_C D}{2\sigma},$$

ahol

$e$  = a tartány legkisebb falvastagsága mm-ben

$P_T$  = a próbanyomás MPa-ban

$P_C$  = a 6.8.2.1.14 pont szerinti tervezési nyomás MPa-ban

$D$  = a tartány belső átmérője mm-ben

$\sigma$  = a 6.8.2.1.16 pontban meghatározott megengedett feszültség N/mm<sup>2</sup>-ben

$\lambda$  = 1-nél nem nagyobb tényező a hegesztések miatti esetleges gyengülés figyelembe vételéhez, a 6.8.2.1.23 pontban meghatározott ellenőrzési módszer alapján.

A falvastagság semmiképpen sem lehet kisebb

a 6.8.2.1.18

a 6.8.2.1.18 – 6.8.2.1.20

pontban meghatározott értéknél.

**6.8.2.1.18**

A tartány falvastagságának legalább 6 mm-nek kell lennie, ha szerkezeti acélból<sup>2)</sup> van, vagy azzal egyenértékű vastagságúnak, ha más fémből készült. A porszerű vagy szemcsés anyagok szállítására használt tartányok esetén a vastagságot 5 mm-re lehet csökkenteni, ha a tartány szerkezeti acélból<sup>2)</sup>, vagy azzal egyenértékű vastagságúra, ha más fémből készült.

Bármilyen fémeket alkalmaznak is, a tartány legkisebb falvastagsága semmilyen esetben sem lehet 4,5 mm-nél kisebb.

A tartány falvastagságának legalább 5 mm-nek kell lennie, ha szerkezeti acélból<sup>2)</sup> van (a 6.8.2.1.11 és a 6.8.2.1.12 pontnak megfelelően), vagy azzal egyenértékű vastagságúnak, ha más fémből készült.

Ha az átmérő meghaladja az 1,80 m-t<sup>3)</sup>, ezt a vastagságot, a porszerű vagy szemcsés anyagok szállítására használt tartányok esetét kivéve, 6 mm-re kell növelni, ha a tartány szerkezeti acélból<sup>2)</sup>, vagy azzal egyenértékű vastagságúra, ha más fémből készült.

Bármilyen fémeket használnak is, a tartány fala nem lehet 3 mm-nél vékonyabb.

2) A „szerkezeti acél” és a „referencia acél” meghatározására lásd az 1.2.1 szakaszt.

3) A nem kör keresztmetszetű, pl. a koffer alakú vagy ellipszis keresztmetszetű tartányoknál a jelzett átmérőt az azonos keresztmetszeti területű körkeresztmetszetből kell számítani. Az ilyen keresztmetszeteknél a palást görbületi sugara nem haladhatja meg az oldalakon a 2000 mm-t, illetve alul és felül a 3000 mm-t.

Az „egyenértékű vastagság” a következő képlet<sup>4)</sup> szerinti vastagságot jelenti:

$$e_I = \frac{464e_0}{\sqrt[3]{(R_{mI}A_I)^2}}$$

**6.8.2.1.19** (fenntartva)

Ha a tartány a sérülések ellen a 6.8.2.1.20 pont szerinti védelemmel van ellátva, az illetékes hatóság megengedheti a legkisebb falvastagságnak a nyújtott védelem arányában való csökkentését; 1,80 m-nél nem nagyobb átmérőjű<sup>3)</sup> tartányok falvastagsága azonban nem lehet kisebb szerkezeti acél<sup>2)</sup> esetén 3 mm-nél, más fémeknél az ezzel egyenértékű falvastagságnál. Az 1,80 m-nél nagyobb átmérőjű<sup>3)</sup> tartányoknál azonban az előbb említett legkisebb falvastagság nem lehet kisebb szerkezeti acél<sup>2)</sup> esetén 4 mm-nél, más fémeknél az ezzel egyenértékű falvastagságnál.

Az „egyenértékű falvastagság” a 6.8.2.1.18 pontban megadott képlet szerinti vastagságot jelenti.

A 6.8.2.1.20 pont szerinti sérülés elleni védelemmel ellátott tartány falvastagsága nem lehet kisebb a következő táblázatban megadott értékeknél:

	A tartány átmérője	≤1,80 m	>1,80 m
	Rozsdamentes ausztenites acél	2,5 mm	3 mm
A tartány legkisebb falvastagsága	Egyéb acél	3 mm	4 mm
	Alumínium-ötvözet	4 mm	5 mm
	99,80%-os tisztaságú alumínium	6 mm	8 mm

**6.8.2.1.20** (fenntartva)

A 6.8.2.1.19 pont szerinti védelem lehet

- olyan teljes külső védelem, mint a „szendvics”-szerkezet, ahol a külső burkolat a tartányhoz van erősítve, vagy
- olyan kialakítás, ahol a tartányt hossz- és

4) Ez a képlet a következő általános képletből adódik:  $e_I = e_0 \sqrt[3]{\left(\frac{R_{m0}A_0}{R_{mI}A_I}\right)^2}$ , ahol

$e_I$  = a legkisebb tartány falvastagság a választott fémre mm-ben;

$e_0$  = a legkisebb tartány falvastagság szerkezeti acélra mm-ben a 6.8.2.1.18 és a 6.8.2.1.19 pont szerint;

$R_{m0}$  = 370 (szakítószilárdság a referencia acélra, lásd a meghatározást az 1.2.1 szakaszban, N/mm<sup>2</sup>-ben);

$A_0$  = 27 (szakadási nyúlás a referencia acélra %-ban);

$R_{mI}$  = a választott fém legkisebb szakítószilárdsága, N/mm<sup>2</sup>-ben; és

$A_I$  = a választott fém legkisebb szakadási nyúlása %-ban.

keresztirányú szerkezeti elemekből álló váz támasztja alá, vagy

- kettős falú tartány.

Az olyan kettős falú tartányoknál, ahol a két fal között légüres tér van, a külső fémfal és a tartányfal együttes vastagságának meg kell felelnie a 6.8.2.1.18 pontban előírt falvastagságnak, a tartány favastagságának pedig legalább akkorának kell lennie, mint a 6.8.2.1.19 pontban előírt legkisebb falvastagság.

Az olyan kettős falú tartányoknál, ahol a két fal között legalább 50 mm vastag közbenső szilárd réteg van, a külső fal vagy legalább 0,5 mm vastag szerkezeti acél<sup>2)</sup>, vagy legalább 2 mm vastag üvegszál-erősítésű műanyag. Közbenső szilárd réteggént olyan szilárd hab is használható, amelynek ütéselelyelő képessége olyan, mint pl. a kemény poliuretán-habé.

**6.8.2.1.21** (fenntartva)

**6.8.2.1.22** (fenntartva)

#### *Hegesztés és a hegesztések ellenőrzése*

**6.8.2.1.23** A gyártó alkalmasságát a hegesztési munka elvégzésére az illetékes hatóságnak kell elismernie. A hegesztést vizsgázott hegesztőnek olyan hegesztési eljárással kell végeznie, amelynek alkalmasságát (beleértve a szükséges hőkezelést is) vizsgálattal igazolták. Ultrahangos vagy radiográfiás (röntgen-) eljárással végrehajtott roncsolásmentes vizsgálatokkal kell igazolni a hegesztési varratoknak az igénybevételnek megfelelő minőségét.

A tartány falvastagságának a 6.8.2.1.17 pont szerinti méretezéséhez használt  $\lambda$  varratényező (varratjósági fok) értékének függvényében a következő ellenőrzéseket kell elvégezni:

$\lambda = 0,8$ : a hegesztési varratokat mindkét oldalon, amennyire csak lehet, vizuális vizsgálatnak kell alávetni, és szűrőpróbaszerű roncsolásmentes vizsgálatot kell végezni. Minden „T” csatlakozást meg kell vizsgálni úgy, hogy a teljes vizsgált varrathossz nem lehet kisebb, mint az összes hossz- és körvarrat, ill. sugárirányú varrat (a tartányfenekeknél) együttes hosszának 10%-a.

$\lambda = 0,9$ : roncsolásmentes vizsgálatnak kell alávetni teljes hosszúságban az összes hosszirányú varratot, az összes varratcsatlakozási pontot, a körvarratok 25%-át és a nagy átmérőjű szerelvények összeállításához szükséges hegesztéseket. A varratokat, amennyire lehetséges, mindkét oldalon vizuálisan is ellenőrizni kell;

$\lambda = 1,0$ : az összes varratot roncsolásmentes vizsgálatnak kell alávetni, és amennyire lehetséges, mindkét oldalon vizuálisan is ellenőrizni kell. Egyúttal hegesztési próbadarabot kell készíteni.

Ha az illetékes hatóságnak a hegesztési varratok minőségét illetően kételyei vannak, további kiegészítő vizsgálatokat követelhet meg.

#### *Egyéb gyártási követelmények*

**6.8.2.1.24** A védőbevonatot úgy kell elkészíteni, hogy tömör maradjon a normális szállítási körülmények között (lásd a 6.8.2.1.2 pontot) előforduló bármilyen alakváltozás esetén.

**6.8.2.1.25** A hőszigetelést úgy kell elkészíteni, hogy a töltő- és ürítőberendezésekhez, valamint a biztonsági szelepekhez való hozzáférést és működtetésüket ne akadályozza.

**6.8.2.1.26** Ha a legfeljebb 60 °C lobbanáspontú gyúlékony folyékony anyagok szállítására szolgáló tartányok nemfémes védőbevonattal (béléssel) vannak ellátva, a tartányt és a védőbevonatot úgy kell kialakítani, hogy az elektrosztatikus feltöltődés ne okozhasson gyulladásveszélyt.

<p><b>6.8.2.1.27</b> A 60 °C vagy annál alacsonyabb lobbanáspontú folyadékok, a gyúlékony gázok és a II csomagolási csoportba tartozó UN 1361 szén, ill. UN 1361 korom szállítására használt tartálykocsik minden részét az alvázzal vezetőképesen össze kell kötni és villamosan földelhetőnek kell lenniük. Elektrokémiai korróziót okozó fémes csatlakozást nem szabad létesíteni.</p>	<p>A 60 °C vagy annál alacsonyabb lobbanáspontú folyadékok, a gyúlékony gázok és a II csomagolási csoportba tartozó UN 1361 szén, ill. UN 1361 korom szállítására használt tankkonténerek minden részének villamosan földelhetőnek kell lenniük. Elektrokémiai korróziót okozó fémes csatlakozást nem szabad létesíteni.</p>
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**6.8.2.1.28** (fenntartva)

## **6.8.2.2 Szerelvények**

**6.8.2.2.1** Az üzemi és szerkezeti szerelvények és tartozékok gyártásához alkalmas, nemfémes anyagok is használhatók.

A ráhegesztett szerkezeti részeket úgy kell kialakítani, hogy baleseti igénybevétel esetén a tartány felhasadása elkerülhető legyen. Ezen bekezdés követelményei az UIC 573 sz. Döntvény<sup>5)</sup> (Tartálykocsik építésére vonatkozó műszaki feltételek) 1.1.10 pontjának alkalmazása esetén teljesítettnek tekinthetők.

A szerelvényeket úgy kell elhelyezni, hogy a szállítás és a kezelés során leszakadás vagy sérülés veszélye ellen biztosítva legyenek. A szerelvényeknek ugyanolyan biztonságúaknak kell lenniük, mint a tartánynak, és különösen

- összeférhetőnek kell lenniük a szállított anyaggal; és
- meg kell felelniük a 6.8.2.1.1 pont követelményeinek.

A csővezetékét úgy kell tervezni, gyártani és felszerelni, hogy ne jöjjön létre sérülésveszély a hőtágulás és összehúzódás, a mechanikai ütések és rezgések következtében.

Az üzemi szerelvények tömítettségét még akkor is biztosítani kell, ha a tartálykocsi vagy a tankkonténer felborul.

A tömítések anyagának a szállított anyaggal összeférhetőnek kell lennie, és ha hatékonyságuk csökkent, pl. öregedés miatt, azonnal ki kell cserélni.

A tartányok rendes használata folyamán kezelést igénylő szerelvények szivárgásmentességét biztosító tömítéseket úgy kell megtervezni és felszerelni, hogy a szerelvények kezelésekor ne sérüljenek meg.

**6.8.2.2.2** Azokon a tartányokon, amelyekre a 3.2 fejezet „A” táblázat 12 oszlopában feltüntetett tartánykód (lásd a 4.3.4.1.1 pontot) harmadik részében „A” betű szerepel, az alsó töltő-, ill. ürítőnyílást legalább két, egymás mögött elhelyezett, egymástól független zárószerkezettel kell ellátni, amely a következőkből áll:

- egy kovácsolható fémes anyagból készült, külső zárószelepből és ürítőcsőből;

5) Az UIC Döntvény 2008. október 1-től érvényes 7. kiadása.

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- minden cső végén egy zárószerkezetből, ami lehet csavarmentes záródugó, vakkarima vagy más, egyenértékű szerkezet. A zárószerkezetnek annyira tömítettnek kell lennie, hogy az anyagot veszteség nélkül megtartsa. Meg kell hozni a szükséges intézkedéseket, hogy lehetővé váljon az ürítőcsőben a biztonságos nyomásmentesítés mielőtt a zárószerkezetet teljesen eltávolítják.

Azokon a tartányokon, amelyekre a 3.2 fejezet „A” táblázat 12 oszlopában feltüntetett tartánykód (lásd a 4.3.3.1.1, ill. a 4.3.4.1.1 pontot) harmadik részében „B” betű szerepel, az alsó töltő-, ill. ürítőnyílást legalább három, egymás mögött elhelyezett, egymástól független zárószerkezettel kell ellátni, amely a következőkből áll:

- egy belső zárószelepből, azaz a tartány belsejébe vagy egy hegesztett karimába vagy ellenkarimába beépített zárószelepből;
- egy külső zárószelepből vagy más, azzal egyenértékű szerkezetből<sup>6)</sup>, amely minden cső végén el van helyezve; és a tartányhoz a lehető legközelebb van elhelyezve; és
- minden cső végén egy zárószerkezetből, ami lehet csavarmentes záródugó, vakkarima vagy más, egyenértékű szerkezet. A zárószerkezetnek annyira tömítettnek kell lennie, hogy az anyagot veszteség nélkül megtartsa. Meg kell hozni a szükséges intézkedéseket, hogy lehetővé váljon az ürítőcsőben a biztonságos nyomásmentesítés mielőtt a zárószerkezetet teljesen eltávolítják.

Bizonyos kristályosodó vagy nagy viszkozitású anyagok szállítására használt tartányoknál, ill. az ebonit vagy hőre lágyuló bevonatú tartányoknál azonban a belső zárószelep helyett külső zárószelep is alkalmazható, ha megfelelő kiegészítő védelemmel van ellátva.

A belső zárószelepek felülről vagy alulról működtethetőnek kel lennie. Ha lehet, a belső zárószelep nyitott vagy zárt helyzetének a talajszintről ellenőrizhetőnek kell lennie. A belső zárószelep működtető-szerkezetének olyannak kell lennie, hogy a szelep ütközésből vagy gondatlanságból bekövetkező, nem kívánt kinyílását megakadályozza.

A külső működtető-szerkezet megsérülése esetén a belső zárószerkezetnek továbbra is hatásosnak kell maradnia.

A külső töltő- vagy ürítőszervevények (csőcsonkok, oldalsó zárószerkezetek) sérüléséből adódó elfolyás elkerülése érdekében a belső zárószelepet és fészket (ülékét) úgy kell kialakítani, hogy a külső erőhatásra történő leszakadás ellen. ellen védve legyen, vagy az ilyen erőhatásnak ellen tudjon állni. A töltő- és ürítőszervevényeket (beleértve a karimákat és a mentes dugókat is), valamint az esetleges védőkupakokat a nem szándékos kinyitás ellen biztosítani kell.

A zárószerkezetek állásának és/vagy zárási irányának világosan láthatónak kell lennie.

Azokon a tartányokon, amelyekre a 3.2 fejezet „A” táblázat 12 oszlopában feltüntetett tartánykód (lásd a 4.3.3.1.1, ill. a 4.3.4.1.1 pontot) harmadik részében „C” vagy „D” betű szerepel, a tartány minden nyílásának a folyadékszint felett kell lennie. Ezen tartányoknál a folyadékszint alatt nem lehetnek csövek és csőcsatlakozások. Az olyan tartányok, amelyek tartánykódjának harmadik részében „C” betű szerepel a tartánytest alsó részén tisztítónyílással (kézi tisztítónyílással) láthatók el. Ezt úgy kell kialakítani, hogy karimával szivárgásmentesen zárható legyen, aminek gyártási típusát az illetékes hatóságnak vagy az általa kijelölt szervezetnek kell jóváhagynia.

6) Az 1 m<sup>3</sup>-nél kisebb befogadóképességű tankkonténereknek a külső zárószelep vagy a vele egyenértékű szerkezet vakkarimával helyettesíthető.



- 6.8.2.2.3** A nem légmentesen zárt tartányokat a nem megengedhető mértékű vákuum elkerülésére vákuumszelepekkel vagy kényszervezérlésű szellőzőszelepekkel lehet ellátni; a szelepeket úgy kell beállítani, hogy akkora (vagy annál kisebb) vákuumnál nyissanak ki, mint amekkorára a tartányt méretezték (lásd a 6.8.2.1.7 pontot). A légmentesen zárt tartányokon nem lehetnek vákuumszelepek vagy kényszervezérlésű, rugóterhelésű szellőzőszelepek.
- Légmentesen zártnak tekintendők azok az SGAH, S4AH, ill. L4BH tartánykódú tartányok is, amelyeken csak 21 kPa (0,21 bar) vagy annál nagyobb vákuum esetén kinyitó vákuumszelepek vannak. Ez az érték 5 kPa-ig (0,05 bar-ig) csökkenthető azoknál a tartányoknál, amelyeket kizárólag olyan szilárd (porszerű vagy szemcsés) anyagok szállítására használnak, amelyek a II vagy a III csomagolási csoportba tartoznak és a szállítás alatt nem válnak folyékonnyá.
- A 3 osztály kritériumainak megfelelő lobbanáspontú anyagok szállítására szolgáló tartányokon használt vákuumszelepeknek és kényszervezérlésű szellőzőszelepeknek meg kell akadályozni a lángnak a tartányba történő közvetlen behatolását, vagy a tartánynak magának alkalmasnak kell lennie arra, hogy szivárgás nélkül ellenálljon a lángnak a tartányba történő behatolása következtében fellépő robbanásnak.
- A kényszervezérlésű szellőzőszeleppel ellátott tartányoknál a kényszervezérlésű szellőzőszelep és a fenékszelep közötti kapcsolatnak olyannak kell lennie, hogy a szelepek a tartány deformálódásánál ne nyíljanak ki, ill. a tartalom a kinyílás ellenére se szabaduljon ki.
- 6.8.2.2.4** Minden tartánynak, illetve minden tartánykamrának a belső vizsgálathoz megfelelő nagyságú vizsgálónyílással kell rendelkeznie.
- Ezeket a nyílásokat olyan zárószerkezettel kell ellátni, amely legalább 0,4 MPa (4 bar) próbanyomásra van kialakítva. A 0,6 MPa-nál (6 bar-nál) nagyobb próbanyomású tartányoknál lehajtható dőmfedél nem engedélyezett.
- 6.8.2.2.5** (fenntartva)
- 6.8.2.2.6** Az 50 °C-on legfeljebb 110 kPa (1,1 bar) (abszolút) gőznyomású folyadékok szállítására használt tartányokat szellőző-berendezéssel és feldőlés esetén tartalmának kiömlése ellen védőszerkezettel kell ellátni, ellenkező esetben a tartánynak a 6.8.2.2.7, ill. a 6.8.2.2.8 pont előírásainak kell megfelelnie.
- 6.8.2.2.7** Az 50 °C-on 110 kPa-nál (1,1 bar-nál) nagyobb gőznyomású és 35 °C-nál magasabb forráspontú folyadékok szállítására használt tartányokat olyan biztonsági szeleppel kell ellátni, amely legalább 150 kPa (1,5 bar) túlnyomásra van beállítva, és amely egy, a próbanyomást meg nem haladó nyomáson már teljesen kinyílik, ellenkező esetben a tartányoknak a 6.8.2.2.8 pont előírásainak kell megfelelniük.
- 6.8.2.2.8** A legfeljebb 35 °C-os forráspontú folyadékok szállítására használt tartányokat olyan biztonsági szeleppel kell ellátni, amely legalább 300 kPa (3 bar) túlnyomásra van beállítva, és amely egy, a próbanyomást meg nem haladó nyomáson már teljesen kinyílik, ellenkező



esetben a tartánynak légmentesen zárva<sup>7)</sup> kell lennie.

**6.8.2.2.9** Ha a 60 °C vagy annál alacsonyabb lobbanáspontú gyúlékony folyadékok vagy gyúlékony gázok szállítására használt tartány alumíniumból készült, akkor semmiféle olyan mozgatható rész, amely az alumínium tartánnyal ütközhet vagy súrlódhat (pl. fedél, zárórész stb.) nem gyártható bevonat nélküli, rozsdásodó acélból.

**6.8.2.2.10** Ha a tartányon, amelyet légmentesen kell zárni, biztonsági szelep van, a szelep elé hasadótárcsát kell szerelni és a következő feltételeket kell betartani:

A hasadótárcsa és a biztonsági szelep kialakításának meg kell felelnie az illetékes hatóság előírásainak. A hasadótárcsa és a biztonsági szelep közti térbe nyomásmérőt vagy más, alkalmas jelzőeszközt kell csatlakoztatni, ami lehetővé teszi, hogy észleljék a hasadótárcsa repedését, kilyukadását vagy szivárgását, ami a nyomáscsökkentő rendszer hibás működését okozhatja.

### **6.8.2.3** *Típusjóváhagyás*

**6.8.2.3.1** Minden új tartálykocsi, leszerelhető tartány, tankkonténer, tartányos cserefelépítmény, battériás kocsi, ill. MEG-konténer típus esetén az illetékes hatóságnak vagy az általa kijelölt szervnek bizonyítványt kell kiállítani annak tanúsítására, hogy az általa megvizsgált gyártási típus, beleértve a rögzítőeszközöket is, a kívánt célra alkalmas, és hogy a 6.8.2.1 bekezdés gyártási követelményeinek, a 6.8.2.2 bekezdés szerelvényekre vonatkozó követelményeinek és a szállított anyag osztályára vonatkozó különleges követelményeknek megfelel.

A bizonyítványban fel kell tüntetni:

- a vizsgálat eredményeit;
- a típus jóváhagyási számát;

A jóváhagyási számnak annak az államnak megkülönböztető jeléből<sup>8)</sup>, amelyben az engedélyt kiadták, és egy nyilvántartási számból kell állnia.

- a 4.3.3.1.1, ill. a 4.3.4.1.1 pont szerinti tartánykódot;
- 6.8.4 szakasz gyártásra, szerelvényekre és típusjóváhagyásra vonatkozó különleges előírásainak TC, TE és TA betűkkel kezdődő kódját, amely a 3.2 fejezet „A” táblázat 13 oszlopában fel van tüntetve azon anyag(ok)ra, amelyekre a tartányt jóváhagyták;
- szükség esetén azokat az anyagokat és/vagy anyagcsoportokat, amelyeknek szállítására a tartányt jóváhagyták. Az anyagokat kémiai elnevezéssel vagy a megfelelő gyűjtőmegnevezéssel (lásd a 2.1.1.2 bekezdést) kell feltüntetni, a besorolásukkal együtt (osztály, osztályozási kód és csomagolási csoport).

A 2 osztály anyagai és a 4.3.4.1.3 pontban felsorolt anyagok kivételével az engedélyezett anyagok felsorolásától el lehet tekinteni. Ilyen esetekben a 4.3.4.1.2 pontban szereplő csoportos hozzárendelés szerint a tartánykódhoz engedélyezett anyagokat lehet szállításra elfogadni, figyelembe véve az esetleges különleges előírásokat is.

A bizonyítványban feltüntetett anyagoknak, ill. a csoportos hozzárendelés alapján engedélyezett anyagcsoportoknak alapvetően összeférhetőnek kell lenniük a tartány jellemzőivel. Ha az összeférhetőség alapos vizsgálatára nem volt lehetőség a típus jóváhagyás kiadásakor, akkor a bizonyítványba ezt a fenntartást kell bejegyezni.

7) A „légmentesen zárt tartány” meghatározására lásd az 1.2.1 szakaszt.

8) A közúti közlekedésről szóló Bécsi Egyezmény (Bécs, 1968) által előírt államjelzés a nemzetközi forgalomban résztvevő gépjárművekre.

Minden egyes legyártott tartány, battériás kocsi, ill. MEG-konténer tartány-vizsgálati könyvéhez (gépkönyvéhez) csatolni kell a bizonyítvány másolatát (lásd a 4.3.2.1.7 pontot).

- 6.8.2.3.2** Ha a tartányokat, battériás kocsikat, ill. MEG-konténereket sorozatban gyártják módosítás nélkül, ez az engedély a sorozatban vagy a gyártási minta alapján utólag gyártott tartányokra, battériás kocsikra, ill. MEG-konténerekre egyaránt érvényes.

A típusjóváhagyás az olyan tartányok jóváhagyásának is tekinthető, amelyeket az eredeti gyártási típushoz képest olyan, kisebb eltérésekkel gyártanak, amelyek által csökken a tartány igénybevétele, ill. csökkennek a feszültségek (pl. kisebb nyomás, kisebb tömeg, kisebb befogadóképesség) vagy nő a szerkezet biztonsága (pl. nagyobb falvastagság, több hullámtörő lemez, kisebb nyílások). Az eltéréseket egyértelműen fel kell tüntetni a típus jóváhagyási bizonyítványban.

#### **6.8.2.4 Vizsgálatok**

- 6.8.2.4.1** Üzembe helyezés előtt a tartányokat és szerelvényeiket együtt vagy külön-külön vizsgálatnak kell alávetni. A vizsgálatnak magában kell foglalnia:

- annak ellenőrzését, hogy a tartány megegyezik-e a jóváhagyott típussal;
- a szerkezeti jellemzők ellenőrzését<sup>9)</sup>;
- a belső és a külső állapot vizsgálatát;
- a folyadéknomás-próbát<sup>10)</sup> a 6.8.2.5.1 pontban előírt táblán feltüntetett próbanyomással végrehajtva; és
- tömörségi próbát és a szerelvények megfelelő működésének ellenőrzését.

A hidraulikus nyomáspróbánál alkalmazott nyomás – a 2 osztály esetét kivéve - a tervezési nyomástól függ, legalább a következő értékeket kell alkalmazni:

<b>Tervezési nyomás (bar)</b>	<b>Próbanyomás (bar)</b>
G <sup>11)</sup>	G <sup>11)</sup>
1,5	1,5
2,65	2,65
4	4
10	4
15	4
21	10 (4 <sup>12)</sup> )

A 2 osztályhoz a legkisebb próbanyomás értéke a 4.3.3.2.5 pontban a gázokra és gázkeverékekre vonatkozó táblázatban található.

A folyadéknomás-próbát a tartány egészén és a kamrákra osztott tartányok minden kamráján külön kell elvégezni.

A folyadéknomás-próbát az esetleg szükséges hőszigetelés felszerelése előtt kell elvégezni.

Ha a tartányt és szerelvényeit külön-külön vizsgálják, a 6.8.2.4.3 pont szerint tömörségi próbának összeszerelve kell alávetni.

9) A szerkezeti jellemzők ellenőrzésekor 1 MPa (10 bar) vagy annál nagyobb próbanyomású tartányok esetén hegesztési mintadarabokat (üzemi mintákat) is kell vizsgálni, a 6.8.2.1.23 pont és a 6.8.5 szakaszban előírt vizsgálatok szerint.

10) Különleges esetekben az illetékes hatóság által elismert szakértő hozzájárulásával a folyadéknomás-próba vízen kívül más folyadékkal vagy gázzal is elvégezhető, amennyiben ez az eljárás nem veszélyes.

11) G = legkisebb tervezési nyomás a 6.8.2.1.14 általános követelményei alapján (lásd a 4.3.4.1 bekezdést).

12) Legkisebb próbanyomás az UN 1744 bróm, ill. UN 1744 bróm oldatok esetén.

A tömörségi próbát a kamrákra osztott tartányok minden kamrájára külön kell elvégezni.

**6.8.2.4.2**

A tartányokat és szerelvényeiket

legalább nyolc évenként

| legalább öt évenként

időszakos vizsgálatnak kell alávetni.

Az időszakos vizsgálatnak magában kell foglalnia:

- a belső és külső állapot vizsgálatát;
- a tartány és a szerelvények együttes tömörségi vizsgálatát a 6.8.2.4.3 pont szerint, valamint az összes szerelvény megfelelő működésének ellenőrzését;
- általában folyadéknomás-próbát<sup>10)</sup> (a tartányok és az esetleges tartánykamrák próba-nyomására lásd a 6.8.2.4.1 pontot).

A hő- vagy egyéb szigetelőborításokat csak annyira kell eltávolítani, amennyire a tartány jellemzőinek biztonságos megítéléséhez feltétlenül szükséges.

Porszerű és szemcsés anyagok szállítására használt tartányoknál az illetékes hatóság által elismert szakértő egyetértésével az időszakos folyadéknomás-próba elhagyható és a 6.8.2.4.3 pont szerinti, legalább a legnagyobb üzemi nyomásnak megfelelő belső nyomással végrehajtott tömörségi próbával helyettesíthető.

**6.8.2.4.3**

A tartányokat és szerelvényeiket az üzembe helyezés előtti és minden időszakos vizsgálatot követően

legalább négy évenként

| legalább két és fél évenként

közbenső vizsgálatnak kell alávetni. A közbenső vizsgálat három hónappal a megadott időpont előtt, ill. után is elvégezhető.

Mindazonáltal a közbenső vizsgálat a megadott időpont előtt bármikor végezhető. Ha a közbenső vizsgálatot a megadott időpont előtt több mint három hónappal végzik, ezen időpont után

legkésőbb négy évvel

| legkésőbb két és fél évvel

egy további közbenső vizsgálatot kell végezni.

A közbenső vizsgálatnak a tartány és a szerelvények együttes tömörségi vizsgálatát, valamint az összes szerelvény megfelelő működésének ellenőrzését kell tartalmaznia. Ebből a célból a tartányt olyan tényleges belső nyomásnak kell alávetni, amely a legnagyobb üzemi nyomással egyenlő. Folyadékok, ill. porszerű vagy szemcsés szilárd anyagok szállítására szolgáló tartánynál, ha a tömörségi próbához gázt használnak, a próbát olyan nyomással kell végrehajtani, ami legalább a legnagyobb üzemi nyomás 25%-ával egyenlő. A próbanyomás azonban semmilyen esetben sem lehet 20 kPa (0,2 bar) túlnyomásnál kisebb.

Szellőző-szerkezettel és a tartány felborulása esetén a tartalom kifolyását megakadályozó szerkezettel felszerelt tartányok esetén a tömörségi próba során alkalmazott nyomásnak a betöltött anyag statikus nyomásával kell megegyeznie.

A tömörségi vizsgálatot a kamrákra osztott tartányok minden kamrájára külön el kell végezni.

**6.8.2.4.4**

Ha a tartánynak vagy szerelvényeinek a biztonságát javítás, átalakítás vagy baleset kétségesse teszi, soron kívüli vizsgálatnak kell alávetni. Ha a soron kívüli vizsgálatot a 6.8.2.4.2 pont követelményei szerint végzik, akkor a soron kívüli vizsgálat időszakos vizsgálatnak tekinthető. Ha a soron kívüli vizsgálatot a 6.8.2.4.3 pont követelményei szerint végzik, akkor a soron kívüli vizsgálat közbenső vizsgálatnak tekinthető.

**6.8.2.4.5** A 6.8.2.4.1 – 6.8.2.4.4 pont szerinti próbákat, ellenőrzéseket és vizsgálatokat az illetékes hatóság által elismert szakértőnek kell végeznie. E műveletek eredményéről tanúsítványt kell kiadnia, még akkor is, ha a vizsgálat negatív eredménnyel járt.. A tanúsítványban – a 6.8.2.3 bekezdéssel összhangban – hivatkozni kell azon anyagok felsorolására, amelyek szállítására a tartányt jóváhagyták vagy a tartánykódra és a különleges előírások betűkből és számokból álló kódjára.

Minden egyes megvizsgált tartány, battériás kocsi, ill. MEG-konténer tartány-vizsgálati könyvéhez (gépkönyvéhez) csatolni kell a tanúsítvány másolatát (ld. a 4.3.2.1.7 pontot).

*A tartálykocsik tartányának vizsgálatát és ellenőrzését végző szakértő*

(fenntartva)

**6.8.2.4.6** A 6.8.2.4.5 pont alkalmazásában az tekinthető szakértőnek, akit az illetékes hatóság szakértőnek elismer és a következő követelményeknek megfelel. Ez a kölcsönös elismerés azonban nem vonatkozik azokra a tevékenységekre, amelyek a gyártási típusjóváhagyás módosításával kapcsolatosak.

1. A szakértőnek az érdekelt felektől függetlennek kell lennie. Nem lehet a vizsgálandó tartálykocsi tartányának tervezője, gyártója, szállítója, megrendelője, tulajdonosa, üzemeltetője, használója, sem pedig a felek meghatalmazott képviselője.

2. A szakértő nem végezhet olyan tevékenységet, amely befolyásolhatja a vizsgálattal kapcsolatos ítéletalkotása függetlenségét és megvesztegethetetlenségét. Különösen függetlennek kell lennie az olyan üzleti, pénzügyi és egyéb hatásoktól, amelyek ítéletalkotását befolyásolhatják, főleg a szervezeten kívüli azon személyek és vállalkozások hatásától, akik vagy amelyek az elvégzett vizsgálatok eredményében érdekeltek. Biztosítani kell a vizsgáló személyzet tárgyilagosságát.

3. A szakértő rendelkezésére kell állnia a vizsgálat, ill. az ellenőrzés műszaki és adminisztratív feladatainak szakszerű elvégzéséhez szükséges felszerelésnek. A különleges vizsgálatok elvégzéséhez szükséges eszközöknek is a rendelkezésére kell állniuk.

4. A szakértőnek megfelelő szakképzettséggel, alapos műszaki és szakmai képzettséggel, az elvégzendő vizsgálatokra vonatkozó előírások kielégítő ismeretével, és e téren megfelelő gyakorlati tapasztalattal kell rendelkeznie. A biztonság magas szintjének szavatolására a szakértőnek a tartálykocsi

tartányának biztonsága terén kellő szakismerettel kell rendelkeznie. Képessnek kell lennie a vizsgálatok megtörténtének igazolásához szükséges bizonyítványok, jelentések és jegyzőkönyvek elkészítésére.

5. A szakértőnek kellően ismernie kell a vizsgálandó tartányok és tartozékaik gyártástechnológiáját, a vizsgálatra bocsátott berendezések használatát, ill. tervezett használatát, valamint azokat a meghibásodásokat, amelyek használat, ill. üzemeltetés során előfordulhatnak.

6. A szakértőnek a legnagyobb szakmai megbízhatósággal és műszaki hozzáértéssel kell végeznie a vizsgálatokat és ellenőrzéseket. A szakértő köteles a vizsgálati tevékenysége során szerzett értesüléseit bizalmasan kezelni. A tulajdonjogot védeni kell.

7. A vizsgálatot végző szakértő javadalmazása nem függhet közvetlenül az elvégzett vizsgálatok számától és semmiképpen sem a vizsgálatok eredményétől.

8. A szakértőnek megfelelő felelősségbiztosítással kell rendelkeznie, kivéve, ha a belföldi jogszabályok alapján az állam vagy a szakértőt alkalmazó vállalkozás vállalja a felelősséget.

Ezek a követelmények teljesítettnek tekinthetők:

- az 1999/36/EK Irányelv<sup>13)</sup> szerinti „bejelentett szervezet” személyzetére;
- az EN ISO/IEC 17020:2004 „Ellenőrzést végző különféle típusú testületek működésének általános kritériumai” szabvány szerinti akkreditálási eljárás alapján elismert személyekre.

A Tagállamoknak közölniük kell az OTIF Titkárságával az egyes vizsgálatokra elismert szakértők nevét, valamint a gumibélyegzőjük és az acél beütőbélyegzőjük lenyomatát. Az OTIF Titkársága nyilvánosságra hozza az elismert szakértők jegyzékét és gondoskodik a jegyzék naprakészen tartásáról.

Harmonizált vizsgálati eljárások bevezetése és továbbfejlesztése, valamint a

13) A Tanács 1999/36/EK irányelve a szállítható nyomástartó berendezésekről. Magyarországon lásd a 39/2004.(IV.7.)GKM rendelettel módosított 8/2003.(II.19)GKM rendeletet.

vizsgálatok egységes színvonalának biztosítása érdekében az OTIF Titkársága évente legalább egyszer tapasztalatcserét szervez.

#### 6.8.2.5 Jelölés

**6.8.2.5.1** Ellenőrzés céljából könnyen elérhető helyre minden tartányra nem korrodálódó fémtáblát kell tartósan rögzíteni. A fémtáblán legalább a következőkben felsorolt adatokat kell feltüntetni beütéssel vagy más hasonló módon. Az adatokat közvetlenül a tartány falába is be lehet vésni, ha a falak úgy meg vannak erősítve, hogy a bevésés a tartány szilárdságát nem csökkenti:

- a jóváhagyás száma;
- a gyártó megnevezése vagy jele;
- a gyártási sorozat száma;
- a gyártás éve;
- a próbanyomás (túlnyomás)<sup>14)</sup>;
- a külső tervezési nyomás<sup>14)</sup> (lásd a 6.8.2.1.7 pontot)
- az űrtartalom<sup>14)</sup> – több kamrára osztott tartányok esetén mindegyik kamra űrtartalma<sup>14)</sup> –;
- ami után az „S” szimbólumot kell feltüntetni, ha a tartány, ill. a tartánykamra hullámtörő lemezekkel legfeljebb 7500 liter űrtartalmú rekeszekre osztva;
- a tervezési hőmérséklet<sup>14)</sup> (csak akkor, ha nagyobb, mint +50 °C vagy kisebb, mint –20 °C);
- a legutóbbi vizsgálat időpontja és fajtája: „hónap, év”, ami után a 6.8.2.4.1 pont szerint végrehajtott első, üzembe helyezés előtti vizsgálat, ill. a 6.8.2.4.2 pont szerinti időszakos vizsgálat esetén „P” betűt kell feltüntetni; a 6.8.2.4.3 pont szerint végrehajtott tömörségi vizsgálat esetén a „hónap, év” után „L” betűt kell feltüntetni;
- a vizsgálatokat végző szakértő bélyegzőlenyomata;
- a tartány anyaga az esetleges anyagszabványok megjelölésével, és – ha van – a védőborítás (bélés) anyaga;

A nyomás alatt töltött vagy űrített tartányoknál az engedélyezett legnagyobb üzemi nyomást<sup>14)</sup> is fel kell tüntetni.

**6.8.2.5.2** A következő adatokat a tartálykocsi mindkét oldalán magán a tartányon vagy egy táblán kell feltüntetni:

- az üzemben tartó neve;
- az űrtartalom<sup>14)</sup>;
- a tartálykocsi saját tömege<sup>14)</sup>
- a terhelési határok a vasúti kocsi, valamint az érintett vonalosztály alapján;
- a 4.3.4.1.3 pont szerinti anyagok esetében a szállításra engedélyezett anyag(ok) helyes szállítási megnevezése;

A következő adatokat magán a tank-konténeren vagy egy táblán kell feltüntetni:

- a tulajdonos vagy üzemben tartó neve;
- a tartány űrtartalma<sup>14)</sup>;
- saját tömeg<sup>14)</sup>;
- a megengedett legnagyobb rakott tömeg<sup>14)</sup>;
- a 4.3.4.1.3 pont szerinti anyagok esetében a szállításra engedélyezett anyag(ok) helyes szállítási megnevezése;
- a 4.3.4.1.1 pont szerinti tartánykód;

14) A mértékegységet a szám után fel kell tüntetni.

- a 4.3.4.1.1 pont szerinti tartánykód;
- a nem a 4.3.4.1.3 pont szerinti anyagok esetében minden különleges előírás TC és TE betűkkel kezdődő kódja, amely a tartányban szállítandó anyag(ok)ra a 3.2 fejezet „A” táblázat 13 oszlopában fel van tüntetve.
- a 6.8.2.4.2 és a 6.8.2.4.3 pont szerinti, ill. a szállításra engedélyezett anyagokra a 6.8.4 szakaszban található TT jelű különleges előírás szerinti következő vizsgálat időpontja (hónap, év). Ha a következő vizsgálat a 6.8.2.4.3 pont szerinti vizsgálat, a dátum után „L” betűt kell feltüntetni.
- a nem a 4.3.4.1.3 pont szerinti anyagok esetében minden különleges előírás TC és TE betűkkel kezdődő kódja, amely a tartányban szállítandó anyag(ok)ra a 3.2 fejezet „A” táblázat 13 oszlopában fel van tüntetve.

**6.8.2.6****A szabvány szerint tervezett, gyártott és vizsgált tartányokra vonatkozó követelmények**

**Megjegyzés:** A szabványokban megnevezett, a RID értelmében felelős személyeknek vagy szervezeteknek be kell tartaniuk a RID előírásait.

A következő táblázatban felsorolt szabványokat a tartány gyártási idejétől függően a kell alkalmazni a 6.8 fejezetnek a táblázat (1) oszlopában hivatkozott követelményeinek kielégítésére. A szabványokat a (4) oszlop szerinti esetekben kell, ill. az (5) oszlop szerinti esetekben lehet alkalmazni. A 6.8 fejezetnek a táblázat (1) oszlopában hivatkozott követelményei azonban minden esetben elsőbbséget élveznek.

Ha ugyanarra a követelményre több szabvány van kötelezően alkalmazandónak feltüntetve, akkor csak az egyiket kell alkalmazni, de azt teljes egészében, kivéve, ha a következő táblázatban másként van megadva.

A vonatkozó bekezdés, ill. pont	Hivatkozás	A dokumentum címe	Kötelező alkalmazni, ha a tartány gyártási ideje:	Alkalmazható, ha a tartány gyártási ideje:
(1)	(2)	(3)	(4)	(5)
<b>Minden tartányra</b>				
6.8.2.1	EN 14025:2003 + AC:2005	Veszélyes anyagok szállítótartályai. Fém nyomástartó tartályok. Tervezés és gyártás		2005. jan. 1. és 2009. jún. 30. között
6.8.2.1	EN 14025:2008	Veszélyes anyagok szállítótartályai. Fém nyomástartó tartályok. Tervezés és gyártás	2009. júl. 1-től	2009. júl. 1. előtt
6.8.2.2.1	EN 14432:2006	Veszélyes anyagok szállítótartályai. Folyékony vegyszerek szállítótartályainak szerelvényei. Termékürítő és levegőbeömlő szelepek	2011. jan. 1-től	2011. jan. 1. előtt
6.8.2.2.1	EN 14433: 2006	Veszélyes anyagok szállítótartályai. Folyékony vegyszerek szállítótartályainak szerelvényei. Fenékszelepek	2011. jan. 1-től	2011. jan. 1. előtt
<b>Vizsgálatokra</b>				
6.8.2.4	EN 12972: 2001	Szállítótartályok veszélyes anyagok szállítására. A fém szállítótartályok vizsgálata, ellenőrzése és megjelölése	2009. jan. 1. és 2010. dec. 31. között*	2003. jan. 1. és 2008. dec. 31. között
6.8.3.4	(a D és az E Melléklet kivételével)			
* Kivéve, ha ugyanarra a célra másik szabvány alkalmazása engedélyezett az (5) oszlopban az ugyanakkor gyártott nyomástartó tartályokra.				



A vonatkozó bekezdés, ill. pont	Hivatkozás	A dokumentum címe	Kötelező alkalmazni, ha a tartány gyártási ideje:	Alkalmazható, ha a tartány gyártási ideje:
(1)	(2)	(3)	(4)	(5)
6.8.2.4 6.8.3.4	EN 12972: 2007	Szállítótartályok veszélyes anyagok szállítására. A fém szállítótartályok vizsgálata, ellenőrzése és megjelölése	2011. jan. 1-től	2011. jan. 1. előtt
<b>Legfeljebb 50 kPa legnagyobb üzemi nyomású tartányokra olyan anyagok szállításához, amelyeknél a 3.2 fejezet „A” táblázat 12 oszlopában „G” betűt tartalmazó tartánykód található</b>				
6.8.2.1	EN 13094:2004	Veszélyes anyagok szállítótartályai. Fém tartályok legfeljebb 0,5 bar üzemi nyomásra. Kialakítás és konstrukció		2005. jan. 1. és 2009. dec. 31. között
6.8.2.1	EN 13094:2008	Veszélyes anyagok szállítótartályai. Fém tartályok legfeljebb 0,5 bar üzemi nyomásra. Kialakítás és konstrukció	2010. jan. 1-től	2010. jan. 1. előtt
<b>Mérgező vagy maró járulékos veszéllyel nem rendelkező, 50 °C-on legfeljebb 110 kPa gőznyomású folyékony hőolaj termékek és egyéb, 3 osztályba tartozó anyagok, ill. benzín szállítására szolgáló tartányokra</b>				
6.8.2.1	EN 13094:2004	Veszélyes anyagok szállítótartályai. Fém tartályok legfeljebb 0,5 bar üzemi nyomásra. Kialakítás és konstrukció		2005. jan. 1. és 2009. dec. 31. között
6.8.2.1	EN 13094:2008	Veszélyes anyagok szállítótartályai. Fém tartályok legfeljebb 0,5 bar üzemi nyomásra. Kialakítás és konstrukció	2010. jan. 1-től	2010. jan. 1. előtt

#### 6.8.2.7 A nem szabvány szerint tervezett, gyártott és vizsgált tartányokra vonatkozó követelmények

Az illetékes hatóság elismerhet olyan, azonos biztonsági szintet eredményező műszaki szabályzatot, amelynek célja a tudományos és műszaki haladás követése, vagy amely olyan szakterületre vonatkozik, amelyre a 6.8.2.6 bekezdésben nem szerepel szabvány, ill. olyan részterületet érint, amellyel a 6.8.2.6 bekezdés szereplő szabványok nem foglalkoznak. A tartánynak azonban a 6.8.2 szakasz minimális követelményeinek meg kell felelnie.

Az elismert szabályzatok jegyzékét az illetékes hatóságnak meg kell küldenie az OTIF Titkárságának. A jegyzéknek tartalmaznia kell szabályzat(ok) címét, dátumát, tárgyát és elérhetőségének részleteit. A Titkárság a jegyzékeket a honlapján nyilvánosságra hozza.

A vizsgálatokra és a jelölésekre a 6.8.2.6 bekezdésben felsorolt, megfelelő szabványok is alkalmazhatók.

#### 6.8.3 A 2 osztályra vonatkozó különleges előírások

##### 6.8.3.1 A tartányok gyártása

**6.8.3.1.1** A sűrített, a cseppfolyósított, ill. az oldott gázok szállítására használt tartányokat acélból kell készíteni. Hegesztés nélküli tartány esetén a 6.8.2.1.12 pontban előírtaktól eltérően 14%-os legkisebb szakadási nyúlás és az anyagtól függő, a következőkben megadott értékhatárokkal egyenlő vagy ezeknél kisebb  $\sigma$  feszültség elfogadható:

- a) ha hőkezelés után a minimálisan szavatolt jellemzők  $R_e/R_m$  aránya 0,66-nál nagyobb, de nem haladja meg a 0,85-öt:

$$\sigma \leq 0,75 R_e;$$

- b) ha hőkezelés után a minimálisan szavatolt jellemzők  $R_e/R_m$  aránya nagyobb, mint 0,85:

$$\sigma \leq 0,5 R_m.$$



**6.8.3.1.2** A hegesztett tartányok gyártási anyagára és gyártására a 6.8.5 szakasz előírásait kell alkalmazni.

**6.8.3.1.3** A kettős falú tartányoknál a 6.8.2.1.18 (fenntartva)

ponttól eltérően a belső tartányfal falvastagsága lehet 3 mm, ha  $R_m = 490$  N/mm<sup>2</sup> legkisebb szakítószilárdságú és  $A = 30\%$  szakadási nyúlású, hidegen húzott acélból készült.

Más anyag használata esetén az egyenértékű falvastagságot kell betartani, amit  $R_{m0} = 490$  N/mm<sup>2</sup> és  $A_0 = 30\%$  érték alkalmazásával, a 6.8.2.1.18 ponthoz fűzött 4) lábjegyzet szerint kell kiszámítani.

Ebben az esetben a külső falvastagságnak 6 mm-nek kell lennie, szerkezeti acélra vonatkoztatva. Más anyag használatakor az egyenértékű falvastagságot be kell tartani, amit a 6.8.2.1.18 pontban található képlet szerint kell kiszámítani.

*A battériás kocsik és a MEG-konténerek gyártása*

**6.8.3.1.4** A battériás kocsi vagy MEG-konténer elemeit képező palackokat, nagypalackokat, gázhordókat és palackkötegeket a 6.2 fejezet szerint kell gyártani.

**Megjegyzés:** 1. Azokra a palackkötegekre, amelyek nem battériás kocsi vagy MEG-konténer elemei, a 6.2 fejezet követelményei vonatkoznak.

2. A battériás kocsi vagy MEG-konténer elemeit képező tartányokat a 6.8.2.1 és a 6.8.3.1 bekezdés szerint kell gyártani.

3. A leszerelhető tartányok<sup>15)</sup> nem tekinthetők battériás kocsi vagy MEG-konténer elemeinek.

**6.8.3.1.5** Az elemeknek és rögzítésüknek alkalmasnak kell lenniük a megengedett legnagyobb rakomány mellett a 6.8.2.1.2 pontban meghatározott erők felvételére. Bármelyik erő hatására a feszültség az elem és rögzítésének leginkább igénybevett részén nem lehet nagyobb a 6.2.5.3 bekezdésben meghatározott  $\sigma$  értéknél palackok, nagypalackok, gázhordók és palackkötegek esetén, illetve a 6.8.2.1.16 pontban meghatározott  $\sigma$  értéknél tartányok esetében.

*Egyéb előírások a tartálykocsik és a battériás kocsik gyártására*

**6.8.3.1.6** A tartálykocsikat és a battériás kocsikat (fenntartva)

legalább 70 kJ energia elnyelő képességű ütközőkkel kell ellátni. Ez az előírás nem vonatkozik azokra a tartálykocsikra és battériás kocsikra, amelyek a 6.8.4 szakasz TE22 különleges előírása meghatározásának megfelelő energia elnyelő elemekkel vannak ellátva.

## **6.8.3.2 Szerelvények**

**6.8.3.2.1** A tartányok kifolyócsöveinek vakkarimával vagy azzal egyenértékű megbízhatóságú szerkezettel elzárhatóknak kell lenniük. A mélyhűtött, cseppfolyósított gázok szállítására

15) A „leszerelhető tartány” meghatározására lásd az 1.2.1 szakaszt.

használt tartányoknál ezeket a vakkarimákat vagy az azzal egyenértékű szerkezeteket el lehet látni legfeljebb 1,5 mm átmérőjű nyomáscsökkentő furatokkal.

**6.8.3.2.2** A cseppfolyósított gázok szállítására használt tartányokat a 6.8.2.2.2 és a 6.8.2.2.4 pontban előírt nyílásokon kívül el lehet látni folyadékszint-mutató, hőmérő vagy nyomásmérő behelyezésére alkalmas nyílásokkal, valamint légtelenítőnyílással, ha az üzemeltetéshez, ill. a biztonság érdekében szükségesek.

**6.8.3.2.3** A gyúlékony és/vagy mérgező cseppfolyósított gázok szállítására használt  
| 1 m<sup>3</sup>-nél nagyobb befogadóképességű  
tartányok minden töltő- és ürítőnyílását el kell látni olyan, azonnal záródó belső biztonsági szerkezettel, amely a tartány véletlen elmozdulása vagy tűz esetén önműködően lezár. A zárószerkezetnek távolról is működtethetőnek kell lennie.  
A szerkezet, amely a belső zárószerkezetet  
nyitva tartja, pl. sínhorog, nem képezi a kocsi  
tartozékát.

**6.8.3.2.4** A gyúlékony és/vagy mérgező cseppfolyósított gázok szállítására használt tartányok minden 1,5 mm-nél nagyobb névleges átmérőjű nyílását – kivéve a biztonsági szelepek nyílásait és a zárt légtelenítő nyílásokat – fel kell szerelni belső zárószerkezettel.

**6.8.3.2.5** A 6.8.2.2.2, a 6.8.3.2.3 és a 6.8.3.2.4 pont előírásaitól eltérően a mélyhűtött, cseppfolyósított gázok szállítására használt tartányoknál a belső zárószerkezet helyett külső zárószerkezet is alkalmazható, ha ez a külső szerkezet legalább a tartány falával egyenértékű védelmet nyújt a külső sérülésekkel szemben.

**6.8.3.2.6** Ha a tartány mérőeszközzel (szintjelzővel) van felszerelve, ennek a szállított anyaggal közvetlenül érintkező része nem lehet áttetsző anyagból. Ha hőmérők vannak, ezek nem nyúlhatnak be közvetlenül a gázba vagy a folyadékba a tartány falán keresztül.

**6.8.3.2.7** A tartány felső részén levő töltő- és ürítőnyílásokat a 6.8.3.2.3 pontban előírtakon kívül fel kell szerelni egy második, külső zárószerkezettel is. Ennek vakkarimával vagy más, egyenértékű biztonságot adó szerkezettel zárhatónak kell lennie.

**6.8.3.2.8** A biztonsági szelepeknek meg kell felelniük a következő 6.8.3.2.9 – 6.8.3.2.12 pont követelményeinek.

**6.8.3.2.9** A sűrített, a cseppfolyósított, ill. az oldott gázok szállítására használt tartányokat el lehet látni rugóterhelésű biztonsági szelepekkel. A biztonsági szelepeknek önműködően kell nyílniuk (lefújniuk) a tartány próbanyomásának 0,9...1,0-szeresénél. Ezeket úgy kell kialakítani, hogy ellenálljanak a dinamikus igénybevételeknek, beleértve a folyadék hullámozását is. Súlyterhelésű (ellensúlyos) szelepek alkalmazása tilos. A biztonsági szelepek szükséges teljesítményét a 6.7.3.8.1.1 pontban található képlettel kell meghatározni.

**6.8.3.2.10** Ha a tartányt tengeri szállításra szánják, a 6.8.3.2.9 pont követelményei nem akadályozhatják az IMDG Kódexnek megfelelő biztonsági szelepek felszerelését.

**6.8.3.2.11** A mélyhűtött, cseppfolyósított gázok szállítására használt tartányokat legalább két, egymástól független biztonsági szeleppel kell ellátni, amelyek a tartányon feltüntetett legnagyobb üzemi nyomáson képesek kinyílni. A biztonsági szelepek közül kettőt úgy kell méretezni, hogy egyenként képesek legyenek a normális üzemelés során a párolgással létrejövő gázokat kiengedni a tartányból oly módon, hogy a nyomás ne emelkedjen 10%-nál nagyobb mértékben a tartányon megjelölt üzemi nyomás fölé.

A biztonsági szelepek közül az egyik olyan hasadótarcsával helyettesíthető, amely a

próbanyomásnál átszakad.

Kettős falú tartánynál a vákuum megszűnése, vagy egyszeres falú tartánynál a szigetelés 20%-ának tönkremenetele esetén a nyomáscsökkentő szerkezetek kombinációjának olyan kiömlési keresztmetszetet kell szabaddá tenni, hogy a tartányban a nyomás ne lépesse túl a próbanyomást. A 6.8.2.1.7 pont előírásait a vákuumszigetelésű tartányokra nem kell alkalmazni.

**6.8.3.2.12** A mélyhűtött, cseppfolyósított gázok szállítására használt tartányok nyomáscsökkentő szerkezeteit úgy kell kialakítani, hogy még a legkisebb üzemi hőmérsékleten is hibátlanul működjenek. Az e hőmérsékleten való hibátlan működést az egyes szerkezetek vizsgálatával vagy gyártási típus vizsgálatával kell megállapítani és igazolni.

**6.8.3.2.13** A leszerelhető elemekre<sup>15)</sup> a következő (fenntartva)  
előírások érvényesek

- a) ha az elemek gördíthetők, a szelepeket védőkupakkal kell ellátni;
- b) az elemeket a kocsi alvázán úgy kell rögzíteni, hogy ne mozdulhassanak el.

#### *Hőszigetelés*

**6.8.3.2.14** Ha a cseppfolyósított gázok szállítására használt tartány hőszigetelt, akkor ennek a szigetelésnek

- vagy napsugárzás elleni fényvédő tetőből kell állnia, amely a tartány felületének legalább a felső harmadát, de legfeljebb a felső felét takarja, és attól legalább 4 cm-es légréteg választja el;
- vagy szigetelőanyagból készült, elegendő vastagságú teljes burkolatból kell állnia.

**6.8.3.2.15** A mélyhűtött, cseppfolyósított gázok szállítására használt tartányokat hőszigeteléssel kell ellátni, amit teljes (folytonos) burkolattal kell védeni. Ha a tartány és a burkolat között légüres tér van (vákuumszigetelés), a védőburkolatot úgy kell méretezni, hogy alakváltozás nélkül legalább 100 kPa (1 bar) külső nyomást (túlnyomást) viseljen el. A „tervezési nyomás” 1.2.1 szakaszban adott meghatározásától eltérően a méretezés során a külső és a belső erősítő elemek figyelembe vehetők. Ha a burkolat gázzáró, külön szerkezettel meg kell akadályozni, hogy a szigetelőrétegben a tartány vagy a szerelvények tömítetlensége esetén veszélyes nyomás lépjen fel. Ezen a szerkezeten keresztül a nedvesség nem szivároghat be a hőszigetelő rétegbe.

**6.8.3.2.16** Az atmoszferikus nyomáson  $-182\text{ °C}$  alatti forráspontú, cseppfolyósított gázok szállítására használt tartányokon sem a hőszigeteléshez, sem a tankkonténer rögzítéséhez, sem a tartány felerősítő elemekhez nem szabad gyúlékony anyagot felhasználni.

A vákuumszigetelt tartányoknál – az illetékes hatóság beleegyezésével – a burkolat és a tartányfal közötti felerősítő elemek tartalmazhatnak műanyagot.

**6.8.3.2.17** A 6.8.2.2.4 pont követelményeitől eltérően a mélyhűtött, cseppfolyósított gázok szállítására használt tartányokat nem kell vizsgálonnyílással ellátni.

#### *Szerelvények battériás kocsikhoz és MEG-konténerekhez*

**6.8.3.2.18** Az üzemi és szerkezeti szerelvényeket úgy kell kialakítani vagy elrendezni, hogy normális szállítási és kezelési körülmények között ne sérülhessenek úgy meg, hogy a nyomástartó tartály tartalma a szabadba jusson. Amennyiben a battériás kocsi, ill. a MEG-konténer keretváza és az elemek közötti kapcsolat lehetővé teszi a szerkezeti részegységek egymáshoz képesti elmozdulását, a szerelvényeket úgy kell rögzíteni, hogy az ilyen elmozdulás a részegységek sérülésének veszélye nélkül lehetővé váljon. A zárószelepekhez vezető gyűjtőcső vezetéknek elegendően hajlékonynak kell lennie, hogy ne következhessen be a

szelep, ill. a csővezeték nyíródása, ill. a nyomástartó tartály tartalma ne szabadulhasson ki. A töltő- és ürítőszerkezeteket (beleértve a karimákat és a menetes dugókat is), valamint az esetleges védőkupakokat a nem szándékos kinyitás ellen biztosítani kell.

**6.8.3.2.19** A sérülésből adódó elfolyás elkerülése érdekében a gyűjtőcső rendszert, az ürítő szerelvényeket (csőcsonkokat, zárószerkezeteket) és a zárószelepeket úgy kell kialakítani, hogy a külső erőhatásra történő leszakadás ellen. védve legyenek, vagy az ilyen erőhatásnak ellen tudjanak állni.

**6.8.3.2.20** A gyűjtőcső rendszert  $-20\text{ }^{\circ}\text{C}\dots+50\text{ }^{\circ}\text{C}$  hőmérséklet tartományban történő üzemelésre kell tervezni.

A gyűjtőcső rendszert úgy kell tervezni, gyártani és felszerelni, hogy ne jöjjön létre sérülésveszély a hőtágulás és összehúzódás, a mechanikai ütések és rezgések következtében. Minden csővezetéknek megfelelő fémes anyagból kell készíteni. Ahol csak lehetséges hegesztett csőkötésekkel kell alkalmazni.

A rézcsövek csatlakozásait keményforrasztással kell készíteni vagy azzal azonos szilárdságú, fémes csőkötetést kell alkalmazni. A forrasztófém (keményforrasztás) olvadáspontja nem lehet  $525\text{ }^{\circ}\text{C}$ -nál alacsonyabb. A kötések nem csökkenthetik a csővezeték szilárdságát, mint az csavarmenetes kötéseknel előfordulhat.

**6.8.3.2.21** Az UN 1001 oldott acetilén kivételével a gyűjtőcső rendszer legnagyobb megengedett  $\sigma$  feszültsége a tartály próbanyomásánál nem haladhatja meg az anyagra szavatolt folyáshatár 75%-át.

A gyűjtőcső rendszer szükséges falvastagságát az UN 1001 oldott acetilén esetében jóváhagyott műszaki szabályzat alapján kell kiszámítani.

**Megjegyzés:** A folyáshatárra lásd a 6.8.2.1.11 pontot.

Ezen bekezdés alapvető követelményei teljesítettnek tekinthetők, ha a következő szabványokat alkalmazzák: (fenntartva).

**6.8.3.2.22** A 6.8.3.2.3, a 6.8.3.2.4 és a 6.8.3.2.7 pont követelményeitől eltérően a battériás jármű, ill. MEG-konténer elemeit képező palackoknál, nagypalackoknál, gázhordóknál és palackkötegeknél az előírt zárószerkezet a gyűjtőcső rendszeren belül is elhelyezhető.

**6.8.3.2.23** Ha az egyik elemen biztonsági szelep van, és az elemek között zárószerkezetek vannak, akkor minden egyes elemet el kell látni ilyen biztonsági szeleppel.

**6.8.3.2.24** A töltésre és ürítésre használt berendezések gyűjtőcsőre rögzíthetők.

**6.8.3.2.25** A mérgező gázok szállítására szolgáló minden elemnek, beleértve a palackkötegek minden egyes palackját, zárószeleppel elválaszthatónak kell lennie.

**6.8.3.2.26** A mérgező gázok szállítására szolgáló battériás járműveken és MEG-konténereken nem lehetnek biztonsági szelepek, kivéve, ha a biztonsági szelep előtt hasadótorcsa van. Ez utóbbi esetben a hasadótorcsa és a biztonsági szelep elrendezésének meg kell felelnie az illetékes hatóság követelményeinek.

**6.8.3.2.27** Ha a battériás járművet, ill. MEG-konténert tengeri szállításra szánják, a 6.8.3.2.26 pont követelményei nem akadályozhatják az IMDG Kódexnek megfelelő biztonsági szelep felszerelését.

**6.8.3.2.28** Azokat a tartályokat, amelyek gyúlékony gázok szállítására használt battériás jármű, ill. MEG-konténer elemei, legfeljebb 5000 liter űrtartalmú csoportokká kell egyesíteni, amelyeknek zárószeleppel elválaszthatónak kell lenniük.

Ha a gyúlékony gázok szállítására használt battériás kocs, ill. MEG-konténer e fejezetnek megfelelő tartányokból áll, minden elemnek zárószeleppel elválaszthatónak kell lennie.

### 6.8.3.3 *Típusjóváhagyás*

Nincs különleges előírás.

### 6.8.3.4 *Vizsgálatok*

**6.8.3.4.1** Minden hegesztett tartány anyagát, kivéve azokat a palackokat, nagypalackokat, gázhordókat és a palackkötegek palackjait, amelyek battériás kocs, ill. MEG-konténer elemei, a 6.8.5 szakaszban előírt módszerrel kell megvizsgálni.

**6.8.3.4.2** A próbanyomásra vonatkozó alapkövetelményeket a 4.3.3.2.1 – 4.3.3.2.4 pont tartalmazza, és a legkisebb próbanyomások a 4.3.3.2.5 pontban a gázok és gázkeverékek táblázatában találhatók.

**6.8.3.4.3** Az első folyadéknomás-próbát a hőszigetelés felhelyezése előtt kell végrehajtani. Ha a tartányt, szerelvényeit, a csővezetékét és az egyéb szerelvényeket külön-külön vizsgálták, akkor a tartányt összeszerelés után kell a tömörségi próbának alávetni.

**6.8.3.4.4** A tömegre töltött sűrített gázok, valamint a cseppfolyósított gázok és az oldott gázok szállítására használt minden egyes tartány ürtartalmát hatóság által elismert szakértő felügyelete mellett a víztöltet tömegének vagy térfogatának mérésével kell megállapítani; az ürtartalom-meghatározás mérési hibája legfeljebb 1% lehet. A tartány méretei alapján számításal való megállapítás tilos. A 4.1.4.1 bekezdés P200 és P203 csomagolási utasításában, valamint a 4.3.3.2.2 és a 4.3.3.2.3 pontban foglaltaknak megfelelő, legnagyobb megengedett töltést hatóság által elismert szakértőnek kell megállapítani.

**6.8.3.4.5** A hegesztési varratokat a 6.8.2.1.23 pontban a  $\lambda = 1,0$  tényezőhöz tartozó előírásoknak megfelelően kell vizsgálni.

**6.8.3.4.6** A 6.8.2.4 bekezdés követelményeitől eltérően a 6.8.2.4.2 pont szerinti időszakos vizsgálatot:

- a) az UN 1008 bór-trifluorid, az UN 1017 klór, az UN 1048 hidrogén-bromid, vízmentes, az UN 1050 hidrogén-klorid, vízmentes, az UN 1053 hidrogén-szulfid és az UN 1079 kén-dioxid szállítására használt tartányoknál

legalább négy évenként

legalább két és fél évenként

kell végrehajtani;

- b) a mélyhűtött, cseppfolyósított gázok szállítására használt tartányoknál legfeljebb nyolc évvel az üzembe helyezés után és azt követően legalább 12 évenként kell végrehajtani.

Minden időszakos vizsgálat után legfeljebb hat évvel a 6.8.2.4.3 pont szerinti közbenső vizsgálatot kell végrehajtani.	Két, egymást követő időszakos vizsgálat között az illetékes hatóság tömörségi próba vagy a 6.8.2.4.3 pont szerinti közbenső vizsgálat megtartását kívánhatja meg.
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Ha a tartányt, szerelvényeit, a csővezetékét és az egyéb szerelvényeket külön-külön vizsgálták, akkor a tartányt összeszerelés után kell a tömörségi próbának alávetni.

**6.8.3.4.7** Vákuumszigeteléssel ellátott tartányoknál a belső állapot ellenőrzését és a folyadéknomás-próbát a hatóságilag elismert szakértő beleegyezésével tömörségi próbával és a vákuum mérésével lehet helyettesíteni.

**6.8.3.4.8** Ha a mélyhűtött, cseppfolyósított gázok szállítására használt tartányokon az időszakos vizsgálat során nyílásokat vágnak, a használatbavétel előtt a tartány használhatóságát (légmentes zárását) biztosító visszahegesztés módját hatóság által elismert szakértőnek kell engedélyezni.

**6.8.3.4.9** A gázok szállítására használt tartányok tömörségi próbáját legalább a következő nyomással kell végezni:

- a sűrített, a cseppfolyósított, ill. az oldott gázoknál a próbanyomás 20%-a;
- a mélyhűtött, cseppfolyósított gázoknál a legnagyobb üzemi nyomás 90%-a.

*Battériás kocsik és MEG-konténerek vizsgálata*

**6.8.3.4.10** A battériás kocsik és MEG-konténerek elemeit és szerelvényeit együtt vagy külön-külön az első üzembe helyezés előtt vizsgálatnak kell alávetni (üzembe helyezés előtti vizsgálat). Ezt követően az olyan battériás kocsikat, ill. MEG-konténereket, amelyek elemei tartályok, legalább ötvenként kell vizsgálatnak alávetni. Az olyan battériás kocsikat, ill. MEG-konténereket, amelyek elemei tartányok, a 6.8.3.4.6 pont szerint kell vizsgálatnak alávetni. Függetlenül az utolsó időszakos vizsgálat időpontjától, soron kívüli vizsgálatot kell végezni, ha a 6.8.3.4.14 pont szerint erre szükség van.

**6.8.3.4.11** Az üzembe helyezés előtti vizsgálatnak magában kell foglalnia:

- annak ellenőrzését, hogy a tartány megfelel-e a jóváhagyott mintapéldánynak;
- a szerkezeti jellemzők ellenőrzését;
- a belső és a külső állapot vizsgálatát;
- a folyadéknomás-próbát<sup>16)</sup> a 6.8.3.5.10 pontban előírt táblán feltüntetett próbanyomással végrehajtva;
- a tömörség vizsgálatát a legnagyobb üzemi nyomáson; és
- a szerelvények megfelelő működésének ellenőrzését.

Ha a nyomáspróbát az egyes elemeken és szerelvényeiken külön-külön végezték, a tömörségi próbát összeszerelt állapotban kell végrehajtani.

**6.8.3.4.12** A palackokat, a nagypalackokat, a gázhordókat és a palackkötegeket alkotó palackokat a 4.1.4.1 bekezdés P200 és P203 csomagolási utasítása szerint kell vizsgálni.

A battériás kocsi, ill. MEG-konténer gyűjtőcső rendszere próbanyomásának ugyanakkorának kell lennie, mint a battériás kocsi, ill. MEG-konténer elemeinek a próbanyomása. A gyűjtőcső rendszer folyadéknomás-próbája vízzel vagy az illetékes hatóság vagy az általa meghatalmazott szervezet hozzájárulásával más folyadékkal vagy gázzal is végezhető. E követelménytől eltérően az UN 1001 oldott acetilén szállítására használt battériás kocsi, ill. MEG-konténer gyűjtőcső rendszer próbanyomásának legalább 30 MPa-nak (300 bar-nak) kell lennie.

**6.8.3.4.13** Az időszakos vizsgálatnak a legnagyobb üzemi nyomással végzett tömörségi próbából és a szerkezet, az elemek és az üzemi szerelvények szétszerelés nélküli külső szemrevételezéséből kell állnia. Az elemeket és a csövezeteket a 4.1.4.1 bekezdés P200 csomagolási utasításában meghatározott időszakonként a 6.2.1.6, ill. a 6.2.3.5 bekezdés követelményei szerint kell vizsgálni. Ha a nyomáspróbát az egyes elemeken és szerelvényeiken külön-külön végezték, a tömörségi próbát összeszerelt állapotban kell végrehajtani.

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16) Különleges esetekben az illetékes hatóság által elismert szakértő hozzájárulásával a folyadéknomás-próba vízen kívül más folyadékkal vagy gázzal is elvégezhető, amennyiben ez az eljárás nem veszélyes.



**6.8.3.4.14** Soron kívüli vizsgálatot szükséges végezni, ha a battériás kocsi, ill. MEG-konténer sérült, rozsdás, szivárog, vagy bármely más körülmény a battériás kocsi, ill. MEG-konténer sértetlenségét befolyásolhatja. A soron kívüli vizsgálatnak, ill. az elemek esetleg szükséges szétszerelésének mértékét az határozza meg, hogy a battériás kocsi, ill. MEG-konténer mennyire sérült vagy hibás. A soron kívüli vizsgálatnak azonban legalább a 6.8.3.4.15 pont szerintiekre kell kiterjednie.

**6.8.3.4.15** A vizsgálat során biztosítani kell, hogy:

- a) külsőleg ellenőrizték az elemeket, hogy nincs rajtuk rozsdás, kipattogzás, kopás, horpadás, torzulás, hegesztési hiba vagy bármi más (pl. szivárgás), ami miatt a battériás kocsi, ill. MEG-konténer szállítása nem lenne biztonságos;
- b) ellenőrizték a csövezeteket, a szelepeket és a tömítéseket, hogy nincs rajtuk rozsdás, sérülés vagy bármi más (pl. szivárgás), ami miatt a battériás kocsi, ill. MEG-konténer töltése, ürítése vagy szállítása nem lenne biztonságos;
- c) a csőkarima csatlakozásoknál és vakkarimáknál a hiányzó vagy laza csavarokat vagy csavaranyákat pótolják, ill. meghúzzák;
- d) minden biztonsági szerkezet és szelep mentes a korróziótól, deformációtól és minden olyan sérüléstől vagy meghibásodástól, ami megakadályozhatja normális működését. A távműködtetésű zárószervezeteket és az önzáró szelepeket ki kell próbálni, hogy megfelelően működnek-e;
- e) az előírt jelölések a battériás kocsin, ill. a MEG-konténeren olvashatóak, és a vonatkozó követelményeknek megfelelnek; és
- f) a battériás kocsi, ill. MEG-konténer váz- és tartószerkezete, ill. emelésre szolgáló berendezései megfelelő állapotban vannak.

**6.8.3.4.16** A 6.8.3.4.10 – 6.8.3.4.15 pont szerinti vizsgálatokat, ellenőrzéseket és próbákat az illetékes hatóság által elismert szakértőnek kell végeznie, és e műveletek eredményéről tanúsítványt kell kiadnia, még akkor is, ha a vizsgálat negatív eredménnyel járt. A tanúsítványban – a 6.8.2.3.1 ponttal összhangban – hivatkozni kell azon anyagok felsorolására, amelyek szállítására a battériás kocsit, ill. a MEG-konténert jóváhagyták.

Minden egyes megvizsgált tartány, battériás kocsi, ill. MEG-konténer tartány-vizsgálati könyvéhez (gépkönyvéhez) csatolni kell a tanúsítvány másolatát (ld. a 4.3.2.1.7 pontot).

**6.8.3.5** *Jelölés*

**6.8.3.5.1** A 6.8.2.5.1 pontban előírt fémtáblán vagy a tartány falán – ha a fal úgy van megerősítve, hogy a tartány szilárdságát nem csökkenti – a következő kiegészítő adatokat kell feltüntetni beütéssel vagy más hasonló módon.

**6.8.3.5.2** Csak egyféle anyag szállítására használt tartányokon:

- a gáz helyes szállítási megnevezését, ezenkívül az m.n.n. tételek alá sorolt gázoknál a műszaki megnevezés<sup>17)</sup>.

Ezt a jelölést ki kell egészíteni:

- térfogatra (nyomásra) töltött, sűrített gázok szállítására használt tartányok esetében a 15 °C-on a tartányra megengedett legnagyobb töltési nyomással; és
- a tömegre töltött, sűrített gázok, valamint a cseppfolyósított, a mélyhűtött, cseppfolyósított és az oldott gázok szállítására használt tartányok esetében a legnagyobb megengedett töltési tömeggel kg-ban és a töltési hőmérséklettel, ha az –20 °C alatt van.

**6.8.3.5.3** Többféle anyag szállítására használható (többcélú) tartányokon:

- a tartányra engedélyezett gázok helyes szállítási megnevezését és ezenkívül az m.n.n. tételek alá tartozó gázok esetében a műszaki megnevezést<sup>17)</sup>.

Ezen kívül minden gázra meg kell adni a legnagyobb megengedett töltési tömeget kg-ban.

**6.8.3.5.4** A mélyhűtött, cseppfolyósított gázok szállításához használt tartányokon:

- a legnagyobb engedélyezett üzemi nyomást.

**6.8.3.5.5** A hőszigeteléssel ellátott tartányokon:

- a „hőszigetelt” vagy „vákuummal hőszigetelt” feliratot.

**6.8.3.5.6** A 6.8.2.5.2 pontban előírt adatokon kívül a következőket kell felírni

a tartálykocsi mindkét oldalára vagy táblára: | magára a tankkonténerre vagy egy táblára:

- a bizonyítvány szerinti (lásd a 6.8.2.3.1 pontot) tartánykódot a tartány tényleges próbanyomásával együtt;
- az „engedélyezett legalacsonyabb töltési hőmérséklet ...” feliratot;
- ha a tartányt csak egyetlen anyag szállítására használják:
  - a gáz helyes szállítási megnevezését, ezenkívül az m.n.n. tételek alá sorolt gázoknál a műszaki megnevezést<sup>17)</sup>;

- a tömegre töltött, sűrített gázok esetében, valamint a cseppfolyósított gázok, a mélyhűtött, cseppfolyósított gázok és az oldott gázok esetében a legnagyobb megengedett töltési tömeget kg-ban;

17) A „helyes szállítási megnevezés”, ill. – adott esetben – az „m.n.n. tétel helyes szállítási megnevezése a műszaki névvel kiegészítve” helyett a következő megnevezések is engedélyezettek:

- az UN 1078 hűtőgáz, m.n.n. esetében: F1 keverék, F2 keverék, F3 keverék;
- az UN 1060 metil-acetilén és propadién keverék, stabilizált esetén: P1 keverék, P2 keverék;
- az UN 1965 szénhidrogén-gáz keverék, cseppfolyósított, m.n.n. esetén: A keverék, A01 keverék, A02 keverék, A0 keverék, A1 keverék, B1 keverék, B2 keverék, B keverék, C keverék. A 2.2.2.3 bekezdésben a 2F osztályozási kód alatt az UN 1965 anyaghoz fűzött 1. megjegyzésben felsorolt kereskedelmi nevek csak kiegészítésként használhatók;
- az UN 1010 butadiének, stabilizált esetén: 1,2-butadién, stabilizált, 1,3-butadién, stabilizált.



- c) ha a tartány többcélú:
- a tartányra engedélyezett gázok helyes szállítási megnevezését és ezenkívül az m.n.n. tételek alá tartozó gázok esetében a műszaki megnevezést<sup>17)</sup>;
  - ezen kívül minden gázra meg kell adni a legnagyobb megengedett töltési tömeget kg-ban;
- d) ha a tartány hőszigetelt:
- a „hőszigetelt” vagy „vákuummal hőszigetelt” feliratot a nyilvántartásba vevő ország egyik hivatalos nyelvén, valamint, ha ez a nyelv nem az angol, a francia, a német vagy az olasz, akkor ezen nyelvek egyikén, kivéve, ha a fuvarozásban érintett országok közötti megállapodások mást írnak elő.

**6.8.3.5.7** A 6.8.2.5.2 pont szerinti terhelési határokat (fenntartva)

- a tömegre töltött, sűrített gázoknál
  - a cseppfolyósított, ill. a mélyhűtött cseppfolyósított gázoknál, és
  - az oldott gázoknál
- a szállított anyagra vonatkozóan a tartány megengedett legnagyobb töltési tömegének figyelembevételével kell meghatározni. Váltakozó felhasználású tartálykocsi esetén ugyanazon a forgatható táblán a terhelési határon kívül az éppen szállított gáz helyes szállítási megnevezését is fel kell tüntetni. A forgatható táblát úgy kell kialakítani, ill. rögzíthetőnek kell lennie, hogy a szállítás közben ne forduljon át és ne lazuljon meg (különösen ütközés vagy véletlen folytán).

**6.8.3.5.8** A 6.8.3.2.13 pont szerinti leszerelhető tartányokat hordozó kocsik kocsitábláin a 6.8.2.5.2 és a 6.8.3.5.6 pont szerinti adatokat nem kell feltüntetni. (fenntartva)

**6.8.3.5.9** (fenntartva)

*A battériás kocsik és MEG-konténerek jelölése*

**6.8.3.5.10** Ellenőrzés céljából könnyen elérhető helyre minden battériás kocsira és MEG-konténerre nem korrodálódó fémtáblát kell tartósan rögzíteni. A táblán beütéssel vagy bármilyen más, hasonló módon legalább a következő adatokat kell feltüntetni:

- a jóváhagyás száma;
- a gyártó megnevezése vagy jele;
- a gyártási sorozat száma;
- a gyártás éve;
- a próbanyomás (túlnyomás)<sup>18)</sup>;
- a tervezési hőmérséklet<sup>17)</sup> (csak akkor, ha nagyobb, mint +50 °C vagy kisebb, mint –20 °C);
- a 6.8.3.4.10 – 6.8.3.4.13 pont szerint végrehajtott első, üzembe helyezés előtti vizsgálat és a legutóbbi időszakos vizsgálat időpontja (hónap, év);
- a vizsgálatokat végző szakértő bélyegzőlenyomata.

18) A mértékegységet a szám után fel kell tüntetni.

- 6.8.3.5.11** A következő adatokat a battériás kocsi mindkét oldalán egy táblán kell feltüntetni:
- az üzemben tartó neve;
  - az elemek száma;
  - az elemek összes űrtartalma<sup>18)</sup>;
  - a terhelési határok a vasúti kocsi, valamint az érintett vonalosztály alapján;
  - a jóváhagyási bizonyítvány szerinti tartánykód (lásd a 6.8.2.3.1 pontot) a battériás kocsi tényleges próbanyomásával<sup>18)</sup> együtt;
  - a battériás kocsiban szállított gáz helyes szállítási megnevezése, ezenkívül az m.n.n. tételek alá sorolt gázok esetében a műszaki megnevezés<sup>19)</sup> is;
  - a 6.8.2.4.3 és a 6.8.3.4.13 pont szerinti következő vizsgálat időpontja (hónap, év).
- A következő adatokat magán a MEG-konténeren vagy egy táblán kell feltüntetni:
- a tulajdonos vagy az üzemben tartó neve;
  - az elemek száma;
  - az elemek összes űrtartalma<sup>18)</sup>;
  - a megengedett legnagyobb rakott tömeg<sup>18)</sup>;
  - a jóváhagyási bizonyítvány szerinti tartánykód (lásd a 6.8.2.3.1 pontot) a MEG-konténer tényleges próbanyomásával<sup>18)</sup> együtt;
  - azon gázok helyes szállítási megnevezése (m.n.n. tétel alá sorolt gázok esetén kiegészítve a műszaki megnevezéssel<sup>19)</sup>), amelyek szállítására a MEG-konténert használják;
- és tömegre töltött MEG-konténereknél:
- a saját tömeg<sup>18)</sup>.
- 6.8.3.5.12** A battériás kocsi, ill. a MEG-konténer vázán a betöltőhely közelében elhelyezett táblán a következőket kell feltüntetni:
- a sűrített gázok szállítására használt elemeknél a legnagyobb megengedett töltési nyomást<sup>18)</sup> 15 °C-on;
  - a gáz helyes szállítási megnevezését a 3.2 fejezet szerint és ezenkívül az m.n.n. tételek alá sorolt gázok esetében a műszaki megnevezést<sup>19)</sup>;
- és ezenkívül cseppfolyósított gázok esetében:
- a legnagyobb megengedett töltési tömeget<sup>18)</sup> elemenként.
- 6.8.3.5.13** A palackokat, a nagypalackokat, a gázhordókat, valamint a palackkötegek palackjait a 6.2.2.7 bekezdés szerint kell jelöléssel ellátni. Ezeket a tartályokat egyedileg nem kell az 5.2 fejezetben előírt veszélyességi bárcákkal ellátni.
- A battériás kocsikat és a MEG-konténereket az 5.3 fejezet szerint kell narancssárga jelöléssel és nagybárcával ellátni.
- 6.8.3.6** *A szabvány szerint tervezett, gyártott és vizsgált battériás kocsikra, ill. MEG-konténerekre vonatkozó követelmények*
- (fenntartva)

19) A „helyes szállítási megnevezés”, ill. – adott esetben – az „m.n.n. tétel helyes szállítási megnevezése a műszaki névvel kiegészítve” helyett a következő megnevezések is engedélyezettek:

- az UN 1078 hűtőgáz, m.n.n. esetében: F1 keverék, F2 keverék, F3 keverék;
- az UN 1060 metil-acetilén és propadién keverék, stabilizált esetén: P1 keverék, P2 keverék;
- az UN 1965 szénhidrogén-gáz keverék, cseppfolyósított, m.n.n. esetén: A keverék, A01 keverék, A02 keverék, A0 keverék, A1 keverék, B1 keverék, B2 keverék, B keverék, C keverék. A 2.2.2.3 bekezdésben a 2F osztályozási kód alatt az UN 1965 anyaghoz fűzött 1. megjegyzésben felsorolt kereskedelmi nevek csak kiegészítésként használhatók;
- az UN 1010 butadiének, stabilizált esetén: 1,2-butadién, stabilizált, 1,3-butadién, stabilizált.

**6.8.3.7** *A nem szabvány szerint tervezett, gyártott és vizsgált battériás kocsikra, ill. MEG-konténerekre vonatkozó követelmények*

Azokat a battériás kocsikat, ill. MEG-konténereket, amelyeket nem a 6.8.3.6 bekezdésben felsorolt szabványok szerint terveztek, gyártottak és vizsgáltak, az illetékes hatóság által elismert műszaki szabályzat előírásai szerint kell tervezni, gyártani és vizsgálni. A 6.8.3 szakasz minimális követelményeinek azonban meg kell felelni.

**6.8.4** **Különleges előírások**

*Megjegyzés: 1. A legfeljebb 60 °C lobbaspontú folyadékokra és a gyúlékony gázokra lásd még a 6.8.2.1.26, a 6.8.2.1.27 és a 6.8.2.2.9 pontot is.*

*2. A legalább 1 MPa (10 bar) próbanyomású tartányokra és a mélyhűtött, cseppfolyósított gázok szállítására szolgáló tartányokra lásd a 6.8.5 szakaszt.*

Ha a 3.2 fejezet „A” táblázat 13 oszlopában fel vannak tüntetve, a következő különleges előírásokat kell alkalmazni:

a) *Gyártás (TC)*

**TC1** A tartány anyagára és gyártására a 6.8.5 szakasz követelményei vonatkoznak.

**TC2** A tartányt és szerelvényeit legalább 99,5%-os tisztaságú alumíniumból vagy olyan alkalmas acélból kell készíteni, ami nem hajlamos a hidrogén-peroxid elbontására. Amennyiben a tartány legalább 99,5%-os tisztaságú alumíniumból készül, a falvastagságnak nem kell 15 mm-nél nagyobb lennie még akkor sem, ha a 6.8.2.1.17 pont szerinti méretezés nagyobb értéket adna.

**TC3** A tartányt ausztenites acélból kell gyártani.

**TC4** A tartányt zománcból vagy azonos hatékonyságú anyagból készített béléssel kell ellátni, ha a tartány anyagát az UN 3250 klór-ecetsav megtámadja.

**TC5** A tartányt legalább 5 mm vastag ólombéléssel vagy ezzel egyenértékű béléssel kell ellátni.

**TC6** Ha a tartányhoz alumínium használatára van szükség, az ilyen tartányt legalább 99,5%-os tisztaságú alumíniumból kell gyártani, a falvastagságnak nem kell 15 mm-nél nagyobb lennie még akkor sem, ha a 6.8.2.1.17 pont szerinti méretezés nagyobb értéket adna.

**TC7** (fenntartva)

b) *Szerelvények (TE)*

**TE1** (törölve)

**TE2** (törölve)

**TE3** A tartánynak a következő előírásoknak is meg kell felelnie. A melegítőberendezés nem nyúlhat be a tartány belsejébe, hanem azt a tartány külsejére kell felszerelni. A foszfor eltávolítására használt csövet azonban

fűtőköpennyel lehet ellátni. A köpeny fűtőkészülékét úgy kell beállítani, hogy a foszfor hőmérséklete ne emelkedjen a tartány töltési hőmérséklete fölé. A töltő- és ürítőcsőnek a tartány felső részébe kell csatlakoznia, nyílások a tartányban csak a foszfor legmagasabb megengedett szintje fölötti részén lehetnek, és reteszelve kupakkal teljesen zárhatóknak kell lenniük.

A tartányt a foszforszint ellenőrzésére mérőberendezéssel kell ellátni, és ha védőfolyadékként vizet használnak, olyan rögzített szintjelzéssel kell ellátni, amely a megengedett legmagasabb vízszintet mutatja.

- TE4** A tartányt nehezen gyulladó anyagból készített hőszigeteléssel kell ellátni.
- TE5** Ha a tartány hőszigeteléssel van ellátva, az ilyen hőszigetelést nehezen gyulladó anyagból kell készíteni.
- TE6** A tartány ellátható olyan szerkezettel, amely megakadályozza a túlzott nyomás vagy vákuum kialakulását a tartányban, és a kialakítása eleve kizárja, hogy szivároгjon vagy a szállított anyagtól eltömődjön.
- TE7** A tartány ürítőberendezését két, egymástól függetlenül működő, egymás mögötti zárószerezettel kell ellátni, amelyek közül az első jóváhagyott típusú, pillanatzáró szeleppel ellátott belső zárószelepből, a második az ürítőcsőnek mindegyik végén külső tolózárból áll. Mindkét külső tolózár kibocsátónyílásán vakkarimát vagy más azonos biztonságot nyújtó szerkezetet kell alkalmazni. A belső zárószelepnek a tartányon akkor is rögzítve és zárva kell maradnia, ha az ürítőcső leszakad.
- TE8** A tartány külső töltő-ürítőcső csatlakozásait olyan anyagból kell készíteni, amely nem hajlamos a hidrogén-peroxid bomlásának előidézésére.
- TE9** A tartány felső részén olyan zárószerezetet kell elhelyezni, amely megakadályozza a tartányban a szállított anyag bomlásából adódó túlnyomás kialakulását, a folyadék kiszivárgását és idegen anyagoknak a tartányba bejutását.
- TE10** A tartány zárószerezeteit úgy kell kialakítani, hogy a szállítás során a megszilárduló anyag ne akadályozza a szerkezet működését. Ha a tartány hőszigetelő anyaggal van borítva, az anyagnak szervesetlennek és gyúlékony anyagoktól teljesen mentesnek kell lennie.
- TE11** A tartányt és üzemi szerelvényeit úgy kell kialakítani, hogy megakadályozzák idegen anyagoknak a tartányba való bejutását, a folyadék kiszivárgását és a tartányban az anyag bomlásából adódó túlnyomás kialakulását. Megfelel ennek az előírásnak az olyan biztonsági szelep, amely megakadályozza idegen anyagoknak a tartányba való bejutását.
- TE12** A tartányt a 6.8.3.2.14 pont előírásainak megfelelő hőszigeteléssel kell ellátni. A fényvédő tetőt és a tartány általa nem fedett minden részét, illetve a teljes hőszigetelés külső felületét vagy fehérre kell festeni, vagy világos színű, metál fényezésűnek kell lennie. A festést minden szállítás előtt meg kell tisztítani és sárgulás vagy sérülés esetén fel kell újítani. A hőszigetelésnek nem szabad semmiféle gyúlékony anyagot tartalmaznia.

A tartányt hőmérséklet érzékelő szerkezettel kell ellátni.

A tartányt biztonsági szelepekkel és vészlefüvő szerkezetekkel kell ellátni. Vákuumszelepek is használhatók. A vészlefüvő szerkezeteknek a szerves

peroxid tulajdonságai és a tartány szerkezeti jellemzői alapján meghatározott nyomáson kell működésbe lépniük. A tartány testben olvadóbetétek nem engedélyezettek.

A tartányt rugóterhelésű biztonsági szelepekkel kell ellátni, ami megakadályozza a tartányban az 50 °C-on keletkező bomlástermékek és felszabaduló gőzök okozta lényeges nyomásnövekedést. A biztonsági szelep(ek) nyitónyomását és teljesítményét a TA2 különleges előírásban előírt vizsgálatok eredményei alapján kell meghatározni. A nyitónyomás azonban semmi esetre sem lehet akkora, hogy a tartány felborulása esetén a szelepen keresztül folyadék szabadulhasson ki.

A vészlefúvó szerkezetek rugóterhelésű vagy hasadótárcsás típusúak lehetnek, és lehetővé kell tenniük minden bomlástermék és gőz eltávolítását, amely az öngyorsuló bomlás alatt fejlődik, vagy akkor, ha legalább egy óráig olyan láng veszi körül, amely a következő képlettel jellemezhető:

$$q = 70961 \cdot F \cdot A^{0,82},$$

ahol

$$q = \text{hőfelvétel} \quad [\text{W}]$$

$$A = \text{nedvesített felület} \quad [\text{m}^2]$$

$$F = \text{szigetelési együttható} \quad [-]$$

$F = 1$  nem szigetelt tartányokra, vagy

$$F = \frac{U(923 - T_{PO})}{47032} \text{ szigetelt tartányokra,}$$

ahol

$$K = \text{a szigetelőréteg hővezetési együtthatója} \quad [\text{W} \cdot \text{m}^{-1} \cdot \text{K}^{-1}]$$

$$L = \text{a szigetelőréteg vastagsága} \quad [\text{m}]$$

$$U = K/L = \text{a szigetelőréteg hőátadási együtthatója} \quad [\text{W} \cdot \text{m}^{-2} \cdot \text{K}^{-1}]$$

$$T_{PO} = \text{a peroxid hőmérséklete lefúváskor} \quad [\text{K}]$$

A vészlefúvó szerkezet(ek) nyitónyomásának nagyobbnak kell lennie, mint az előzőekben meghatározottak és azt a TA2 különleges előírásban előírt vizsgálatok eredményei alapján kell meghatározni. A vészlefúvó szerkezetet úgy kell méretezni, hogy a tartányban a legnagyobb nyomás soha ne haladja meg a tartány próbanyomását.

**Megjegyzés:** A vészlefúvó szerkezet méretezésére a "Vizsgálatok és kritériumok kézikönyv" 5. Függelékben található példa.

A teljes hőszigetelésű tartányoknál a vészlefúvó szerkezet(ek) teljesítményét és beállítását a felület 1%-át kitevő szigetelés veszteséget feltételezve kell meghatározni.

A tartányok vákuumszelepeit és rugóterhelésű biztonsági szelepeit lángzárral kell ellátni, kivéve, ha a szállítandó anyagok és azok bomlástermékei nem éghetőek. A lefúvási teljesítménynek a lángzár által okozott csökkenésére figyelemmel kell lenni.

- TE13** A tartányt hőszigeteléssel kell ellátni és fel kell szerelni külső fűtőberendezéssel.
- TE14** A tartányt hőszigeteléssel kell ellátni. A tartánnyal közvetlenül érintkezésben levő hőszigetelés gyulladási hőmérsékletének legalább 50 °C-kal magasabbnak kell lennie annál a legmagasabb hőmérsékletnél, amelyre a tartányt kialakították.
- TE15** (törölve)
- TE16** A tartálykocsi semmilyen része sem készülhet fából, kivéve, ha alkalmas bevonattal van ellátva. (fenntartva)
- TE17** A leszerelhető tartányokra<sup>20)</sup> a következő előírások vonatkoznak: (fenntartva)
- a) a kocsi alvázon úgy kell rögzíteni, hogy ne mozdulhassanak el;
  - b) nem köthetők össze gyűjtőcsővel;
  - c) ha a tartányok gördíthetők, a szelepeket védősapkával kell ellátni.
- TE18** (fenntartva)
- TE19** (fenntartva)
- TE20** Függetlenül a 4.3.4.1.2 pontban szereplő csoportos hozzárendelés szerinti tartány rangsor által megengedett egyéb tartánykódoktól, a tartányt biztonsági szeleppel kell ellátni.
- TE21** A zárószervezeteket rögzíthető sapkával kell védeni.
- TE22** A felütközés vagy baleset esetén bekövetkező kár mértékének csökkentése érdekében a folyékony állapotban szállított anyagok, ill. gázok szállítására használt tartálykocsikat, valamint a battériás kocsikat úgy kell kialakítani, hogy
- vagy az alvázra szerelt, meghatározott szerkezeti elem rugalmas vagy maradó alakváltozása révén,
  - vagy más, hasonló megoldással (pl. törőelemek alkalmazásával)
- a kocsi mindkét végén legalább 800 kJ energiát legyenek képesek elnyelni. Az energia elnyelés egyenes vágányon történő felütközésre vonatkozik. Az energia elnyelése csak olyan esetben következhet be maradó alakvál-

20) A „leszerelhető tartány” meghatározására lásd az 1.2.1 szakaszt.

tozás révén, amely a normális vasút-üzemi körülmények között nem fordul elő (12 km/h-nál nagyobb ütközési sebesség esetén vagy ha az egy ütközőben ébredő erő nagyobb mint 1500 kN ).

Ha a kocsi valamelyik végén legfeljebb 800 kJ energia nyelődik el, nem érheti olyan erőhatás a tartányt, amely annak észrevehető, maradó alakváltozását okozná.

Ezen különleges előírás követelményei az UIC 573 sz. Döntvény<sup>21)</sup> (Tartálykocsik építésére vonatkozó műszaki feltételek) 1.4 szakaszának és 1.1.6 pontjának alkalmazása esetén teljesítettnek tekinthetők.

**TE23** A tartányt olyan szerkezettel kell ellátni, amely megakadályozza a túlzott nyomás vagy vákuum kialakulását a tartányban, és a kialakítása eleve kizárja, hogy szivároгjon vagy a szállított anyagtól eltömődjön.

**TE24** (törölve)

**TE25**

A tartálykocsik tartányát az ütközőfelugrás és kisiklás megakadályozása céljából, vagy legalább az ütközőfelugrás okozta kár mérséklése érdekében védeni kell a következő intézkedések legalább egyikének az alkalmazásával.

Az ütközőfelugrás megakadályozására szolgáló intézkedések:

a) Ütközőfelugrás elleni védőeszköz

Az ütközőfelugrás elleni védőeszköznek biztosítani kell, hogy a vasúti kocsi alvázkerete ugyanazon vízszintes síkban maradjon.

A következő követelményeknek kell teljesülni:

- Az ütközőfelugrás elleni védőeszköz nem akadályozhatja a vasúti kocsi normál üzemelését (pl. ívbeállítás, berni négyszög, mell-fogantyú). Az ütközőfelugrás elleni védőeszköznek lehetővé kell tennie az ütközőfelugrás elleni védőeszközzel ellátott másik kocsi szabad beállítását 75 m sugarú ívbe.
- Az ütközőfelugrás elleni védőeszköz nem akadályozhatja az ütköző normális működését

(fenntartva)

21) Az UIC Döntvény 2008. október 1-től érvényes 7. kiadása.

- (rugalmas vagy maradó alakváltozás) (lásd még a 6.8.4 szakasz b) pontjában lévő TE22 különleges előírást).
- Az ütközőfelugrás elleni védőeszköznek függetlenül attól, hogy a kocsi mennyire van megrakva, ill. elhasználódva működnie kell.
  - Az ütközőfelugrás elleni védőeszköznek 150 kN függőlegesen (felfelé és lefelé) ható erőt kell kibírnia.
  - Az ütközőfelugrás elleni védőeszköznek hatásosnak kell lennie függetlenül attól, hogy a másik érintett kocsi el van-e látva ilyen védőeszközzel. Az ütközőfelugrás elleni védőeszközök nem gátolhatják egymás működését.
  - A túlnyúlás legfeljebb 20 mm-t növekedhet az ütközőfelugrás elleni védőeszköz rögzítése miatt.
  - Az ütközőfelugrás elleni védőeszköznek legalább olyan szélesnek kelle lennie, mint az ütközőtányér (kivéve a baloldali fellépő fölött elhelyezkedő védőeszközt, amely nem nyúlhat be a kocsirendező számára szükséges szabad térbe, az ütköző maximális szélességét azonban annak is le kell fednie.)
  - Minden ütköző felett kell lennie ütközőfelugrás elleni védőeszköznek.
  - Az ütközőfelugrás elleni védőeszköznek meg kell engednie az ütközők felszerelését az UIC 573 sz. Döntvényben<sup>22)</sup> (Tartálykocsik építésére vonatkozó műszaki feltételek) foglaltak szerint, és nem gátolhatja a karbantartási munkát.
  - Az ütközőfelugrás elleni védőeszközt úgy kell beszerelni, hogy ne növekedjen annak kockázata, hogy ütközéskor a tartányfeneket átszúrja.

22) Az UIC Döntvény 2008. október 1-től érvényes 7. kiadása.



Az ütközőfelugrás okozta kár mérséklésére szolgáló intézkedések:

- b) A tartányfenekek falvastagságának növelése, vagy más, nagyobb energia elnyelő képességű anyag alkalmazása

Ebben az esetben a tartányfenekek falvastagságának legalább 12 mm-nek kell lenniük.

Az UN 1017 klór, az UN 1749 klór-trifluorid, az UN 2189 diklór-szilán, az UN 2901 bróm-klorid és az UN 3057 trifluor-acetil-klorid szállítására használt tartányok esetében azonban a tartányfenekek falvastagságának legalább 18 mm-nek kell lennie.

- c) A tartányfenekek szendvics burkolása

Ha a védelmet szendvics burkolat látja el, annak a tartányfenék teljes területét le kell fednie és a „Veszélyes anyagok szállítótartályai. Fémtartályok legfeljebb 0,5 bar üzemi nyomásra. Kialakítás és konstrukció” című EN 13094 szabvány „B” melléklete szerint mérve legalább 22 kJ energia elnyelő képességűnek kell lennie (ami 6 mm-es falvastagságnak felel meg). Ha szerkezeti kialakítással a korrózió veszélye nem küszöbölhető ki, lehetőséget kell biztosítani a tartányfenék külső falának ellenőrzésére, pl. leszerelhető burkolat.

- d) Védőpajzs a vasúti kocsi mindkét végén

Ha a kocsi mindkét végén védőpajzs van, a következő követelményeknek kell teljesülni:

- a védőpajzsnek minden esetben le kell fednie a tartány szélességét a megfelelő magasságig, továbbá a védőpajzsnek teljes magasságában legalább olyan szélesnek kell lenni, mint az ütközőtartányérok külső széle által meghatározott távolság;
- a védőpajzs mellgerenda felső szélétől mért magasságának le kell fedni
  - vagy a tartány átmérőjének kétharmadát
  - vagy legalább 900 mm-t és

- ezenkívül a felső szélénél el kell látni a felemelkedő ütközőt lefogó eszközzel;
- a védőpajzs falvastagságának legalább 6 mm-nek kell lennie;
  - a védőpajzsot és a rögzítési pontjait úgy kell kiképezni, hogy minimális legyen annak a lehetősége, hogy a védőpajzs maga átszúrhasssa tartányfeneket.

Az előző b), c) és d) pontokban említett falvastagságok referencia acélra vonatkoznak. Más anyag alkalmazása esetén – a szerkezeti acél kivételével – a megfelelő falvastagságot a 6.8.2.1.18 pontban lévő képlet alapján kell kiszámítani. Az  $R_m$  és az  $A$  értékeire az anyagszabványok által meghatározott legkisebb értékeket kell használni.

c) *Típusjóváhagyás (TA)*

**TA1** A tartányt nem szabad szerves anyagok szállítására jóváhagyni.

**TA2** Ez az anyag csak a származási ország illetékes hatósága által meghatározott feltételek mellett szállítható tartálykocsiban vagy tankkonténerben, ha a következőkben említett vizsgálatok alapján az illetékes hatóság úgy ítéli meg, hogy a szállítás biztonságosan végrehajtható.

Ha a származási ország nem valamely COTIF Tagállam, ezeket a feltételeket a küldemény által érintett első COTIF Tagállam illetékes hatóságának kell elismernie.

A tartány típusjóváhagyásához vizsgálatokat kell végezni:

- annak bizonyítására, hogy a szállított anyag összeférhető minden olyan anyaggal, amellyel normál esetben a szállítás során érintkezésbe kerül;
- hogy megfelelő adatok álljanak rendelkezésre ahhoz, hogy a tartány szerkezeti jellemzőit is figyelembe véve a vészlefüvő szerkezetek és a biztonsági szelepek tervezhetők legyenek; és
- az anyag biztonságos szállításához szükséges különleges követelmények meghatározásához.

A vizsgálatok eredményeit fel kell tüntetni a típusjóváhagyási bizonyítványban.

**TA3** Ez az anyag csak LGAV vagy SGAV tartánykódú tartányokban szállítható; a 4.3.4.1.2 pont szerinti tartány rangsor nem alkalmazható.

**TA4** Az 1.8.7 szakasz megfelelésértékelésre vonatkozó eljárását az illetékes hatóságnak, ill. megbízottjának vagy az 1.8.6.4 bekezdésnek megfelelő és az EN ISO/IEC 17020:2004 szabvány szerint akkreditált, A típusú vizsgáló szervezetnek kell végrehajtani.

d) *Vizsgálatok (TT)*

- TT1** A tiszta alumíniumból készült tartányokat üzembe helyezés előtt és időszakosan elegendő 250 kPa (2,5 bar) nyomással (túlnyomással) a folyadéknomás-próbának alávetni.
- TT2** A tartány belső bevonatát minden évben az illetékes hatóság által elismert szakértővel kell ellenőriztetni, akinek a tartány belsejét meg kell vizsgálni.
- TT3** (fenntartva) | A tartányt 6.8.2.4.2 pont előírásaitól eltérően legalább nyolc évenként kell időszakos vizsgálatnak alávetni, aminek ki kell terjednie a megfelelő készülékkel végzett falvastagság ellenőrzésre. Ilyen tartánynál a 6.8.2.4.3 pont szerinti tömörségi próbát és ellenőrzést legalább négy évenként el kell végezni.
- TT4** A tartányt négy évenként | két és fél évenként alkalmas készülékkel (pl. ultrahanggal) a korrózióállóságra meg kell vizsgálni.
- TT5** A tartányon a folyadéknomás-próbát négy évenként | két és fél évenként meg kell ismételni.
- TT6** A tartányt legalább négy évenként időszakos vizsgálatnak kell alávetni, ennek keretében folyadéknomás-próbát is kell végezni. | (fenntartva)
- TT7** A 6.8.2.4.2 pont előírásaitól eltérően a belső állapot időszakos vizsgálatát az illetékes hatóság által jóváhagyott programmal is lehet helyettesíteni.
- TT8** Az UN 1005 vízmentes ammónia szállítására jóváhagyott tartányokat, amelyek az anyagszabvány szerinti finom szemcseszerkezetű, 400 N/mm<sup>2</sup>-nél nagyobb folyáshatárú acélból gyártottak, a 6.8.2.4.2 pont szerinti minden időszakos vizsgálat alkalmával a felületi repedések észleléséhez mágneses repedésvizsgálatnak kell alávetni.
- Minden tartány alsó részén minden kör- és hosszvarratot legalább hosszúságuk 20%-át kitevő mértékben, valamint minden csőcsomó hegesztést és a javított vagy csiszolt területeket meg kell vizsgálni.
- TT9** Az 1.8.7 szakasz vizsgálatokra (beleértve a gyártás felügyeletét is) vonatkozó eljárását az illetékes hatóságnak, ill. megbízottjának vagy az 1.8.6.4 bekezdésnek megfelelő és az EN ISO/IEC 17020:2004 szabvány szerint akkreditált, A típusú vizsgáló szervezetnek kell végrehajtani.

e) *Jelölés (TM)*

**Megjegyzés:** Ezeket a jelöléseket a jóváhagyó ország valamelyik hivatalos nyelvén, és ezenkívül, ha ez a nyelv nem angol, francia, német vagy olasz, akkor angol, francia, német vagy olasz nyelven is meg kell szövegezni, kivéve, ha a fuvarozásban érintett országok közötti megállapodások másként rendelkeznek.

- TM1** A tartányt a 6.8.2.5.2 pontban előírtakon kívül el kell látni a **“Szállítás alatt tilos kinyitni. Öngyulladásra hajlamos”** felirattal (lásd az előző megjegyzést

is).

**TM2** A tartányt a 6.8.2.5.2 pontban előírtakon kívül el kell látni a **“Szállítás alatt tilos kinyitni. Vízrel érintkezve gyúlékony gázokat fejleszt”** felirattal (lásd az előző megjegyzést is).

**TM3** A tartányon a 6.8.2.5.1 pontban előírt táblán fel kell tüntetni az engedélyezett anyagok megnevezését és a tartány megengedett legnagyobb rakomány tömegét kg-ban.

A 6.8.2.5.2 pont szerinti terhelési határokat az adott anyagra a megengedett legnagyobb töltési tömeg figyelembevételével kell megállapítani.

**TM4** A tartányon a 6.8.2.5.2 pontban előírt fémtáblán vagy a tartány falán – ha az úgy van megerősítve, hogy szilárdságát nem csökkenti – a következő kiegészítő adatot kell feltüntetni beütéssel vagy más hasonló módon: az anyag kémiai elnevezése engedélyezett koncentrációjával együtt.

**TM5** A tartányra a 6.8.2.5.1 pontban előírt adatokon kívül fel kell írni a tartány legutóbbi belső vizsgálatának idejét (hónap, év).

**TM6** A tartálykocsikra az 5.3.5 szakasz szerinti narancssárga csíkot fel kell tüntetni.

**TM7** A 6.8.2.5.1 pontban előírt táblára beütéssel vagy más hasonló módon fel kell tüntetni az 5.2.1.7.6 pontban ábrázolt sugárveszély szimbólumot is. A stilizált lóherét közvetlenül a tartány falába is be lehet vésni, ha a falak úgy meg vannak erősítve, hogy a bevésés nem csökkenti a tartány szilárdságát.

**6.8.5** A legalább 1 MPa (10 bar) próbanyomású tartálykocsik és tankkonténerek tartányai gyártási anyagaira és gyártására, valamint a 2 osztályba tartozó mélyhűtött, cseppfolyósított gázok szállítására használt tartálykocsik és tankkonténerek tartányai gyártási anyagaira és gyártására vonatkozó előírások

**6.8.5.1** *Anyagok és tartányok*

**6.8.5.1.1** a) A következő anyagok szállítására szolgáló tartányokat acélból kell gyártani:

- a 2 osztály sűrített, cseppfolyósított és oldott gázai,
- a 4.2 osztály UN 1380, 2845, 2870, 3194 és 3391 – 3394 számú anyagai, valamint
- a 8 osztály anyagai közül az UN 1052 vízmentes hidrogén-fluorid és az UN 1790 fluor-hidrogénsav 85%-nál több hidrogén-fluorid tartalommal.

b) A következő anyagok szállítására szolgáló, finom szemcseszerkezetű acélból gyártott tartányokat a hőhatás okozta feszültség kiküszöbölésére hőkezelésnek kell alávetni:

- 2 osztály maró gázai és az UN 2073 ammónia oldat; valamint
- a 8 osztály anyagai közül az UN 1052 vízmentes hidrogén-fluorid és az UN 1790 fluor-hidrogénsav 85%-nál több hidrogén-fluorid tartalommal.

A hőkezelés elhagyható, ha

1. nem áll fenn a feszültségkorróziós repedezés veszélye;
  2. a hegesztési varratból, az átmeneti övezetből, ill. az alapanyagból vett legalább három-három próbatesten kapott ütőmunka középértéke átlagosan 45 J. A próbatesteknek az ISO-V típusú próbatestnek kell lenniük. Az alapanyag esetén a hengerlési irányra merőlegesen kivágott próbatesteket kell vizsgálni. A hegesztési varratnál, ill. az átmeneti övezetben vett próbatestnél az S horonynak a hegesztési varrat közepére, ill. az átmeneti övezet közepére kell esnie.
- c) A 2 osztályba tartozó mélyhűtött, cseppfolyósított gázok szállítására használt tartányokat acélból, alumíniumból, alumíniumötvözetből, rézből vagy rézötvözetből, pl. sárgarézből kell gyártani. A rézből vagy rézötvözetből gyártott tartányokat csak olyan gázokhoz szabad használni, amelyek nem tartalmaznak acetilént; az etilén azonban tartalmazhat 0,005% acetilént.
- d) Csak olyan anyagok használhatók, amelyek a tartány és felszerelései legkisebb és legnagyobb üzemi hőmérsékletéhez megfelelőek.

**6.8.5.1.2** A tartányok gyártásához használható anyagok a következők:

- a) olyan acélok, amelyek a legkisebb üzemi hőmérsékleten sem hajlamosak a ridegtörésre (lásd a 6.8.5.2.1 pontot):
- szerkezeti acélok (kivéve a 2 osztály mélyhűtött, cseppfolyósított gázaihoz);
  - finom szemcseszerkezetű acél – 60 °C hőmérsékletig;
  - nikkellel ötvözött acél (0,5...9% nikkeltartalommal) a nikkeltartalomtól függően – 196 °C hőmérsékletig;
  - ausztenites króm-nikkel acél – 270 °C hőmérsékletig;
- b) legalább 99,5% tisztasági fokú alumínium vagy alumíniumötvözetek (lásd a 6.8.5.2.2 pontot);
- c) legalább 99,9%-os tisztasági fokú, oxigénmentes réz vagy 56%-nál több rezet tartalmazó rézötvözetek (lásd a 6.8.5.2.3 pontot).

**6.8.5.1.3** a) Az acélból, alumíniumból vagy alumíniumötvözetből gyártott tartányok csak hegesztettek vagy varrat nélküliek lehetnek.

b) Az ausztenites acélból, rézből vagy rézötvözetből gyártott tartányok keményforrasztással is készülhetnek.

**6.8.5.1.4** A szerelvényeket és a tartozékokat vagy csavarozással, vagy a következő módon lehet a tartányokra rögzíteni:

- a) acélból, alumíniumból és alumíniumötvözetből készült tartányokra hegesztéssel;
- b) ausztenites acélból, vörösrézből vagy rézötvözetből készült tartányokra hegesztéssel vagy keményforrasztással.

**6.8.5.1.5** A tartányokat úgy kell kialakítani, és úgy kell a koci alvázára vagy a konténerkeretbe rögzíteni, hogy eleve kizárt legyen a teherviselő elemek olyan lehülése, amely ridegtörést okozhatna. A tartányokat rögzítő szerkezeti részeket is oly módon kell kialakítani, hogy szükséges mechanikai szilárdságuk még akkor is megmaradjon, ha a tartány a legkisebb megengedett üzemi hőmérsékleten van.

**6.8.5.2** *Vizsgálati követelmények***6.8.5.2.1** *Acéltartányok*

A tartányok gyártásához használt anyagoknak és a hegesztési varratoknak a legkisebb üzemi hőmérsékleten, de legalább  $-20\text{ }^{\circ}\text{C}$ -on a fajlagos ütőmunka szempontjából legalább a következő feltételeknek kell megfelelniük:

- A vizsgálatot V bemetszésű próbatestekkel kell végezni.
- Szerkezeti acél, finom szemcseszerkezetű acél, 5%-nál kevesebb Ni-tartalmú ferrites acélötvözet, 5...9% Ni-tartalmú ferrites acélötvözet és ausztenites króm-nikkel acél próbapálca esetén a legkisebb fajlagos ütőmunkának (lásd 6.8.5.3.1 – 6.8.5.3.3)  $34\text{ J/cm}^2$ -nek kell lenni. A próbatest hossz tengelyének a hengerlési irányra merőlegesnek, a V alakú bemetszésnek a lemez felületére merőlegesnek kell lennie (az ISO R148 szerint). (A szerkezeti acél próbapálca hossz tengelye az érvényes ISO szabványok szerint a hengerlési irányval egybeeshet.)
- Ausztenites acéloknál csak a hegesztési varratokat kell a fajlagos ütőmunka-vizsgálatnak alávetni.
- A  $-196\text{ }^{\circ}\text{C}$ -nál kisebb üzemi hőmérsékletek esetén a fajlagos ütőmunka-vizsgálatot nem a legkisebb üzemi hőmérsékleten, hanem  $-196\text{ }^{\circ}\text{C}$ -on hajtják végre.

**6.8.5.2.2** *Alumínium- vagy alumíniumötvözet-tartányok*

A tartányok hegesztési varratainak meg kell felelniük az illetékes hatóság által előírt követelményeknek.

**6.8.5.2.3** *Réz vagy rézötvözet tartányok*

A fajlagos ütőmunka kielégítő voltának meghatározásához nem szükséges vizsgálatot végezni.

**6.8.5.3** *A fajlagos ütőmunka-vizsgálat***6.8.5.3.1** 10 mm-nél vékonyabb, de legalább 5 mm vastag lemezeknél  $10\text{ mm} \times e\text{ mm}$  keresztmetszetű próbatestet kell használni, ahol  $e$  a lemez vastagsága. Szükség esetén megengedett a 7,5 mm-re vagy 5 mm-re történő megmunkálás. A legkisebb  $34\text{ J/cm}^2$  értéknek minden esetben meg kell lennie.

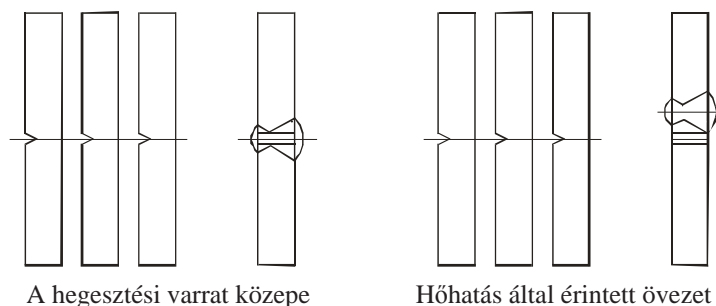
**Megjegyzés:** 5 mm-nél vékonyabb lemezeknél és hegesztési varrataiknál fajlagos ütőmunka-vizsgálatot nem kell végezni.

**6.8.5.3.2** a) Lemez vizsgálatok a fajlagos ütőmunkát három próbatesten kell meghatározni. A próbatestet a hengerlés irányára merőlegesen kell kivágni, de szerkezeti acél esetén a hengerlés irányában is kivágható.

## b) A hegesztési varratok vizsgálatok a próbatestet a következőképpen kell kivágni:

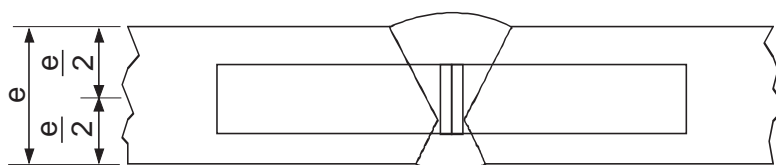
 **$e \leq 10\text{ mm}$  esetén**

- három próbatestet a hegesztési varrat közepén levő bemetszéssel;
- három próbatestet a hőhatás által érintett övezet közepén levő bemetszéssel; a V alakú bemetszésnek a mintadarab közepén, a megolvadt övezet határán kell lennie;

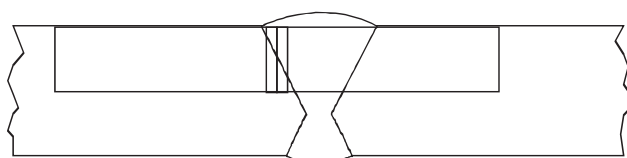


**$10 \text{ mm} < e \leq 20 \text{ mm}$  esetén**

- három próbatestet a hegesztési varrat közepéről;
- három próbatestet a hőhatás által érintett övezetből; a V alakú bemetszésnek a mintadarab közepén, a megolvadt övezet határán kell lennie;



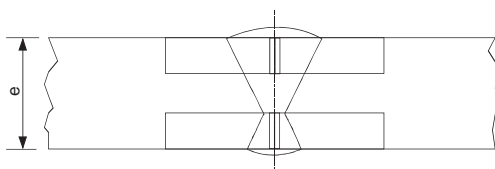
A hegesztési varrat közepe



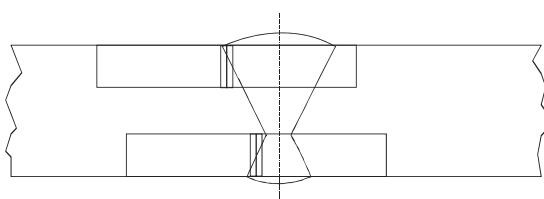
Hőhatás által érintett övezet

**$e > 20 \text{ mm}$  esetén**

- három-három próbatestből álló két készletet (egy készletet a lemez felső oldalán és egy készletet a lemez alsó oldalán) az ábrán megjelölt helyekről kivágva; ha a kivágás a hőhatás által érintett övezetből történik, a V alakú bemetszésnek a mintadarab közepén, a megolvadt övezet határán kell lennie.



A hegesztési varrat közepe



Hőhatás által érintett övezet

- 6.8.5.3.3**
- a) Lemezek esetében a három próba eredménye középértékének meg kell felelni a 6.8.5.2.1 pontban jelzett  $34 \text{ J/cm}^2$  legkisebb értéknek. A három érték közül legfeljebb egy lehet kisebb, mint e legkisebb érték, de ez sem lehet kisebb, mint  $24 \text{ J/cm}^2$ .
  - b) Hegesztéseknél a hegesztési varrat közepéből vett három próbatest vizsgálatkor az eredmény középértéke nem lehet kisebb, mint a  $34 \text{ J/cm}^2$  legkisebb érték. A három érték közül legfeljebb egy lehet kisebb, mint e legkisebb érték, de ez sem lehet kisebb, mint  $24 \text{ J/cm}^2$ .
  - c) A hőhatás által érintett övezet esetén (amikor a V alakú bemetszés a mintadarab közepén, a megolvadt övezet határán van) a három próbatest közül legfeljebb egynél lehet kisebb érték, mint a legkisebb  $34 \text{ J/cm}^2$ , de ez sem lehet kisebb, mint  $24 \text{ J/cm}^2$ .

**6.8.5.3.4** Ha a 6.8.5.3.3 pontban előírt követelmények nem teljesülnek, a vizsgálatot egyszer meg lehet ismételni akkor, ha

- a) az első három próba eredményének középértéke kisebb, mint a  $34 \text{ J/cm}^2$  legkisebb érték, vagy
- b) az egyedi értékek közül egynél többnek az értéke kisebb, mint a  $34 \text{ J/cm}^2$  legkisebb érték, de legalább  $24 \text{ J/cm}^2$ .

**6.8.5.3.5** A lemez vagy a hegesztés ismételt fajlagos ütőmunka-vizsgálatkor az egyedi értékek közül egyik sem lehet kisebb, mint a legkisebb  $34 \text{ J/cm}^2$  érték. Az eredeti és az ismételt vizsgálati eredmények átlagának legalább  $34 \text{ J/cm}^2$ -nek kell lenni.

A hőhatás által érintett övezeten végzett ismételt fajlagos ütőmunka-vizsgálat esetében az egyedi értékek egyike sem lehet kisebb, mint  $34 \text{ J/cm}^2$ .

#### **6.8.5.4** *Hivatkozás a szabványokra*

A 6.8.5.2 és a 6.8.5.3 bekezdés követelményei a következő szabványok alkalmazása esetén teljesítettnek tekinthetők:

EN 1252-1:1998 Kriogén tartályok. Alapanyagok. 1. rész: Szívóssági követelmények  $-80^\circ\text{C}$ -nál kisebb hőmérsékletekhez.

EN 1252-2:2001 Kriogén tartályok. Alapanyagok. 2. rész: Szívóssági követelmények  $-80^\circ\text{C}$  és  $-20^\circ\text{C}$  hőmérséklet között.



## 6.9 fejezet

### A szálvázaz műanyagból gyártott tankkonténerek, ill. tartányos cserefelépítmények tervezésére, gyártására, szerelvényeire, típusjövahagyására, vizsgálatára és jelölésére vonatkozó követelmények

*Megjegyzés: A mobil tartányokra és az UN többelemes gázkonténerekre (UN MEG-konténerekre) lásd a 6.7 fejezetet; a fémből gyártott, tartálykocsikra, leszerelhető tartányokra, tankkonténerekre és tartányos cserefelépítményekre, valamint a battériás kocsikra és többelemes gázkonténerekre (MEG-konténerekre) – az UN MEG-konténerek kivételével – lásd a 6.8 fejezetet; a hulladékok szállítására szolgáló, vákuummal üzemelő tartányokra lásd a 6.10 fejezetet.*

#### 6.9.1 Általános előírások

**6.9.1.1** A szálvázaz műanyag tankkonténereket, ill. tartányos cserefelépítményeket az illetékes hatóság által elismert minőségbiztosítási program szerint kell tervezni, gyártani és vizsgálni; a laminálási munkákat és a műanyag betétek hegesztését csak szakképzett személyzet végezheti az illetékes hatóság által elismert eljárással.

**6.9.1.2** A szálvázaz műanyag tankkonténerek, ill. tartányos cserefelépítmények tervezésére és vizsgálatára a 6.8.2.1.1, a 6.8.2.1.7, a 6.8.2.1.13, a 6.8.2.1.14 a) és b), a 6.8.2.1.25, a 6.8.2.1.27 és a 6.8.2.2.3 pont előírásait ugyancsak be kell tartani.

**6.9.1.3** A szálvázaz műanyag tankkonténerekhez, ill. tartányos cserefelépítményekhez fűtőelemek nem használhatók.

**6.9.1.4** (fenntartva)

#### 6.9.2 Gyártás

**6.9.2.1** A tartányt alkalmas anyagból kell gyártani, amely a  $-40\text{ °C}$  és  $+50\text{ °C}$  közötti üzemi hőmérséklet-tartományban összeférhető a szállítandó anyaggal, kivéve, ha annak az országnak az illetékes hatósága, amelyben a szállítás történik, a különleges éghajlati viszonyok miatt más hőmérséklet-tartományt ír elő.

**6.9.2.2** A tartány a következő három fő részből áll:

- belső betét,
- szerkezeti réteg,
- külső réteg.

**6.9.2.2.1** A belső betét a tartányfal belső része, amely tartós vegyszerállósága révén elsődleges gátat képez a szállítandó anyaggal szemben, így megakadályoz minden veszélyes reakciót a tartány tartalmával, ill. megakadályozza a szerkezeti réteg minden olyan, lényeges gyengülését, amit a szállított anyagnak a belső betéten keresztüli diffúziója okozna.

A belső betét vagy szálvázaz műanyag vagy hőre lágyuló műanyag betét lehet.

**6.9.2.2.2** A szálvázaz műanyag betétnek a következőkből kell állnia:

- a) egy fedőrétegből („gel-coat”): amely egy megfelelő, műgyantában dús felületi réteg, amely a műgyantával és a szállítandó anyaggal összeférhető fátýolszövettel van

megerősítve. Ennek a rétegnek a száltömeg tartalma legfeljebb 30% lehet, a vastagságának 0,25 és 0,6 mm között kell lennie;

- b) erősítő réteg(ek)ből: amely egy vagy több, legalább 2 mm vastagságú réteg, amely legalább 900 g/m<sup>2</sup> üvegpaplant vagy vágott szálal tartalmaz, és amelynek üvegrost-tartalma legalább 30 tömeg%, kivéve, ha az egyenértékű biztonság kisebb üvegrost-tartalomnál bizonyított.

**6.9.2.2.3** A hőre lágyuló műanyag betét a 6.9.2.3.4 pont szerinti hőre lágyuló műanyagból készült lemez, amelyet a kívánt alakúra hegesztenek össze és amelyhez a szerkezeti réteget ragasztják. A betét és a szerkezeti réteg között megfelelő ragasztóval tartós kötést kell kialakítani.

**Megjegyzés:** Gyúlékony folyékony anyagok szállítása esetén a betétnél a 6.9.2.14 bekezdés szerinti kiegészítő intézkedésekre lehet szükség az elektrosztatikus töltés felhalmozódásának megelőzésére.

**6.9.2.2.4** A tartány szerkezeti rétege az a rész, amely a mechanikai igénybevételek elviselése céljából a 6.9.2.4 – 6.9.2.6 bekezdés szerint különlegesen van kialakítva. Ez a rész rendszerint meghatározott elrendezésű, több szálvas rétegből áll.

**6.9.2.2.5** A külső réteg a tartánynak az a része, amely a környezeti hatásoknak közvetlenül ki van téve. Legalább 0,2 mm vastag, műgyantában dús rétegből kell állnia. 0,5 mm-nél vastagabb réteg esetén üvegpaplant kell alkalmazni. Ennek a rétegnek az üvegrost-tartalma csak 30 tömeg%-nál kevesebb lehet, és alkalmasnak kell lennie a külső körülmények, különösen a szállítandó anyaggal való esetleges érintkezés elviselésére. A tartány szerkezeti rétegének az ultraibolya sugárzás okozta károsodással szembeni védelmére a műgyantának töltőanyagot vagy adalékanyagot kell tartalmaznia.

### **6.9.2.3 Nyersanyagok**

**6.9.2.3.1** A szálvas műanyag tankkonténereket, ill. tartányos cserefelépítmények gyártásához használt minden anyag eredetének és műszaki tulajdonságainak ismertnek kell lennie.

#### **6.9.2.3.2 Műgyanták**

A műgyanta keverék feldolgozását szigorúan a gyártó ajánlásai szerint kell végezni, ez elsősorban a térhálósítók, az iniciátorok és a gyorsítók használatára vonatkozik. A következő műgyanták használhatók:

- telítetlen poliésztergyanták;
- vinilgyanták;
- epoxigyanták;
- fenolgyanták.

A műgyanták ISO 75-1:1993 szabvány szerint meghatározott hőtorzulási hőmérsékletének legalább 20 °C-kal magasabbnak kell lennie, mint a műanyag tankkonténerek, ill. tartányos cserefelépítmények legnagyobb üzemi hőmérséklete, de semmilyen esetben sem lehet 70 °C-nál alacsonyabb.

#### **6.9.2.3.3 Szálvas erősítés**

A szerkezeti réteg erősítő anyagának megfelelő minőségű rostanyagból, pl. az ISO 2078:1993 szabvány szerinti E vagy ECR minőségű üvegszálakból kell állnia. A belső betét fedőrétegéhez az ISO 2078:1993 szabvány szerinti C minőségű üvegszál is használható. Hőre lágyuló műanyagból készült fátolszövet a belső betétéhez csak akkor használható, ha a szállítandó anyaggal való összeférhetősége bizonyított.

**6.9.2.3.4** *A hőre lágyuló műanyag betét anyaga*

A betét anyagaként olyan hőre lágyuló műanyagok használhatók, mint pl. a kemény poli(vinil-klorid) (kemény PVC), a polipropilén (PP), a poli(vinilidén-fluorid) (PVDF), a poli(tetrafluor-etilén) (PTFE) stb.

**6.9.2.3.5** *Adalékanyagok*

A műgyanta kezeléséhez szükséges adalékanyagok, pl. katalizátorok, gyorsítók, térhálósítók és tixotrop anyagok, valamint a tartány tulajdonságainak javítására használt anyagok, pl. töltőanyagok, színezékek, pigmentek stb. a tartány élettartama alatt a várható hőmérsékleti viszonyok között nem gyengíthetik az anyagot.

**6.9.2.4** A tartányt, a tartozékait, az üzemi és szerkezeti szerelvényeit úgy kell kialakítani, hogy tervezett élettartamuk alatt a szállított anyag vesztesége nélkül (nem számítva az esetleges szelepeken keresztül kiszabaduló gázmennyiséget) ellenálljanak:

- a normális szállítási körülmények között fellépő statikus és dinamikus terheléseknek;
- a 6.9.2.5 – 6.9.2.10 bekezdésben előírt minimális terheléseknek.

**6.9.2.5** A 6.8.2.1.14 a), ill. b) pontban előírt nyomáson és a tartányra meghatározott legnagyobb sűrűségű szállított anyag által a legnagyobb töltési foknál kifejtett statikus nehézségi erő hatására a tartány bármely rétegében hosszirányban és a kerület mentén a  $\sigma$  mértékadó feszültség nem haladhatja meg a következő értéket:

$$\sigma \leq \frac{R_m}{K},$$

ahol:

$R_m$  = a szakítószilárdság értéke, azaz a vizsgálati eredmények átlagértéke mínusz a vizsgálati eredmények standard szórásának kétszerese. A vizsgálatokat legalább hat, a gyártási típust és a gyártási eljárást reprezentáló mintadarabon az EN ISO 61:1997 szabvány előírásai szerint kell végrehajtani;

$$K = S \cdot K_0 \cdot K_1 \cdot K_2 \cdot K_3,$$

ahol

$K$  legkisebb értékének 4-nek kell lennie; és

$S$  = biztonsági tényező. Általában, ha a tartányhoz a 3.2 fejezet „A” táblázat 12 oszlopában olyan tartánykód tartozik, amely a második részében „G” betűt tartalmaz (lásd a 4.3.4.1.1 pontot), akkor  $S$  értékének legalább 1,5-nek kell lennie. Olyan anyagok szállítására szolgáló tartányoknál, amelyek fokozott biztonsági szintet igényelnek, azaz a tartányhoz a 3.2 fejezet „A” táblázat 12 oszlopában olyan tartánykód hivatkozik, amely a második részében a „4” számjegyet tartalmazza (lásd a 4.3.4.1.1 pontot), az  $S$  értékét 2-vel meg kell szorozni, kivéve, ha a tartány sérülés elleni védelemmel van ellátva, ami hossz- és keresztirányú szerkezeti elemeket is tartalmazó, teljes fémvázból áll;

$K_0$  = a kúszás, az öregedés, valamint a szállítandó anyagok kémiai hatásának eredményeként az anyag tulajdonságaiban bekövetkező romlást figyelembe vevő tényező. Ezt a következő képlettel kell meghatározni:

$$K_0 = \frac{1}{\alpha\beta},$$

ahol  $\alpha$  a kúszási tényező,  $\beta$  az öregedési tényező, az EN 977:1997 szabvány szerinti vizsgálatok elvégzése után, az EN 978:1997 szabvány szerint meghatározva. Alternatívaként a  $K_0 = 2$  biztonságos érték is alkalmazható. Az  $\alpha$  és a  $\beta$  tényezőt  $2\sigma$  értékhez tartozó kezdeti behajlásnál kell meghatározni;

$K_I$  = az üzemi hőmérsékletet és a műgyanta termikus tulajdonságait figyelembe vevő tényező, amit a következő egyenlettel kell meghatározni és amelynek legkisebb értéke 1;

$$K_I = 1,25 - 0,0125 (HDT - 70),$$

ahol  $HDT$  a műgyanta hőtorzulási hőmérséklete °C-ban;

$K_2$  = az anyag kifáradására vonatkozó tényező;

$K_2 = 1,75$  értéket kell használni, kivéve, ha az illetékes hatóság mást hagyott jóvá. A 6.9.2.6 bekezdésben említett, dinamikai méretezéshez  $K_2 = 1,1$  értéket kell használni;

$K_3$  = a keményedésre vonatkozó tényező, értékei a következők:

- ha a kikeményítés jóváhagyott és dokumentált eljárással történik: 1,1;
- minden más esetben: 1,5.

**6.9.2.6** A 6.8.2.1.2 pontban jelzett dinamikus igénybevételeknél a mértékadó feszültség nem haladhatja meg a 6.9.2.5 bekezdésben előírt érték és az  $\alpha$  tényező hányadosát.

**6.9.2.7** A 6.9.2.5 és a 6.9.2.6 bekezdésben meghatározott feszültségeknél a bekövetkező nyúlás egyetlen irányban sem lehet nagyobb, mint a 0,2% és a műgyanta szakadási nyúlásának egytizede közül a kisebbik érték.

**6.9.2.8** Az előírt próbanyomásnál, ami nem lehet kisebb, mint a 6.8.2.1.14 a), ill. b) pontban meghatározott tervezési nyomás, a tartányban fellépő legnagyobb nyúlás nem lehet nagyobb, mint a műgyanta szakadási nyúlása.

**6.9.2.9** A tartánynak alkalmasnak kell lennie arra, hogy mindenféle, szemmel látható belső vagy külső sérülés nélkül elviselje a 6.9.4.3.3 pont szerinti golyó ejtési próbát.

**6.9.2.10** Az egyesítéseknel (beleértve a végek, a hullámtörő lemezek és a válaszfalak egyesítését a tartányfallyal) kialakított átlapoló laminálásoknak alkalmasnak kell lenniük az előzőekben említett statikus és dinamikus igénybevételek elviselésére. Az átlapoló laminálásokban a feszültség-koncentráció elkerülésére a ferde tekercselés menetemelkedése nem lehet 1:6-nál meredekebb.

Az átlapoló laminálás és az általa összekapcsolt tartány alkotórészek közötti nyírószilárdság nem lehet kisebb, mint:

$$\tau = \frac{Q}{l} \leq \frac{\tau_R}{K},$$

ahol:

$\tau_R$  = az EN ISO 14125:1998 (három pontos módszer) szabvány szerinti hajlítási

nyírószilárdság, amelynek legkisebb értéke  $\tau_R = 10 \text{ N/mm}^2$ , ha mért adat nem áll rendelkezésre;

$Q$  = az egységnyi szélességére jutó terhelés, amelyet az egyesítésnek a statikus és dinamikus terhelések hatására el kell viselnie;

$K$  = a statikus és dinamikus igénybevételekre a 6.9.2.5 bekezdés szerint számított tényező; és

$l$  = az átlapoló laminálás hossza.

**6.9.2.11** A tartányon levő nyílásokat úgy kell megerősíteni, hogy a 6.9.2.5 és a 6.9.2.6 bekezdésben meghatározott statikus és dinamikus igénybevételekkel szemben legalább akkora biztonsági tényezővel rendelkezzenek, mint maga a tartány. A nyílások száma a lehető legkisebb legyen. Az ovális alakú nyílások tengelyeinek aránya legfeljebb 2 lehet.

**6.9.2.12** A tartányhoz csatlakozó csőkarimák és csővezetékek méretezése során a kezelésnél és a csavarok meghúzásánál fellépő erőket ugyancsak figyelembe kell venni.

**6.9.2.13** A tankkonténert ill. tartányos cserefelépítményt úgy kell kialakítani, hogy a 6.9.4.3.4 pont szerinti vizsgálati követelményeknek megfelelő, 30 percen át tartó tűz hatására jelentősen nem szivároghat. Az illetékes hatóság hozzájárulása esetén a vizsgálatról el lehet tekinteni, amennyiben hasonló tartány típus vizsgálata elegendő bizonyítékot szolgáltat.

**6.9.2.14** *A legfeljebb 60 °C lobbanáspontú anyagok szállítására vonatkozó különleges követelmények*

A legfeljebb 60 °C lobbanáspontú folyékony anyagok szállítására használt szálvázaz műanyag tankkonténereket, ill. tartányos cserefelépítményeket úgy kell kialakítani, hogy a különböző szerkezeti részek elektrosztatikus feltöltődését, és így az elektrosztatikus töltések veszélyes felhalmozódását elkerüljék.

**6.9.2.14.1** A tartány belső és külső felületi ellenállásának mért értéke legfeljebb  $10^9$  ohm lehet. Ez elérhető a műgyantához adott adalékanyagokkal vagy közbenső vezetőképes rétegek, például fém- vagy szénszál háló beiktatásával.

**6.9.2.14.2** A földelési ellenállás mért értéke legfeljebb  $10^7$  ohm lehet.

**6.9.2.14.3** A tartány minden elemét egymással, valamint a tankkonténer, ill. tartányos cserefelépítmény üzemi és szerkezeti szerelvényei fém részeivel elektromosan össze kell kötni. Az egymással érintkező elemek és szerelvények között az elektromos ellenállás legfeljebb 10 ohm lehet.

**6.9.2.14.4** A felületi ellenállást és a földelési ellenállást az üzembe helyezés előtt minden egyes műanyag tankkonténeren, ill. tartányos cserefelépítményen vagy a tartány mintadarabján az illetékes hatóság által elismert eljárással meg kell mérni.

**6.9.2.14.5** Az egyes tankkonténerek, ill. tartányos cserefelépítmények földelési ellenállását az időszakos vizsgálat részeként az illetékes hatóság által elismert eljárással meg kell mérni.

### **6.9.3 Szerelvények**

**6.9.3.1** A 6.8.2.2.1, a 6.8.2.2.2 és a 6.8.2.2.4 – 6.8.2.2.8 pont követelményeit kell alkalmazni.

**6.9.3.2** Ezenkívül, amennyiben egy tételnél a 3.2 fejezet „A” táblázat 13 oszlopában a 6.8.4 b) pont szerinti különleges előírás (TE) is fel van tüntetve, akkor azt is alkalmazni kell.

**6.9.4 Típusvizsgálat és jóváhagyás**

**6.9.4.1** Minden szálvázaz műanyag tankkonténer-, ill. tartányos cserefelépítmény-típus anyagait és gyártási mintapéldányát a következők szerinti gyártási típus vizsgálatnak kell alávetni.

**6.9.4.2 Anyagvizsgálat**

**6.9.4.2.1** A használandó műgyanta szakadási nyúlását az EN ISO 527-5:1997 szabvány szerint, a hőtörzslási hőmérsékletét az ISO 75-1:1993 szabvány szerint kell meghatározni.

**6.9.4.2.2** A következő anyagjellemzőket a tartányból kivágott mintán kell meghatározni. A gyártással párhuzamosan készített minták csak akkor használhatók, ha a tartányból nem lehet mintát kivágni. Vizsgálat előtt a belső betétet el kell távolítani.

A következőket kell megvizsgálni:

- a tartány palástjának és fenekeinek réteg vastagságát;
- az üvegszál összetételét és tömegarányát, az erősítő rétegek irányát és felépítését;
- a szakítószilárdságot, a szakadási nyúlást és a rugalmassági modulust a igénybevételek irányában, az EN ISO 527-5:1997 szabvány szerint. Ezenkívül a műgyanta szakadási nyúlását ultrahangos módszerrel meg kell határozni;
- a hajlítószilárdságot és a behajlás mértékét az EN ISO 14125:1998 szabvány szerinti hajlítási kúszásvizsgálattal, amit legalább 50 mm széles próbatesten, a falvastagság legalább 20-szorosát kitevő alátámasztási távolsággal, 1000 órás időtartamig kell végezni. Ezenkívül ezzel a vizsgálattal az EN 978:1997 szabvány szerinti  $\alpha$  kúszási tényezőt és  $\beta$  öregedési tényezőt is meg kell határozni.

**6.9.4.2.3** Az egyesítések rétegek közötti nyírószilárdságát reprezentatív mintán kell meghatározni az EN ISO 14130:1997 szabvány szerinti szakítóvizsgálat keretében.

**6.9.4.2.4** A tartány és a szállítandó anyag vegyi összeférhetőségét az illetékes hatóság egyetértésével a következő módszerek valamelyikével bizonyítani kell. Ennek során a tartány és a szerelvényei anyagainak a szállítandó anyagokkal való összeférhetőségét minden szempontból igazolni kell, beleértve a tartány kémiai roncsolódását, a szállítandó anyag kritikus reakciójának iniciálását és a kettő közötti veszélyes kölcsönhatást.

- A tartány roncsolódásának megállapításához a tartányból és az esetleges belső betétek hegesztési tartományából mintát kell venni és az EN 977:1997 szabvány szerinti vegyi összeférhetőségi vizsgálatnak kell alávetni 50 °C-on, 1000 órás időtartamig. Az EN 978:1997 szabvány szerinti hajlítási vizsgálattal meghatározott szilárdság és rugalmassági modulus csökkenése az eredeti mintához képest legfeljebb 25% lehet. Repedések, hólyagok, kipattogzás, a rétegek és a betét szétválása és egyenetlenségek nem fogadhatók el.
- A szállítandó anyagoknak a tartány azon anyagaival való összeférhetőségére, amelyekkel az adott hőmérsékleten, időtartamban és üzemi körülmények között érintkezésbe kerülhetnek, hiteles és dokumentált pozitív tapasztalatok vannak.
- A szakirodalomban, szabványban vagy más forrásban az illetékes hatóság számára elfogadható műszaki adatok találhatók.

**6.9.4.3 Típusvizsgálat**

A tankkonténer, ill. tartányos cserefelépítmény mintadarabját a következőkben meghatározott vizsgálatoknak kell alávetni. E célból az üzemi szerelvények szükség esetén más szerelvényekre cserélhetők.

- 6.9.4.3.1** A mintadarabot meg kell vizsgálni, hogy megfelel-e a gyártási típusnak. Ennek ki kell terjednie a belső és külső szemrevételezésre és a fő méretek megmérésére.
- 6.9.4.3.2** A mintadarabon minden olyan helyre, ahol a méretezési számítással való összehasonlítás szükséges, nyúlásmérő bélyeget kell elhelyezni, a tartányt meg kell terhelni és a mérési eredményeket fel kell jegyezni. A terheléseknek a következőknek kell lenni:
- a tartányt a legnagyobb töltési fokig meg kell tölteni vízzel. Ezeket a mérési eredményeket kell felhasználni a 6.9.2.5 bekezdés szerinti méretezési számítások hitelesítéséhez;
  - a tartányt a legnagyobb töltési fokig meg kell tölteni vízzel, kocsira kell erősíteni és vezetési és fékezési próbák végrehajtásával mindhárom irányban gyorsulásnak kell kitenni. A 6.9.2.6 bekezdés szerinti méretezési számítással való összehasonlítás céljából a mérési eredményeket a 6.8.2.1.2 pontban előírt és a ténylegesen mért gyorsulások arányában extrapolálni kell;
  - a vízzel töltött tartányt az előírt próbanyomásnak kell kitenni. E terhelés hatására a tartányon nem lehet szemmel látható sérülés vagy szivárgás.
- 6.9.4.3.3** A mintadarabot az EN 976-1:1997, 6.6 szabvány szerinti golyó ejtési próbának kell alávetni. A tartányon sem kívül, sem belül nem lehet szemmel látható sérülés.
- 6.9.4.3.4** A mintadarabot – felszerelt üzemi és szerkezeti szerelvényekkel – legnagyobb ürtartalmának 80%-áig meg kell tölteni vízzel, és 30 percen át úgy kell kitenni nyílt tüzelőolaj tűznek vagy ugyanilyen hatású más tűznek, hogy a láng teljesen körülvegye. A tüzelőanyag felületének minden irányban legalább 50 cm-rel nagyobbnak kell lennie, mint a tartány, a tüzelőanyag felszíne és a tartány közötti távolságnak pedig 50 és 80 cm között kell lennie. A tartány folyadékszint alatt lévő részeinek, a nyílásoknak és a zárószerkezeteknek is, a csepegéstől eltekintve, szivárgásmentesnek kell maradniuk.
- 6.9.4.4** *Típusjóváhagyás*
- 6.9.4.4.1** Minden új tankkonténer,- ill. tartányos cserefelépítmény-típusra az illetékes hatóságnak vagy az általa kijelölt szervnek jóváhagyást kell kiadnia annak tanúsítására, hogy a típus a kívánt célra alkalmas, és e fejezetnek a gyártásra és a szerelvényekre vonatkozó követelményeinek, valamint a szállítandó anyagra vonatkozó különleges előírásoknak megfelel.
- 6.9.4.4.2** A jóváhagyásnak a számításokat és minden anyagvizsgálat eredményét és a mintadarab vizsgálatának az eredményeit is tartalmazó vizsgálati jegyzőkönyvet kell alapul venni, valamint a méretezési számítással való összehasonlítását, és utalnia kell a gyártási típus jellemzőire és a minőségbiztosítási programra.
- 6.9.4.4.3** A jóváhagyásban fel kell tüntetni azokat az anyagokat, ill. anyagcsoportokat, amelyekkel a tankkonténer, ill. tartányos cserefelépítmény összeférhető. Az anyagok kémiai elnevezését vagy a megfelelő gyűjtőmegnevezést (lásd a 2.1.1.2 bekezdést), valamint az osztályt és az osztályozási kódot meg kell adni.
- 6.9.4.4.4** Ezenkívül tartalmaznia kell a jóváhagyott típus alapján gyártott tankkonténerekre, ill. tartányos cserefelépítményekre a meghatározott tervezési és küszöbértékeket (élettartam, üzemi hőmérséklet-tartomány, üzemi és próbanyomás, anyagjellemzők) és a gyártásnál, vizsgálatnál, típusjóváhagyásnál, jelölésnél és használatnál betartandó minden óvintézkedést.
- 6.9.5** **Vizsgálat**
- 6.9.5.1** Minden, a jóváhagyott típus alapján gyártott tankkonténernél, ill. tartányos cserefelépítménynél a következő anyagvizsgálatokat és vizsgálatokat kell elvégezni.



- 6.9.5.1.1** A tartányból kivágott mintán – a szakítóvizsgálat kivételével – a 6.9.4.2.2 pont szerinti anyagvizsgálatokat kell végrehajtani azzal az eltéréssel, hogy a hajlítási kúszásvizsgálat időtartamát 100 órára lehet csökkenteni. A gyártással párhuzamosan készített minták csak akkor használhatók, ha a tartányból nem lehet mintát kivágni. A típusra jóváhagyott értékeknek meg kell felelni.
- 6.9.5.1.2** Üzembe helyezés előtt a tartányt és szerelvényeit együtt vagy külön-külön vizsgálatnak kell alávetni. A vizsgálatnak magában kell foglalnia:
- annak ellenőrzését, hogy a tartány megfelel-e a jóváhagyott típusnak;
  - a szerkezeti jellemzők ellenőrzését;
  - a belső és külső állapot vizsgálatát;
  - a folyadéknomás-próbát a 6.8.2.5.1 pontban előírt táblán feltüntetett próbanyomással végrehajtva;
  - a szerelvények megfelelő működésének ellenőrzését;
  - tömörségi próbát, ha a tartányt és szerelvényeit külön-külön vetették alá a nyomáspróbának.
- 6.9.5.2** A tankkonténerek, ill. tartányos cserefelépítmények időszakos vizsgálatára a 6.8.2.4.2 – 6.8.2.4.4 pont követelményeit kell alkalmazni. Ezenkívül a 6.8.2.4.3 pont szerinti vizsgálatnak a tartány belső állapotának vizsgálatára is ki kell terjednie.
- 6.9.5.3** A 6.9.5.1 és a 6.9.5.2 bekezdés szerinti vizsgálatokat az illetékes hatóság által elismert szakértőnek kell elvégeznie. A vizsgálatok eredményeiről bizonyítványt kell kiállítani. A bizonyítványban fel kell sorolni azokat az anyagokat, amelyek a 6.9.4.4 bekezdés szerint a műanyag tankkonténerben, ill. tartányos cserefelépítményben szállíthatók.
- 6.9.6 Jelölés**
- 6.9.6.1** A szálvázaz műanyag tankkonténerek, ill. tartányos cserefelépítmények jelölésére a 6.8.2.5 bekezdés előírásait kell alkalmazni a következő eltéréssel:
- a tartánytábla a tartányra laminálható vagy alkalmas műanyagból is készíthető;
  - a tervezési hőmérséklet-tartományt mindig fel kell tüntetni.
- 6.9.6.2** Ezenkívül, amennyiben egy tételnél a 3.2 fejezet „A” táblázat 13 oszlopában a 6.8.4 e) pont szerinti különleges előírás (TM) is fel van tüntetve, akkor azt is alkalmazni kell.



## 6.10 fejezet

### A hulladékok szállítására szolgáló, vákuummal üzemelő tartányok gyártására, szerelvényeire, típusjóváhagyására, vizsgálatára és jelölésére vonatkozó előírások

**Megjegyzés:** 1. A mobil tartányokra és az UN többelemes gázkonténerekre (UN MEG-konténerekre) lásd a 6.7 fejezetet; a fémből gyártott tartálykocsikra, leszerelhető tartányokra, tankkonténerekre és tartányos cserefelépítményekre, valamint a battériás kocsikra és többelemes gázkonténerekre (MEG-konténerekre) – az UN MEG-konténerek kivételével – lásd a 6.8 fejezetet; a szállvázaz műanyag tankkonténerekre lásd a 6.9 fejezetet.

2. Ez a fejezet a tankkonténerekre és a tartányos cserefelépítményekre vonatkozik.

#### 6.10.1 Általános előírások

##### 6.10.1.1 Meghatározások

**Megjegyzés:** Az olyan tartány, amely mindenben megfelel a 6.8 fejezet előírásainak, nem minősül „hulladékok szállítására szolgáló, vákuummal üzemelő tartány”-nak.

##### 6.10.1.1.1 A „védett terület” a következőképpen elhelyezkedő területeket jelenti:

- a tartány alsó részén, az alsó alkotó mindkét oldalán, 60°-os középponti szöghöz tartozó sávban;
- a tartány felső részén, a felső alkotó mindkét oldalán, 30°-os középponti szöghöz tartozó sávban;

##### 6.10.1.2 Alkalmazási terület

##### 6.10.1.2.1 A 6.10.2 – 6.10.4 szakasz különleges előírásai a hulladékok szállítására szolgáló, vákuummal üzemelő tartányokra vonatkoznak, és kiegészítik vagy módosítják a 6.8 fejezet előírásait.

A hulladékok szállítására szolgáló, vákuummal üzemelő tartányokat nyitható fenékkal is el lehet látni, ha a 4.3 fejezet előírásai a szállítandó anyag alulról történő ürítését engedélyezik (amire a 3.2 fejezet „A” táblázat 12 oszlopában a 4.3.4.1.1 pont szerinti tartánykód harmadik részében „A” vagy „B” betű utal).

A hulladékok szállítására szolgáló, vákuummal üzemelő tartányoknak meg kell felelniük a 6.8 fejezet minden olyan előírásának, amelyet e fejezet előírásai nem módosítanak. Ennek ellenére a 6.8.2.1.19 és a 6.8.2.1.20 pont előírásait nem kell betartani.

#### 6.10.2 Gyártás

##### 6.10.2.1 A tartányokat a töltési vagy ürítési nyomás 1,3-szeresével egyenlő tervezési nyomásra, de legalább 400 kPa (4 bar) túlnyomásra kell méretezni. Amennyiben a szállítandó anyagra a 6.8 fejezetben nagyobb tervezési nyomást ír elő, úgy ezt a nagyobb nyomást kell alkalmazni.

##### 6.10.2.2 A tartányokat 100 kPa (1 bar) vákuum elviselésére kell méretezni.

**6.10.3 Szerelvények**

**6.10.3.1** A szerelvényeket úgy kell a tartányon elhelyezni, hogy a szállítás és a kezelés során leszakadás vagy sérülés veszélye ellen biztosítva legyenek. Ez az előírás teljesítettnek tekinthető, ha a szerelvényeket az ún. védett területen (lásd 6.10.1.1.1) helyezik el.

**6.10.3.2** A tartányok alulról ürítése megoldható külső csővezetékekkel és a tartányhoz a lehető legközelebb elhelyezett zárószeleppel, és egy második zárószerkezettel, amelyik vakkarima vagy más, ugyanennyire hatékony szerkezet lehet.

**6.10.3.3** A tartányhoz, illetve több kamrás tartány esetén az egyes kamrákhoz tartozó zárószelepek állásának és zárási irányának egyértelműnek és a talajszintről ellenőrizhetőnek kell lennie.

**6.10.3.4** A külső töltő- vagy ürítőszerelvények (csőcsonkok, oldalsó zárószerkezetek) sérüléséből adódó elfolyás elkerülése érdekében a belső főelzáró szelepet vagy – ha van – az első, külső főelzáró szelepet és fészüket (üléküket) úgy kell kialakítani, hogy a külső erőhatásra történő leszakadás veszélye ellen védve legyenek, vagy az ilyen erőhatásnak ellen tudjanak állni. A töltő- és ürítőszerkezeteket (beleértve a karimákat és menetes dugókat is), valamint az esetleges védőkupakokat a véletlen kinyílás ellen biztosítani kell.

**6.10.3.5** A tartányokat nyitható fenékekkel is el lehet látni, a nyitható fenéknek azonban meg kell felelnie a következő feltételeknek:

- a) a fenéket úgy kell kialakítani, hogy zárt állásban szivárgásmentesen rögzítve legyen;
- b) a fenék véletlenül ne nyílhasson ki;
- c) gépi nyitó/záró szerkezet esetén energia kimaradáskor a fenéknek biztosan zárva kell maradnia;
- d) megszakítót vagy egyéb biztonsági berendezést kell beépíteni, amely megakadályozza a fenék kinyitását akkor, ha a tartányban túlnyomás van. Ez az előírás nem vonatkozik azokra a fenékekre, amelyeknek gépi működtetésű nyitó/záró szerkezetük van, ahol a működtető szerkezet kényszervezérelt. Ez esetben viszont biztonsági („holtember”) berendezést kell alkalmazni, valamint azt úgy kell elhelyezni, hogy a kezelő mindvégig megfigyelhesse a fenék mozgását, és a fenék nyitása, zárása ne veszélyeztesse a kezelőt; és
- e) gondoskodni kell arról, hogy ha a tankkonténer vagy a tartányos cserefelépítmény felborul, a fenék védve legyen és ne nyíljon ki.

**6.10.3.6** Ha a hulladékok szállítására használt, vákuummal üzemelő tartányon a tisztítást vagy ürítést segítő dugattyú van, akkor a tartányt olyan határoló/rögzítő szerkezettel kell ellátni, amely minden üzemi helyzetben meggátolja a dugattyú kiengedését a tartányból, ha a dugattyúra a tartány legnagyobb üzemi nyomásával azonos erő hat. A pneumatikus dugattyúval ellátott tartányok és tartánykamrák legnagyobb üzemi nyomása legfeljebb 100 kPa (1 bar) lehet. A dugattyút olyan anyagból és oly módon kell kialakítani, hogy a dugattyú mozgása során ne keletkezzen szikra.

A dugattyú válaszfalként is szolgálhat, ha helyzetében rögzítve van. Ha a dugattyú rögzítéséhez használt eszköz bármely része a tartányon kívülre esik, úgy kell elhelyezni, hogy véletlen sérüléseknek ne legyen kitéve.

**6.10.3.7** A tartányt szívócsővel is fel lehet szerelni, ha

- a) az olyan, belső vagy külső elzárószeleppel van ellátva, amely közvetlenül a tartányra vagy a tartányra hegesztett csomagra van rögzítve; a tartány, ill. a csomok és a külső

elzárószelep közé forgatókoszorú helyezhető, ha az az ún. védett területre kerül és a külső elzárószelep működtető szerkezete házzal vagy fedéllel védve van a külső erőhatásra történő leszakadás veszélye ellen;

- b) az a) pontban említett elzárószelep úgy van kialakítva, hogy menet közben nem maradhat nyitva; és
- c) a szívócső úgy van kiképezve, hogy ha véletlenül a tartánynak ütközik, nem okozza annak szivárgását.

#### 6.10.3.8

A tartányt a következő kiegészítő üzemi szerelvényekkel kell ellátni:

- a) A vákuumszivattyút, illetve a kompresszor kivezetését úgy kell kialakítani, hogy a gyúlékony vagy mérgező gőzöket olyan helyre terelje, ahol nem okozhatnak veszélyt;
- b) Ha a gyúlékony hulladékok szállítására szolgáló tartányokra szerelt vákuumszivattyút, ill. kompresszor szikraképződést okozhat, akkor a szívó- és a kipufogócsonkon is olyan eszközt kell alkalmazni, amely megakadályozza a láng közvetlen áthatolását;
- c) Azokon a szivattyúkon, amelyek túlnyomást is elő tudnak állítani, a csővezetékre szerelve olyan biztonsági szelep szükséges, amely nyomás alatt tartható. A biztonsági szelepet úgy kell beállítani, hogy a tartány legnagyobb üzemi nyomásánál kisebb nyomáson nyíljon ki;
- d) Elzárószelepet kell elhelyezni a tartány vagy a tartányra szerelt túltöltés gátló kivezetőnyílása és a tartányt a vákuumszivattyúval, illetve a kompresszorral összekötő csővezeték közé;
- e) A tartányt megfelelő vákuum-, illetve nyomásmérővel kell felszerelni, amit úgy kell elhelyezni, hogy a vákuumszivattyút, illetve a kompresszort kezelő személy könnyen leolvashassa. A nyomásmérő skáláján a tartány legnagyobb üzemi nyomásának értékét megkülönböztető jellel kell ellátni;
- f) A tartányt, illetve minden tartánykamrát szintjelzővel kell ellátni. Kémlelőablak akkor használható e célra, ha
  - i) a kémlelőablak a tartány falában van és azzal azonos nyomásállóságú, vagy a tartány külsejére van erősítve;
  - ii) a tartányhoz való alsó és felső csatlakozásnál olyan elzárószelep van, amely közvetlenül a tartányhoz van erősítve és úgy van kialakítva, hogy a menet közben a szelep nem lehet nyitva;
  - iii) tartány legnagyobb üzemi nyomásán is megfelelően működik; és
  - iv) úgy van elhelyezve, hogy véletlen sérülésnek ne legyen kitéve.

#### 6.10.3.9

A hulladékok szállítására szolgáló, vákuummal üzemelő tartányt el kell látni hasadótárcsával ellátott biztonsági szeleppel.

A szelepeknek önműködően kell nyílnia (lefújnia) a tartány próbanyomásának 0,9...1,0-szeresénél. Súlyterhelésű (ellensúlyos) szelep alkalmazása tilos.

A hasadótárcsának legkorábban akkor kell felszakadnia, ha a nyomás eléri a szelep nyitónyomását és legkésőbb akkor, ha a nyomás eléri a tartány próbanyomását.

A biztonsági szerkezeteket úgy kell kialakítani, hogy ellenálljanak a dinamikus igénybevételeknek, beleértve a folyadék hullámozását is.

A hasadótárcsa és a biztonsági szelep közti térbe nyomásmérőt vagy más, alkalmas jelzőeszközt kell csatlakoztatni, ami lehetővé teszi, hogy észleljék a hasadótárcsa repedését,

kilyukadását vagy szivárgását, ami a biztonsági szelep hibás működését okozhatja.

#### **6.10.4**

##### **Vizsgálatok**

A hulladékok szállítására szolgáló, vákuummal üzemelő tartányokat legalább kettő és fél évenként a 6.8.2.4.3 pontban előírt vizsgálatokon kívül a belső állapot vizsgálatának is alá kell vetni.

## 6.11 fejezet

### Az ömlesztettáru-konténerek tervezésére, gyártására és vizsgálatára vonatkozó követelmények

#### 6.11.1 Meghatározások

E szakasz alkalmazásában

a *zárt ömlesztettáru-konténer* olyan teljesen zárt ömlesztettáru-konténer, amelynek teteje, oldal- és homlokfalai, ill. padlója (beleértve a garatszerű fenék kialakítást is) merev. E fogalomba beletartoznak a nyitható tetejű, oldal- és homlokfalú ömlesztettáru-konténerek is, ha a szállítás alatt zárva tarthatók. A zárt ömlesztettáru-konténereken lehetnek olyan nyílások, amelyek lehetővé teszik a gőzök és gázok, ill. a szabad levegő kicserélődését, azonban normális szállítási körülmények között megakadályozzák a szilárd anyag tartalom kiszabadulását, valamint a csapadék és a fröccsenő víz bejutását;

a *ponyvás ömlesztettáru-konténer* olyan nyitott tetejű ömlesztettáru-konténer, amelynek fenékrésze (beleértve a garatszerű fenék kialakítást is), oldal- és homlokfalai merevek, és hajlékony „eszközzel” van lefedve;

#### 6.11.2 Alkalmazás és általános követelmények

6.11.2.1 Az ömlesztettáru-konténereket és üzemi és szerkezeti szerelvényeiket úgy kell tervezni és gyártani, hogy a tartalom elvesztése nélkül ellenálljanak a tartalom által kifejtett belső nyomásnak és a normális kezelés és szállítás során fellépő feszültségeknek.

6.11.2.2 Ha a konténer ürítőszeleppel van ellátva, annak zárt állásban rögzíthetőnek kell lennie és a teljes ürítőrendszert alkalmas módon védeni kell a sérülésektől. A karos zárószervezetű szelepnek a nem szándékos nyitással szemben biztosíthatónak kell lennie, és nyitott, ill. zárt állásának jól észlelhetőnek kell lennie.

#### 6.11.2.3 Az ömlesztettáru-konténerek típusát jelölő kód

A következő táblázat tartalmazza az ömlesztettáru-konténerek típusát jelölő kódokat:

Az ömlesztettáru-konténer típusa	Kód
Ponyvás ömlesztettáru-konténer	BK1
Zárt ömlesztettáru-konténer	BK2

6.11.2.4 A tudományos és műszaki haladás figyelembe vétele érdekében az illetékes hatóság elfogadhat olyan alternatív megoldásokat, amelyek legalább olyan biztonságosak, mintha a fejezet követelményeit teljesítették volna.

#### 6.11.3 A CSC előírásainak megfelelő, ömlesztett áru szállításra használt konténerek tervezésére, gyártására és vizsgálatára vonatkozó előírások

##### 6.11.3.1 Tervezési és gyártási követelmények

6.11.3.1.1 E szakasz tervezési és gyártási követelményei teljesítettnek tekinthetők, ha az ömlesztettáru-konténer megfelel az ISO 1496-4:1991 „1 sorozatú teherkonténerek - Meghatározások és vizsgálat - 4 rész: Nem nyomástartó konténerek száraz áruhoz” szabványnak és a konténer portömör.

- 6.11.3.1.2** Az ISO 1496-4:1991 „1 sorozatú teherkonténerek - Meghatározások és vizsgálat - 1 rész: Általános rendeltetésű teherkonténerek” szabvány szerint tervezett és vizsgált konténereket olyan üzemi berendezéssel kell ellátni, amelyek – a konténerhez való csatlakozásukkal együtt – úgy vannak kialakítva, hogy annyira megerősítsék a homlokfalakat és a konténer hosszirányú teherbírását, ami ahhoz szükséges, hogy a konténer megfeleljen az ISO 1496-4:1991 szabvány megfelelő vizsgálati követelményeinek.
- 6.11.3.1.3** Az ömlesztettáru-konténernek portömörnek kell lennie. Ha a konténer portömörré tételéhez bélést használnak, azt megfelelő anyagból kell készíteni. A béléshez használt anyag szilárdságának és a bélés kialakításának meg kell felelnie a konténer befogadóképességének és szándékolt használatának. A bélés egyesítéseinek és zárásainak el kell viselniük a normális kezelés és szállítás során fellépő nyomásokat és ütéseket. A szellőztetett ömlesztettáru-konténereknél az esetleges bélés nem akadályozhatja a szellőző szerkezetek működését.
- 6.11.3.1.4** A billentéssel ürített ömlesztettáru-konténerek üzemi berendezéseinek alkalmasnak kell lenniük a teljes töltőtömeg megtartására a döntött helyzetben.
- 6.11.3.1.5** Minden eltolható tetőt, ill. oldal- vagy homlokfal szakaszt olyan zárószerkezettel kell ellátni, amelynek rögzítőszerkezete úgy van kialakítva, hogy zárt helyzetét a talajon álló megfigyelő észlelhesse.
- 6.11.3.2** *Üzemi szerelvények*
- 6.11.3.2.1** A töltő- és ürítőszerkezeteket úgy kell elhelyezni, hogy a szállítás és a kezelés során leszakadás vagy sérülés veszélye ellen biztosítva legyenek. A töltő- és ürítőszerkezeteket a nem szándékos kinyitás ellen biztosítani kell. A zárószerkezetek nyitott és zárt helyzetét és zárási irányát jól láthatóan fel kell tüntetni.
- 6.11.3.2.2** A nyílások tömítéseit úgy kell kialakítani, hogy az ömlesztettáru-konténer kezelése, töltése és ürítése ne okozza sérülésüket.
- 6.11.3.2.3** Ha szellőzésre van szükség, az ömlesztettáru-konténert légcserét biztosító eszközzel kell ellátni, akár természetes légáramlás biztosításával, pl. nyílásokkal, vagy aktív elemekkel, pl. ventilátorokkal. A szellőzést úgy kell biztosítani, hogy soha ne jöhessen létre vákuum a konténerben. A gyúlékony anyagok vagy gyúlékony gázokat vagy gőzöket kibocsátó anyagok szállítására szolgáló konténerek szellőző elemeit úgy kell kialakítani, hogy ne képezzenek gyújtóforrást.
- 6.11.3.3** *Vizsgálat*
- 6.11.3.3.1** Az e szakasz követelményei szerint ömlesztettáru-konténerként használt, karbantartott és minősített konténereket a CSC előírásai szerint kell vizsgálni és jóváhagyni.
- 6.11.3.3.2** Az ömlesztettáru-konténerként használt és minősített konténereket a CSC szerint kell időszakos vizsgálatnak alávetni.
- 6.11.3.4** *Jelölés*
- 6.11.3.4.1** Az ömlesztettáru-konténerként használt konténereket a CSC szerint „Biztonsági jóváhagyási táblá”-val kell megjelölni.

**6.11.4      A nem a CSC előírásainak megfelelő, ömlesztett áru szállításra használt konténerek tervezésére, gyártására és vizsgálatára vonatkozó előírások**

***Megjegyzés:** Ha az e szakasz előírásainak megfelelő konténereket szilárd anyagok ömlesztett szállítására használják, a fuvarokmányba a következő bejegyzést kell tenni:*

*„A ... illetékes hatósága által jóváhagyott BK(x) ömlesztettáru-konténer”  
(lásd az 5.4.1.1.17 pontot).*

**6.11.4.1**      Az e szakasz alkalmazásában az ömlesztettáru-konténer fogalom alá tartoznak az „offshore” ömlesztettáru-konténerek, a billenőputtonyok, az ömlesztettáru-silók, a cserefelépítmények, a konténertechnikák, a görgős konténerek és a kocsik rakodótere.

***Megjegyzés:** Ezen ömlesztettáru-konténerek közé tartoznak azok a 7.1.3 szakaszban említett UIC 591 és 592-2 – 592-4 Döntvénynek megfelelő konténerek is, amelyek nem felelnek meg a CSC előírásainak.*

**6.11.4.2**      Az ömlesztettáru-konténereket úgy kell tervezni és gyártani, hogy elég erők legyenek a normális kezelés és szállítás során fellépő ütődések és igénybevételek elviselésére, beleértve a szállítási módok közötti átrakás során fellépő igénybevételeket is.

**6.11.4.3**      (fenntartva)

**6.11.4.4**      Az ömlesztettáru-konténereket az illetékes hatóságnak kell jóváhagynia és a jóváhagyásnak tartalmaznia kell a 6.11.2.3 bekezdés szerinti, az ömlesztettáru-konténer típusát jelölő kódot és adott esetben a vizsgálatra vonatkozó követelményeket.

**6.11.4.5**      Ha a veszélyes áru megtartásához bélékre van szükség, annak ki kell elégítenie a 6.11.3.1.3 pont előírásait.

**7. rész**

**A szállítás feltételeire, a berakásra,  
a kirakásra és az árukezelésre  
vonatkozó előírások**



## 7.1 fejezet

### Általános előírások

**7.1.1** A veszélyes áruk fuvarozásához az e fejezet előírásai szerinti, valamit küldeménydarabos fuvarozásnál a 7.2 fejezet, illetve ömlesztett áru fuvarozásnál a 7.3 fejezet előírásai szerinti bizonyos típusú szállítóeszközök alkalmazása kötelező. Ezenkívül a berakásra, a kirakásra és az árukezelésre a 7.5 fejezet előírásait be kell tartani.

Az egyes veszélyes árukra a 3.2 fejezet „A” táblázatának 16, 17 és 18 oszlopa mutatja, hogy e rész mely előírásait kell betartani.

**7.1.2** A huckepack fuvarozási módon feladott közúti járműnek, valamint rakományának meg kell felelnie a Veszélyes Áruk Nemzetközi Közúti Szállításáról szóló Európai Megállapodás (ADR)<sup>1)</sup> feltételeinek.

**7.1.3** Ha egy nagykonténer, tankkonténer vagy mobil tartány „A Biztonságos Konténerekről szóló 1972. évi Nemzetközi Egyezmény” (CSC) módosított kiadása, ill. az UIC 591 Döntvény (1998. 01. 01. állapot, 2. kiadás), 592-2 Döntvény (2004. 10. 01. állapot, 6. kiadás), 592-3 Döntvény (1998. 01. 01. állapot, 2. kiadás) és 592-4 Döntvény (2004. 09. 01. állapot, 2. kiadás) meghatározása szerint konténernek minősül, csak akkor használható veszélyes áru szállítására, ha a nagykonténer, ill. a tankkonténer vagy a mobil tartány teherhordó váza megfelel ezeknek az előírásoknak.

**7.1.4** A nagykonténer csak akkor adható fel szállításra, ha szerkezetileg megfelelő állapotú.

A „szerkezetileg megfelelő” azt jelenti, hogy a konténer szerkezeti részei, így az alsó és felső hossztartók, az alsó és felső keresztartók (küszöbök és homlokgerendák), a padló keresztartók, a sarokoszlopok és a sarokelemek mentesek a nagyobb hibáktól. „Nagyobb hibának” számít a szerkezeti elemek 19 mm-nél nagyobb mélységű görbülete vagy horpadása, a hosszúságtól függetlenül; a szerkezeti elemek repedése vagy törése; egynél több vagy helytelen toldás (pl. átlapolt illesztés) az alsó vagy felső keresztartókon vagy homlokgerendákon; kettőnél több toldás bármelyik alsó és felső hossztartón; bármilyen toldás az alsó keresztartón (küszöbön) vagy a sarokoszlopon; beszorult, elcsavarodott, törött, hiányzó vagy más okból használhatatlan ajtópántok és egyéb szerelvények; nem záró tömítések; általában a szerkezet olyan torzulása, ami a kezelőberendezés pontos csatlakoztatását, illetve a kocsin vagy az alvázon való elhelyezést és rögzítést akadályozza.

Ezenkívül, függetlenül a szerkezet anyagától, elfogadhatatlan a konténer bármely elemének károsodása, pl. az oldalfal lemezelésének rozsdásodása, az üvegszövet szétválása. Megengedett viszont a normális mértékű elhasználódás, beleértve a rozsdásodást, enyhe ferdüléseket és a karcolásokat és olyan egyéb sérüléseket, amelyek nem befolyásolják a konténer használhatóságát és időjárásállóságát.

A megrakás előtt a konténert ellenőrizni kell annak biztosítására, hogy mentes legyen az előző rakomány maradványaitól, és hogy a belső padlón és falakon ne legyenek kiálló részek.

**7.1.5** (fenntartva)

**7.1.6** (fenntartva)

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1) Ez a Megállapodás tartalmazza a külön megegyezéseket is, amelyeket a szállításban résztvevő országok aláírtak.

- 7.1.7** Az expresszáruként fuvarozott küldeményeket kivéve, a RID anyagait és tárgyait csak tehervonattal szabad fuvarozni.

## 7.2 fejezet

### A küldeménydarabok fuvarozására vonatkozó előírások

**7.2.1** Hacsak a 7.2.2 – 7.2.4 szakaszban nincs másként előírva, a küldeménydarabok

- a) fedett kocsiba vagy zárt konténerbe; vagy
- b) ponyvás kocsiba vagy ponyvás konténerbe; vagy
- c) nyitott kocsira (ponyva nélkül) vagy nyitott konténerbe (ponyva nélkül)

rakhatók.

**7.2.2** Az olyan küldeménydarabokat, amelyek csomagolása nedvességre érzékeny, fedett vagy ponyvás kocsiba, ill. zárt vagy ponyvás konténerbe kell rakni.

**7.2.3** (fenntartva)

**7.2.4** A következő különleges előírásokat kell betartani, ha a 3.2 fejezet „A” táblázat 16 oszlopában „W” betűvel kezdődő kód van feltüntetve:

**W1** A küldeménydarabokat fedett vagy ponyvás kocsiba, ill. zárt vagy ponyvás konténerbe kell rakni.

**W2** Az 1 osztályba tartozó anyagokat és tárgyakat fedett kocsiba vagy zárt konténerbe kell rakni. Azok a tárgyak, amelyek méretüknél vagy tömegükénél fogva nem rakhatók fedett kocsiba vagy zárt konténerbe, nyitott kocsiban is fuvarozhatók, de ezeket kocsiponyvával le kell fedni. Az 1.1, 1.2, 1.3, 1.5 és 1.6 alosztály anyagainak és tárgyainak fuvarozásához, még ha azok nagykonténerbe vannak is rakva, szabályszerű szikravédő lemezzel ellátott teherkocsikat kell használni. Az éghető padlózattal rendelkező teherkocsiknál a szikravédő lemezeknek nem szabad közvetlenül a padlózathoz erősítve lenniük.

Azok a katonai küldemények, amelyek az 1 osztály anyagait és tárgyait tartalmazzák és felszerelésre vagy a katonai anyagok készletezésére szolgálnak, a következő feltételek mellett nyitott vasúti kocsikba is berakhatók:

- a küldeményeket az illetékes katonai hatóságnak vagy megbízottjának kell kísérnie;
- azokat a gyújtószerkezeteket, amelyek nincsenek legalább két hatékony biztonsági szerkezettel ellátva, el kell távolítani, hacsak az anyagok és tárgyak nincsenek zárt katonai járművekben elhelyezve.

**W3** Könnyen folyó, porszerű anyagok és tűzijáték testek esetében a kocsi vagy a konténer padlózatának nemfémes anyagból készítettnek vagy nemfémes anyaggal bevontnak kell lennie.

**W4** (fenntartva)

**W5** A küldeménydarabok nem fuvarozhatók kiskonténerekben.

**W6** (fenntartva)

**W7** A küldeménydarabok csak megfelelően szellőző, fedett kocsiban vagy zárt

konténerben fuvarozhatók.

- W8** Az olyan küldeménydarabok fuvarozásához, amelyek kiegészítésképpen 1 számú bárcával is el vannak látva, csak szabályszerűen felszerelt szikrafogó lemezzel ellátott kocsik használhatók, még ha az anyagok nagykonténerbe vannak is rakva. Az éghető padlójú kocsiknál a szikrafogó lemezt tilos közvetlenül a kocsi padlóhoz erősíteni.
- W9** A küldeménydarabokat fedett kocsiban, nyitható tetejű kocsiban vagy zárt konténerben kell fuvarozni.
- W10** Az IBC-ket fedett vagy ponyvás kocsiban, ill. zárt vagy ponyvás konténerben kell fuvarozni.
- W11** A fém és a merev falú műanyag IBC-k kivételével a többi IBC-t fedett vagy ponyvás kocsiban, ill. zárt vagy ponyvás konténerben kell fuvarozni.
- W12** A 31HZ2 típusú IBC-ket fedett kocsiban vagy zárt konténerben kell fuvarozni.
- W13** Ha az anyag 5H1, 5L1 vagy 5M1 típusú zsákokba van csomagolva, akkor fedett kocsiban vagy zárt konténerben kell fuvarozni.
- W14** A 3.3 fejezet 327 különleges előírása szerint, újrahasznosítás vagy ártalmatlanítás céljából szállított aeroszolok csak szellőző vagy nyitott kocsiban, ill. konténerben vihetők.

## 7.3 fejezet

### Az ömlesztett fuvarozásra vonatkozó előírások

#### 7.3.1 Általános előírások

**7.3.1.1** Valamely áru csak akkor fuvarozható ömlesztettáru-konténerben, konténerben vagy kocsiban ömlesztve, ha

- a) a 3.2 fejezet „A” táblázat 10 oszlopában BK (betűkkel kezdődő) kóddal jelölt különleges előírás fel van tüntetve, amely ezt a fuvarozási módot kifejezetten megengedi, és ezen szakasz előírásain kívül a 7.3.2 szakasz vonatkozó feltételeit is betartják; vagy
- b) a 3.2 fejezet „A” táblázat 17 oszlopában VW (betűkkel kezdődő) kóddal jelölt különleges előírás fel van tüntetve, amely ezt a fuvarozási módot kifejezetten megengedi, és ezen szakasz előírásain kívül a 7.3.3 szakaszban található, vonatkozó különleges előírás feltételeit is betartják.

Az üres, tisztítatlan csomagolóeszközök azonban fuvarozhatók ömlesztve, kivéve, ha ezt a fuvarozási módot a RID más előírásai kifejezetten tiltják.

Az anyagok ömlesztett állapotban történő fuvarozására szolgáló kiskonténerekre a küldeménydarabként fuvarozott tartályokra vonatkozó előírások érvényesek, hacsak a 7.3.3 szakasz különleges előírásai másként nem rendelkeznek.

**Megjegyzés:** A tartányos fuvarozásra lásd a 4.2 és a 4.3 fejezetet.

**7.3.1.2** Azok az anyagok, amelyek a szállítás alatt valószínűleg előforduló hőmérsékleten folyékonnyá válnak, ömlesztve nem szállíthatók.

**7.3.1.3** Az ömlesztettáru-konténereknek, a konténereknek, ill. a kocsi felépítményeknek portömörnek kell lennie és úgy kell lezárni, hogy normális szállítás körülmények között (ideértve a rezgések, a hőmérséklet-, a páratartalom- vagy a nyomásváltozás hatását is) a tartalomból semmi ne szabadulhasson ki.

**7.3.1.4** Az ömlesztett szilárd anyagot úgy kell berakni és egyenletesen eloszlatni, hogy minimális legyen az olyan elmozdulás, ami az ömlesztettáru-konténer, a konténer, ill. a kocsi sérülését vagy a veszélyes áru szabadba jutását okozhatná.

**7.3.1.5** Ha szellőző-szerkezetek vannak felszerelve, azokat tisztán és üzemképes állapotban kell tartani.

**7.3.1.6** Az ömlesztett szilárd anyag nem reagálhat veszélyesen az ömlesztettáru-konténer, a konténer, ill. a kocsi, a tömítések, a felszerelések – beleértve a tetőket és ponyvákat – azon részeivel, amelyekkel érintkezésbe kerülhet, ill. a védőbevonattal és lényegesen nem gyengítheti azokat. Az ömlesztettáru-konténert, a konténert, ill. a kocsit úgy kell gyártani vagy átalakítani, hogy az áru ne hatolhasson be a fa padlóburkolat hézagaiba, és ne érintkezessen az ömlesztettáru-konténer, a konténer, ill. a kocsi olyan részeivel, amelyeket az anyag vagy annak maradéka megtámadhat.

**7.3.1.7** Berakás és szállításra történő átadás előtt minden ömlesztettáru-konténert, konténert, ill. kocsit meg kell vizsgálni, ill. ki kell tisztítani, hogy ne tartalmazzon a belsejében vagy a külsején semmiféle olyan maradékot, amely:

- a szállítandó anyaggal veszélyes reakcióba léphet;

- hátrányosan befolyásolhatja az ömlesztettáru-konténer, a konténer, ill. a kocsi szerkezeti épségét;
- befolyásolhatja az ömlesztettáru-konténer, a konténer, ill. a kocsi veszélyes áru megtartó képességét.

**7.3.1.8** Szállítás alatt semmiféle veszélyes maradék nem tapadhat az ömlesztettáru-konténer, a konténer, ill. a kocsi felépítmény külső felületére.

**7.3.1.9** Amennyiben egymás mögött több zárószervezet van beépítve, töltés előtt először a szállítandó anyaghoz legközelebb esőt kell elzárni.

**7.3.1.10** Azokat az üres ömlesztettáru-konténereket, konténereket, ill. kocsikat, amelyekben szilárd anyagot ömlesztve szállítottak, a megrakott ömlesztettáru-konténerre, konténerre, ill. kocsira vonatkozó RID előírások szerint kell kezelni, kivéve, ha megtették a megfelelő intézkedéseket mindenfajta veszély kiküszöbölésére.

**7.3.1.11** Ha az ömlesztettáru-konténert, a konténert vagy a kocsit olyan áru ömlesztett szállítására használják, amely hajlamos a porrobbanásra, vagy gyúlékony gőzök fejlesztésére (pl. bizonyos hulladékok), akkor intézkedéseket kell tenni az anyag töltése, szállítása, ill. ürítése során a gyújtóforrások kiküszöbölésére és az elektrosztatikus feltöltődés elkerülésére.

**7.3.1.12** Azok az anyagok, pl. hulladékok, amelyek egymással veszélyes reakcióba léphetnek, valamint a különböző osztályok anyagai és a RID hatálya alá nem tartozó olyan anyagok, amelyek hajlamosak a veszélyes reakcióra, nem tehetők ugyanabba az ömlesztettáru-konténerbe, konténerbe, ill. kocsiba.

Veszélyes reakciók:

- a) az égés és/vagy jelentős hőfejlődés;
- b) gyúlékony és/vagy mérgező gázok fejlődése;
- c) maró folyékony anyagok képződése;
- d) vegyileg nem állandó anyagok képződése.

**7.3.1.13** A megrakás előtt az ömlesztettáru-konténert, a konténert, ill. a kocsit szemrevételezéssel ellenőrizni kell annak biztosítására, hogy az szerkezetiileg megfelelő legyen, a belső falakon, a padlón és a mennyezeten ne legyenek kiálló részek vagy sérülések, ill. az esetleges bélésen és a szállított anyagot tartalmazó eszközön ne legyen olyan hasadás, szakadás vagy egyéb sérülés, ami veszélyeztetné a szállított anyag megtartását. A „szerkezetiileg megfelelő” azt jelenti, hogy az ömlesztettáru-konténer, a konténer, ill. a kocsi szerkezeti elemei, pl. ömlesztettáru-konténernél, konténernél az alsó és felső hossztartók, az alsó és felső keresztartók (küszöbök és homlokgerendák), a padló keresztartók, a sarokoszlopok és a sarokelemek mentesek a nagyobb hibáktól. Nagyobb hibának számít:

- a) a szerkezeti vagy tartóelemek görbülése, repedése vagy törése, ami befolyásolja az ömlesztettáru-konténer, a konténer, ill. a kocsi felépítmény épségét;
- b) egynél több vagy helytelen toldás (pl. átlapolt illesztés) az alsó vagy felső keresztartókon vagy homlokgerendákon;
- c) kettőnél több toldás bármelyik alsó és felső hossztartón;
- d) bármilyen toldás az alsó keresztartón (küszöbön) vagy a sarokoszlopon;

- e) beszorult, elcsavarodott, törött, hiányzó vagy más okból használhatatlan ajtópántok és egyéb szerelvények;
- f) nem záró tömítések;
- g) általában az ömlesztettáru-konténer, ill. a konténer szerkezetének olyan torzulása, ami a kezelőberendezés pontos csatlakoztatását, a vasúti kocsin, a közúti járművön vagy az alvázon való elhelyezést és rögzítést, ill. hajórekeszekbe való berakást akadályozza;
- h) az emelőszerkezet vagy kezelőberendezés bármilyen sérülése; és
- i) az üzemi vagy szerkezeti berendezések bármilyen sérülése.

**7.3.2      Az ömlesztett fuvarozásra vonatkozó kiegészítő előírások a 7.3.1.1 a) pont alkalmazása esetén**

**7.3.2.1**      A 3.2 fejezet „A” táblázat 10 oszlopában szereplő BK1 és a BK2 kódok jelentése a következő:

**BK1:**      Ömlesztett szállítás ponyvás ömlesztettáru-konténerben engedélyezett;

**BK2:**      Ömlesztett szállítás zárt ömlesztettáru-konténerben engedélyezett.

**7.3.2.2**      Az alkalmazott ömlesztettáru-konténernek meg kell felelnie a 6.11 fejezet előírásainak.

**7.3.2.3      A 4.2 osztályba tartozó áruk**

Az ömlesztettáru-konténerben szállított összes tömeget úgy kell korlátozni, hogy az öngyulladás hőmérséklet 55 °C-nál magasabb legyen.

**7.3.2.4      A 4.3 osztályba tartozó áruk**

Ezeket az árukat olyan ömlesztettáru-konténerben kell szállítani, amely víz behatolásával szemben ellenálló.

**7.3.2.5      Az 5.1 osztályba tartozó áruk**

Az ömlesztettáru-konténereket úgy kell gyártani, vagy átalakítani, hogy az áru ne kerülhessen érintkezésbe fával vagy más, összeférhetetlen anyaggal.

**7.3.2.6      A 6.2 osztályba tartozó áruk**

**7.3.2.6.1**      A fertőző anyagot tartalmazó állati eredetű anyagok (UN 2814, UN 2900 és UN 3373) ömlesztettáru-konténerben a következő feltételekkel szállíthatók:

- a) A BK1 kódú, ponyvás ömlesztettáru-konténerek csak akkor használhatók, ha nincsenek legnagyobb befogadóképességükig megrakva, és ezáltal az anyag a ponyvával nem érintkezik. BK2 kódú, zárt ömlesztettáru-konténerek ugyancsak használhatók.
- b) A zárt és a ponyvás ömlesztettáru-konténereket és nyílásaikat eleve szivárgásmentesre kell kialakítani vagy megfelelő béléssel kell ellátni.
- c) Az állati eredetű anyagokat a szállítást megelőző berakás előtt megfelelő szerrel alaposan fertőtleníteni kell.

- d) A ponyvás ömlesztettáru-konténerben kiegészítésképpen takarót kell helyezni, amelyre nehezezként megfelelő fertőtlenítőszerrel kezelt abszorbeáló anyagot kell tenni.
- e) A zárt vagy ponyvás ömlesztettáru-konténerek csak akkor használhatók ismételten, ha alaposan kitisztították és fertőtlenítették.

**Megjegyzés:** Az illetékes nemzeti egészségügyi hatóságok kiegészítő előírásokat is hozhatnak.

#### 7.3.2.6.2

A 6.2 osztályba tartozó hulladékok (UN 3291)

- a) (fenntartva)
- b) A zárt ömlesztettáru-konténereket és nyílásaikat eleve szivárgásmentesre kell kialakítani, belső felületüknek hézagmentesnek/nem-porózusnak kell lennie és nem lehet rajta olyan repedés vagy egyéb hiba, ami a benne lévő csomagolóeszközt megromlaltatná, a fertőtlenítő hatást csökkentené vagy az anyag nem szándékos kiszabadulását eredményezné.
- c) Az UN 3291 tétel alá tartozó hulladékot a zárt ömlesztettáru-konténeren belül olyan, UN szerint vizsgált és jóváhagyott típusú, szivárgásmentes, lezárt műanyag zsákba kell helyezni, amelyet szilárd anyaghoz, II csomagolási csoportra vizsgáltak és a 6.1.3.1 bekezdés szerinti jelöléssel van ellátva. A műanyag zsáknak ki kell állni az ISO 7765-1:1988 „Műanyag fólia és lemez – Az ütőszilárdság meghatározása szabadon eső dárda módszerével – 1. rész: Lépcsőzetes módszerek” szabvány, valamint az ISO 6383-2:1983 „Műanyagok – Fólia és lemez – A tépőszilárdság meghatározása. 2. rész: Elmendorf módszer” szabvány szerinti ütő- és tépőszilárdság vizsgálatot. Minden zsák ütőszilárdságának legalább 165 g-nak, tépőszilárdságának legalább 480 g-nak kell lennie a zsák hosszirányában, párhuzamos és merőleges síkban egyaránt. Egy zsák legnagyobb nettó tömege 30 kg lehet.
- d) A 30 kg-nál nagyobb tömegű tárgyak (pl. szennyezett ágybetétek) az illetékes hatóság engedélyével műanyag zsákok nélkül is szállíthatók.
- e) Az UN 3291 tétel alá tartozó, folyadékot tartalmazó hulladék csak olyan műanyag zsákban szállítható, amely elegendő nedvszívó anyagot tartalmaz a teljes folyadék mennyiség felszívására úgy, hogy az nem folyik ki az ömlesztettáru-konténerbe.
- f) Az UN 3291 tétel alá tartozó, éles tárgyakat tartalmazó hulladék csak olyan, UN szerint vizsgált és jóváhagyott típusú, merev falú csomagolóeszközben szállítható, amely megfelel a P621, az IBC620, ill. az LP621 csomagolási utasítás előírásainak.
- g) A P621, az IBC620, ill. az LP621 csomagolási utasítás előírásainak megfelelő, merev falú csomagolóeszközök is használhatók. A csomagolóeszközöket megfelelően rögzíteni kell, hogy normál szállítási körülmények között ne rongálódhassanak meg. Ha egyazon zárt ömlesztettáru-konténerben merev falú csomagolóeszközben és műanyag zsákban is szállítanak hulladékot, megfelelően el kell választani őket egymástól, pl. merev válaszfallal, osztófallal, hálóval vagy egyéb módon úgy, hogy normál szállítási körülmények között ne rongálódhassanak meg.
- h) Az UN 3291 tétel alá tartozó hulladékot tartalmazó műanyag zsákokat nem szabad a zárt ömlesztettáru-konténerben annyira összenyomni, hogy tömítetlenné válhassanak.
- i) A zárt ömlesztettáru-konténert minden szállítás után meg kell vizsgálni, hogy a rakomány nem folyt vagy nem szóródott ki benne. Ha az UN 3291 tétel alá tartozó hulladék kifolyt vagy kiszóródott a zárt ömlesztettáru-konténerbe, akkor nem szabad addig újrahasználni, amíg alaposan ki nem tisztították, és – ha szükséges – megfelelő



vegyszerrel nem fertőtlenítették. Az UN 3291 tétel alá tartozó hulladékot – az ember-, ill. állatgyógyászati hulladékon kívül – más áruval együtt szállítani nem szabad. Az ugyanabban a zárt ömlesztettáru-konténerben szállított ilyen hulladékokat az esetleges szennyeződés szempontjából meg kell vizsgálni.

#### **7.3.2.7 A 7 osztályba tartozó anyagok**

A csomagolatlan radioaktív anyagok szállítására lásd a 4.1.9.2.3 pontot.

#### **7.3.2.8 A 8 osztályba tartozó áruk**

Ezeket az árukat olyan ömlesztettáru-konténerben kell szállítani, amely víz behatolásával szemben ellenálló.

#### **7.3.3 Az ömlesztett fuvarozásra vonatkozó különleges előírások a 7.3.1.1 b) pont alkalmazása esetén**

A következő különleges előírásokat kell betartani, ha a 3.2 fejezet „A” táblázat 17 oszlopában „VW” betűkkel kezdődő kód van feltüntetve:

- VW1** Ömlesztve fuvarozható fedett kocsiban, nyitható tetejű kocsiban, ponyvás kocsiban, zárt vagy ponyvás nagykonténerben.
- VW2** Ömlesztve fuvarozható fémből készült, nyitható tetejű kocsiban, zárt fém nagykonténerben, lángmentesített ponyvával fedett, fémből készült nyitott kocsiban vagy nagykonténerben.
- VW3** Ömlesztve fuvarozható ponyvás kocsiban vagy nagykonténerben kielégítő szellőzés mellett, vagy nyitható tetejű kocsiban. Intézkedéseket kell tenni, hogy a tartalom, különösen annak folyadék része ne szabadulhasson ki.
- VW4** Ömlesztve fuvarozható fémből készült, ponyvás kocsiban, fémből készült, nyitható tetejű kocsiban, zárt fém konténerben vagy ponyvás fém nagykonténerben. Az UN 2008, 2009, 2210, 2545, 2546, 2881, 3189 és 3190 számú anyagok esetében csak a szilárd hulladékok fuvarozhatók ömlesztve.
- VW5** Ömlesztve fuvarozható különlegesen felszerelt kocsiban és konténerben. A különlegesen felszerelt kocsi, ill. konténer tartályainak és azok zárószervezeteinek meg kell felelniük a 4.1.1.1, 4.1.1.2 és 4.1.1.8 bekezdés általános csomagolási előírásainak. A töltésre és ürítésre szolgáló nyílásoknak légmentesen zárhatónak kell lenniük.
- VW6** Ömlesztve fuvarozható nyitható tetejű kocsiban vagy zárt nagykonténerben.
- VW7** Ömlesztve fuvarozható fedett kocsiban, ponyvás kocsiban, nyitható tetejű kocsiban, zárt vagy ponyvás nagykonténerben akkor, ha az anyag darabos formában van.
- VW8** Ömlesztve fuvarozható vízhatlan és lángmentesített ponyvával fedett kocsiban vagy nagykonténerben, nyitható tetejű kocsiban vagy zárt konténerben.

A kocsit és a konténert úgy kell kialakítani, hogy a bennük levő anyag ne érintkezessen fával vagy más gyúlékony anyaggal, vagy pedig – ha a falak és a padló fából vagy más gyúlékony anyagból készültek – ezek teljes felületét el kell látni lángmentesített, vízhatlan béléssel vagy nátrium-szilikáttal vagy hasonló

anyagból készült bevonattal.

- VW9** Ömlesztve fuvarozható ponyvás kocsiban vagy ponyvás nagykonténerben, nyitható tetejű kocsikban vagy zárt konténerekben.

A 8 osztály anyagaihoz a kocsit és a konténert megfelelő, elég erős béléssel kell ellátni.

- VW10** Ömlesztve fuvarozható ponyvás kocsiban, ponyvás nagykonténerben, nyitható tetejű kocsiban vagy zárt konténerben. A kocsinak vagy konténernek szivárgásmenteseknek kell lennie, vagy pl. megfelelő, elég erős bélés alkalmazásával szivárgásmentessé kell tenni.

- VW11** Ömlesztve fuvarozható különlegesen felszerelt kocsikban és konténerekben. A különlegesen felszerelt kocsi és konténer tartályait úgy kell kialakítani, hogy a berakásra és ürítésre szolgáló nyílások légmentesen zárhatók legyenek. Az anyagot ezekbe a tartályokba úgy kell betölteni, hogy az emberek, az állatok és a környezet veszélyeztetése elkerülhető legyen.

- VW12** Azok az anyagok, amelyeknél a tartálykocsiban, mobil tartányban vagy tankkonténerben történő fuvarozás az anyag magas hőmérséklete és sűrűsége miatt nem alkalmazható, a származási ország illetékes hatósága által meghatározott szabályok szerint különleges kocsiban vagy konténerben fuvarozhatók. Ha a származási ország nem valamely COTIF Tagállam, akkor a megállapított feltételeket a küldemény által érintett első COTIF Tagállam illetékes hatóságának jóvá kell hagynia.

- VW13** Ömlesztve fuvarozható a származási ország illetékes hatósága által meghatározott szabályok szerint különlegesen felszerelt kocsiban vagy konténerben.

Ha a származási ország nem valamely COTIF Tagállam, akkor a megállapított feltételeket a küldemény által érintett első COTIF Tagállam illetékes hatóságának jóvá kell hagynia.

- VW14**
- 1) A használt akkumulátortelepek különlegesen felszerelt kocsiban vagy konténerben fuvarozhatók ömlesztve. Műanyagból készült nagykonténerek nem használhatók. A műanyag kiskonténereknek törés nélkül el kell tudniuk viselni az olyan ejtőpróbát, amely során a teljesen megrakott konténert 0,8 m-ről, kemény felületre, a fenéklapjára ejtik  $-18^{\circ}\text{C}$ -on.
  - 2) A kocsi vagy konténer rakterét a szállított akkumulátortelepben levő maró anyagnak ellenálló acélból kell kialakítani. Kevésbé ellenálló acél is használható, ha elég nagy a falvastagsága, vagy a maró anyagnak ellenálló műanyag bélése vagy belső borítása van. A kocsik vagy konténerek rakterének méretezésénél figyelembe kell venni a maradékáramokat és az akkumulátortelepek által kifejtett ütőhatásokat.

**Megjegyzés:** *Ellenállónak minősül az acél akkor, ha a maró anyag hatására bekövetkező fokozatos vékonyodása évente 0,1 mm-nél kevesebb.*

- 3) Megfelelő konstrukcióval biztosítani kell, hogy a kocsi rakteréből a fuvarozás során maró anyag ne szivároghasson ki. A nyitott rakfelületet le kell fedni. A lefedésre használt eszközöknek a maró anyaggal szemben ellenállónak kell lenniük.
- 4) Berakodás előtt a kocsi vagy a konténer rakterét, beleértve a felszereléseket is,

meg kell vizsgálni, hogy van-e rajtuk sérülés. Sérült rakterű kocsit vagy konténert nem szabad megrakni.

A kocsik vagy konténerek rakterét csak a falak magasságáig szabad megrakni.

- 5) Nem szabad a kocsi vagy a konténer rakterébe sem más veszélyes árut, sem olyan különböző anyagokat tartalmazó akkumulátortelepet tenni, amelyek egymással veszélyes reakcióba (lásd a „veszélyes reakció” fogalmát az 1.2.1 szakaszban) léphetnek.

A szállított akkumulátortelepek által tartalmazott maró anyagtól a fuvarozás alatt semmilyen maradék nem tapadhat a kocsik vagy a konténerek rakterének a külsejére.

- VW15** Ömlesztve fuvarozható fedett kocsiban, nyitható tetejű kocsiban, ponyvás kocsiban, zárt konténerben vagy ponyvás nagykonténerben, ha az anyag vagy a keverék (készítmény vagy hulladék) az ez alá az UN szám alá tartozó anyagokból legfeljebb 1000 mg mennyiséget tartalmaz kg-onként.

A kocsi felépítményének, ill. a konténernek szivárgásmentesnek kell lennie, vagy szivárgásmentessé kell tenni pl. alkalmas és elég erős bélés használatával.

- VW16** Ömlesztve fuvarozható a 4.1.9.2.3 pont előírásai szerint.

- VW17** Az *SCO-I* tárgyak ömlesztve fuvarozhatók a 4.1.9.2.3 pont előírásai szerint.

## **7.4 fejezet**

### **A tartányos fuvarozásra vonatkozó előírások**

Valamely áru csak akkor fuvarozható tartányban, ha a 3.2 fejezet „A” táblázat 10 vagy 12 oszlopában tartánykód van feltüntetve, illetve akkor, ha az illetékes hatóság a 6.7.1.3 bekezdés szerint engedélyezte. A fuvarozást a 4.2, ill. a 4.3 fejezet előírásai szerint kell végezni.

## 7.5 fejezet

### A berakásra, a kirakásra és az árukezelésre vonatkozó előírások

**Megjegyzés:** E fejezet alkalmazásában egy konténer, ömlesztettáru-konténer, tankkonténer, mobil tartány vagy közúti jármű vasúti kocsira helyezése berakásnak, a vasúti kocsiról való levétele kirakásnak minősül.

#### 7.5.1 Általános előírások

**7.5.1.1** Az áru berakásánál a feladási állomásra érvényes előírásokat kell betartani, kivéve, ha ellentétesek e fejezet előírásaival.

**7.5.1.2** A berakás nem hajtható végre,

- ha az okmányok vizsgálata, vagy
- a kocsi, ill. a nagykonténer, ömlesztettáru-konténer, tankkonténer, mobil tartány vagy közúti jármű, valamint ki- és berakáshoz használatos berendezéseik szemrevételezése

azt mutatja, hogy a kocsi, ill. a nagykonténer, ömlesztettáru-konténer, tankkonténer, mobil tartány vagy közúti jármű, valamint berendezéseik nem felelnek meg az előírásoknak.

**7.5.1.3** A kirakás nem hajtható végre, ha az előzőekben említett vizsgálat során olyan hiányosságokat tapasztalnak, ami a kirakás biztonságát vagy a közbiztonságot befolyásolhatja.

Berakás előtt a kocsi, ill. a konténer külső felületét és a belsejét is meg kell vizsgálni, hogy ne legyen rajta olyan sérülés, ami a kocsi, a konténer vagy a berakandó küldeménydarabok épségét befolyásolná.

**7.5.1.4** A 3.2 fejezet „A” táblázat 18 oszlopával összhangban, a 7.5.11 szakasz különleges előírásai szerint bizonyos veszélyes áruk csak kocsirakományként vagy teljes rakományként fuvarozhatók.

**7.5.1.5** Ha az álló helyzetet jelző nyilak elő vannak írva, akkor a küldeménydarabokat a jelölésnek megfelelően kell elhelyezni..

**Megjegyzés:** *Hacsak egy mód van rá, a folyékony veszélyes árukat a száraz veszélyes áruk alatt kell elhelyezni.*

#### 7.5.2 Együvé rakási tilalom

**7.5.2.1** A különböző veszélyességi bárcákkal ellátott küldeménydarabok csak akkor rakhatók együvé ugyanabba a kocsiba vagy konténerbe, ha az együvé rakás a rajtuk levő veszélyességi bárcák alapján a következő táblázatban megengedett.

A küldeménydarabokra vonatkozó együvé rakási tilalom a küldeménydarabok és kiskonténerek együvé rakására, valamint a kiskonténerek együvé rakására is érvényes, ha azokat ugyanazon kocsiban vagy nagykonténerben fuvarozzák.

**Megjegyzés:** *Az 5.4.1.4.2 pont értelmében külön fuvarokmányt kell kiállítani minden olyan küldeményre, amelyet nem lehet egy kocsiba vagy konténerbe együvé rakni.*

A bárca száma	1	1.4	1.5	1.6	2.1 2.2 2.3	3	4.1	4.1 +1	4.2	4.3	5.1	5.2	5.2 + 1	6.1	6.2	7A 7B 7C	8	9
1	Lásd 7.5.2.2										d)							b)
1.4					a)	a)	a)		a)	a)	a)	a)		a)	a)	a)	a)	a) b) c)
1.5																		b)
1.6																		b)
2.1 2.2 2.3		a)			X	X	X		X	X	X	X		X	X	X	X	X
3		a)			X	X	X		X	X	X	X		X	X	X	X	X
4.1		a)			X	X	X		X	X	X	X		X	X	X	X	X
4.1 + 1								X										
4.2		a)			X	X	X		X	X	X	X		X	X	X	X	X
4.3		a)			X	X	X		X	X	X	X		X	X	X	X	X
5.1	d)	a)			X	X	X		X	X	X	X		X	X	X	X	X
5.2		a)			X	X	X		X	X	X	X	X	X	X	X	X	X
5.2 + 1												X	X					
6.1		a)			X	X	X		X	X	X	X		X	X	X	X	X
6.2		a)			X	X	X		X	X	X	X		X	X	X	X	X
7A 7B 7C		a)			X	X	X		X	X	X	X		X	X	X	X	X
8		a)			X	X	X		X	X	X	X		X	X	X	X	X
9	b)	a) b) c)	b)	b)	X	X	X		X	X	X	X		X	X	X	X	X

X = Az együvé rakás megengedett.

- a) Az együvé rakás az 1.4S anyagokkal és tárgyakkal megengedett.
- b) Az 1 osztály áruinak és a 9 osztály biztonsági felszereléseinek (UN 2990, 3072 és 3268) együvé rakása megengedett.
- c) Az 1.4 alosztály G összeférhetőségi csoportjába tartozó légsák gázgenerátorok, légsák modulok, ill. biztonsági öv előfeszítők (UN 0503) és a 9 osztályba tartozó légsák gázgenerátorok, légsák modulok, ill. biztonsági öv előfeszítők (UN 3268) együvé rakása megengedett.
- d) Az UN 0083 C típusú robbantóanyag kivételével a többi robbantóanyag és az 5.1 osztályba tartozó ammónium-nitrátok (UN 1942 és 2067), alkálifém-nitrátok (pl. UN 1486) és alkáliföldfém-nitrátok (pl. UN 1454) együvé rakhatók, amennyiben a nagybárcával való megjelölés, az elkülönítés, a küldeménydarabok elhelyezése és a megengedett legnagyobb mennyiség szempontjából a teljes rakományt úgy kezelik, mintha az 1 osztályba tartozó robbantóanyag lenne.

#### 7.5.2.2

Azokat a küldeménydarabokat, amelyekben az 1 osztály anyagai vagy tárgyai vannak és az 1, az 1.4, az 1.5 vagy az 1.6 számú bárcával vannak ellátva, de különböző összeférhetőségi csoportokba tartoznak, nem szabad egy kocsiba vagy konténerbe rakni, kivéve, ha az együvé rakás a következő táblázat szerint ezekre az összeférhetőségi csoportokra megengedett.

Összeférhetőségi csoport	B	C	D	E	F	G	H	J	L	N	S
B	X		X <sup>a)</sup>								X
C		X	X	X		X				X <sup>b), c)</sup>	X
D	X <sup>a)</sup>	X	X	X		X				X <sup>b), c)</sup>	X
E		X	X	X		X				X <sup>b), c)</sup>	X
F					X						X
G		X	X	X		X					X
H							X				X
J								X			X
L									X <sup>d)</sup>		
N		X <sup>b), c)</sup>	X <sup>b), c)</sup>	X <sup>b), c)</sup>						X <sup>b)</sup>	X
S	X	X	X	X	X	X	X	X		X	X

*X = Az együvé rakás megengedett.*

- a) *A B összeférhetőségi csoport tárgyait és a D összeférhetőségi csoport anyagait és tárgyait tartalmazó küldeménydarabok ugyanazon kocsiba vagy konténerbe együvé rakhatók, ha azokat hatékonyan elkülönítik, úgy hogy ne álljon fenn a detonáció átvitelének veszélye a B összeférhetőségi csoport tárgyaitól a D összeférhetőségi csoport anyagaira, ill. tárgyaira. Az elkülönítést elválasztott rekeszek használatával vagy a két fajta robbanóanyag (robbanótárgy) egyikének különleges védőburkolatrendszerbe helyezésével kell megvalósítani. Az illetékes hatóságnak az elkülönítés mindkét módját jóvá kell hagynia.*
- b) *Az 1.6N osztályozási kód alá besorolt különböző típusú tárgyak csak akkor rakhatók együvé mint 1.6N tárgyak, ha vizsgálattal vagy analógia alapján bizonyított, hogy nem áll fenn a tárgyak közötti kapcsolt robbanás veszélye. Egyéb esetben úgy kell kezelni, mintha az 1.1 alosztályba tartoznának.*
- c) *Ha az N összeférhetőségi csoport tárgyait a C, a D vagy az E összeférhetőségi csoport tárgyaival együtt szállítják, az N összeférhetőségi csoport tárgyait úgy kell tekinteni, mintha a D összeférhetőségi csoport jellemzőivel rendelkeznének.*
- d) *Az L összeférhetőségi csoport anyagait és tárgyait tartalmazó küldeménydarabok ugyanezen összeférhetőségi csoport ugyanolyan típusú anyagait és tárgyait tartalmazó küldeménydarabokkal ugyanabba a kocsiba vagy konténerbe együvé rakhatók.*

#### 7.5.2.3 (fenntartva)

### 7.5.3 Védőtávolság

Az 1 osztály anyagait vagy tárgyait tartalmazó és 1, 1.5 vagy 1.6 számú nagybárcával ellátott kocsik, ill. nagykonténerek és a 2.1, 3, 4.1, 4.2, 4.3, 5.1 vagy 5.2 számú nagybárcával ellátott kocsik, ill. nagykonténerek között – egy vonatszerelvényen belül – védőtávolságnak kell lennie.

A védőtávolság akkor megfelelő, ha a kocsik ütközőtányérja, ill. a nagykonténer homlokfala és a másik kocsi ütközőtányérja, ill. a másik nagykonténer homlokfala között:

- a távolság legalább 18 méter; vagy
- két kéttengelyű vagy egy négy- vagy többtengelyű kocsi helyezkedik el.

#### **7.5.4 Élelmiszerekre, egyéb fogyasztási cikkekre és takarmányra vonatkozó óvintézkedések**

Ha a 3.2 fejezet „A” táblázat 18 oszlopában egy anyagra vagy tárgyra a CW28 különleges előírás van megadva, akkor az élelmiszerekre, egyéb fogyasztási cikkekre és takarmányra vonatkozó óvintézkedéseket a következők szerint kell fogantatosítani:

A 6.1 vagy a 6.2 számú bárcával ellátott küldeménydarabokat, és azokat a 9 számú bárcával ellátott küldeménydarabokat, amelyek az UN 2212, 2315, 2590, 3151, 3152 vagy 3245 számú anyagokat tartalmazzák, valamint az ilyen üres, tisztítatlan csomagolóeszközöket (beleértve a nagycsomagolásokat és az IBC-eket is), nem szabad a kocsikban, a konténerekben és a be-, ki- és átrakás helyén olyan küldeménydarabokra halmazolni vagy közvetlen közelükbe rakni, amelyekről ismert, hogy élelmiszereket, egyéb fogyasztási cikkeket vagy takarmányt tartalmaznak.

Ha az említett bárcákkal ellátott küldeménydarabokat mégis olyan küldeménydarabok közelébe rakják, amelyekről ismert, hogy élelmiszereket, egyéb fogyasztási cikkeket vagy takarmányt tartalmaznak, akkor a következőképpen kell elkülöníteni:

- a) az említett bárcával ellátott küldeménydarabok halmazolási magasságát elérő teljes válaszfalakkal; vagy
- b) olyan küldeménydarabokkal, amelyeken nincs 6.1, 6.2 vagy 9 számú bárca, illetve amelyeken 9 számú bárca van, de nem az UN 2212, 2315, 2590, 3151, 3152 vagy 3245 számú anyagokat tartalmazzák; vagy
- c) legalább 0,8 m térközzel;

kivéve, ha az említett bárcákkal ellátott küldeménydarabok kiegészítő csomagolásban vannak vagy teljesen be vannak burkolva (pl. fóliával, papírlemez burkolattal vagy más módon).

#### **7.5.5 – 7.5.6**

(fenntartva)

#### **7.5.7 Árukezelés és halmazolás**

##### **7.5.7.1**

A kocsit, ill. a konténert – ahol szükséges – a veszélyes áru kezelésére és rögzítésére alkalmas eszközzel kell ellátni. A veszélyes árut tartalmazó küldeménydarabokat, ill. a csomagolatlan veszélyes tárgyakat a kocsiban, ill. a konténerben alkalmas eszközzel (pl. leszorító hevederekkel, csúszo és állítható kengyelekkel) úgy kell rögzíteni, hogy megakadályozzon a szállítás közben minden olyan elmozdulást, ami a küldeménydarab helyzetét megváltoztatná vagy sérülését okozná. Ha a veszélyes árut egyéb áruval (pl. nehéz gépekkel vagy rekeszekkel) együtt szállítják, minden árut úgy kell becsomagolni és rögzíteni a kocsiban, ill. a konténerben, hogy a veszélyes áru ne szabadulhasson ki. A küldeménydarabok elmozdulása kitámasztással vagy állványzattal is megakadályozható, vagy úgy is, hogy az üres tereket valamilyen, arra alkalmas anyaggal töltik ki. Ha a rögzítés pánttal vagy hevederrel történik, nem szabad túlfeszíteni, nehogy a küldeménydarab megsérüljön vagy eldeformálódjon.

##### **7.5.7.2**

A küldeménydarabokat csak akkor szabad egymásra halmazolni, ha arra vannak kialakítva. Ha halmazolásra kialakított, de különböző típusú küldeménydarabokat rakodnak együvé, figyelembe kell venni, hogy halmazolás szempontjából összeillenek-e. Ahol szükséges, az alul lévő küldeménydarabokat teherelosztó eszközök segítségével kell védeni a rájuk halmazolt küldeménydarabok okozta sérüléstől.

##### **7.5.7.3**

A veszélyes árut tartalmazó küldeménydarabokat a be- és a kirakás során óvni kell a sérülésektől.



**Megjegyzés:** Különös figyelmet kell szentelni a küldeménydarabok kezelésének, mozgatásának a szállításra való előkészítésük során, a kocsi, ill. konténer jellegének, amiben a küldeménydarabokat szállítani fogják, a be- és kirakás módjának, nehogy a helytelen kezelés vagy a talajon, padlózaton való csúsztatás folytán a küldeménydarabok esetleg megsérüljenek.

## **7.5.8 Kirakás utáni tisztítás**

**7.5.8.1** Ha az olyan kocsi vagy konténer kirakása után, amelyben veszélyes árut tartalmazó küldeménydarab volt, megállapítják, hogy a tartalom egy része kiömlött, a kocsit vagy konténert amint lehet, de még mindenképpen az újabb megrakás előtt ki kell tisztítani.

Ha a tisztítás helyben nem végezhető el, a kocsit vagy a konténert, ügyelve a megfelelő biztonságra, a legközelebbi alkalmas helyre kell fuvarozni, ahol a tisztítás elvégezhető.

A fuvarozás akkor megfelelően biztonságos, ha megtették a megfelelő intézkedéseket a kiömlött veszélyes áru ellenőrzés nélküli szabadba jutásának elkerülésére.

**7.5.8.2** Az olyan kocsikat vagy konténereket, amelyekben ömlesztett veszélyes áru volt, minden újra megrakás előtt kellőképpen ki kell tisztítani, hacsak az új rakomány nem ugyanolyan veszélyes áruból áll, mint az előző rakomány.

**7.5.9** (fenntartva)

**7.5.10** (fenntartva)

## **7.5.11 Egyes osztályokra vagy bizonyos árukra vonatkozó kiegészítő előírások**

A 7.5.1 – 7.5.4 és a 7.5.8 szakasz előírásainak kiegészítéseképpen a következő előírásokat kell betartani, ha a 3.2 fejezet „A” táblázat 18 oszlopában „CW” betűkkel kezdődő kódok vannak feltüntetve.

**CW1** Berakás előtt a kocsi vagy a konténer padlóját a feladónak gondosan meg kell tisztítania.

A kocsi vagy a konténer belsejében semmiféle olyan fémtárgynak nem szabad kiállnia, amely nem a kocsihoz vagy a konténerhez tartozik.

A kocsi vagy a konténer ajtajait és ablakait (szellőző-nyílásait) zárva kell tartani.

A küldeménydarabokat a kocsiban vagy a konténerben úgy kell elhelyezni, hogy ne mozdulhassanak vagy csúszhassanak el. A küldeménydarabokat mindenfajta dörzsölődéstől és ütődéstől védeni kell.

**CW2** (fenntartva)

**CW3** (fenntartva)

**CW4** Az L összeférhetőségi csoport anyagai és tárgyai csak kocsirakományként vagy teljes rakományként fuvarozhatók.

**CW5 –**

**CW8** (fenntartva)

**CW9** A küldeménydarabokat nem szabad dobálni és ütődésnek kitenni.

**CW10** Az 1.2.1 szakasz meghatározása szerinti palackokat a kocsi vagy a konténer hossz tengelyével párhuzamosan vagy arra merőlegesen kell fektetni, a homlokfal közelében levő palackokat azonban a hossz tengelyekre merőlegesen (keresztirányban) kell elhelyezni.

A rövid és nagy átmérőjű (kb. 30 cm és annál nagyobb) palackokat hosszirányban is el lehet helyezni, de a zárókupakokat a kocsi vagy a konténer közepe felé kell irányítani.

A kellően stabil és a felborulás ellen védő szerkezetben szállított palackokat állítva is el lehet helyezni.

A fekvő palackokat biztonságosan és alkalmas módon ki kell ékelni, le kell rögzíteni vagy erősíteni, hogy ne mozdulhassanak el.

A gördíthető tartályokat hossz tengelyükkel a kocsi vagy a konténer hossz oldalával párhuzamosan és az oldalirányú elmozdulással szemben biztosítva kell berakni.

**CW11** A tartályokat mindig abban a helyzetben kell elhelyezni, amelyre azokat tervezték, és védeni kell minden sérülés lehetőségétől, amit más küldeménydarabok okozhatnak.

**CW12** Ha a tárgyakkal megrakott rakodólapokat egymásra rakják, minden rakodólap réteget az alatta levőn egyenletesen kell elosztani, szükség esetén megfelelő szilárdságú anyagból készített köztes lapokat használva.

**CW13** Ha az anyagból valamennyi kifolyt és a kocsiban vagy a konténerben szétterjedt, a kocsit, ill. a konténert csak azt követően szabad újra használni, ha alaposan kitisztították és – szükség esetén – fertőtlenítették. Az ugyanabban a kocsiban, ill. konténerben fuvarozott többi anyagot és tárgyat az esetleges szennyeződés miatt ellenőrizni kell.

**CW14** (fenntartva)

**CW15** (fenntartva)

**CW16** Az UN 1749 klór-trifluorid küldemények 500 kg feletti bruttó tömeg esetén csak kocsirakományként vagy teljes rakományként és akkor is kocsinként vagy nagykonténerként legfeljebb 5000 kg tömegig fuvarozhatók.

**CW17** Azokat a küldeménydarabokat, amelyeknél meghatározott környezeti hőmérsékletet kell fenntartani, csak kocsirakományként vagy teljes rakományként szabad fuvarozni. A fuvarozási feltételekben a feladónak és a fuvarozónak meg kell egyeznie.

**CW18** A küldeménydarabokat úgy kell elhelyezni, hogy könnyen hozzáférhetők legyenek.

**CW19** (fenntartva)

**CW20** (fenntartva)

**CW21** (fenntartva)

**CW22** A kocsikat és a nagykonténereket berakás előtt alaposan ki kell tisztítani.

A küldeménydarabokat úgy kell berakni, hogy a raktéren belüli szabad levegő

áramlás biztosítsa a rakomány egyenletes hőmérsékletét. Ha egy kocsi vagy nagykonténer tartalma 5000 kg-nál több gyúlékony szilárd anyag és/vagy szerves peroxid, a rakományt legfeljebb 5000 kg tömegű halmazokra kell osztani, amelyeket legalább 0,05 m légréssel kell egymástól elválasztani. A küldeménydarabokat védeni kell a más küldemények okozta sérülések ellen.

**CW23** A küldeménydarabok kezelése során különleges intézkedéseket kell tenni azok vízzel való érintkezésének megakadályozására.

**CW24** A kocsikat és a konténereket berakás előtt alaposan ki kell tisztítani és különösen az éghető maradékoktól (széna, szalma, papír, stb.) kell megtisztítani.

A küldeménydarabok elhelyezéséhez tilos könnyen gyúló anyagot használni.

**CW25** (fenntartva)

**CW26** A kocsi vagy konténer fából készült részeit, amelyek ezekkel az anyagokkal érintkezésbe kerültek, le kell szerelni és el kell égetni.

**CW27** (fenntartva)

**CW28** Lásd a 7.5.4 szakaszt.

**CW29** A küldeménydarabokat állítva kell berakni.

**CW30** A mélyhűtött, cseppfolyósított gázok biztonsági szeleppel ellátott tartálykocsiban, mobil tartányban vagy tankkonténerben történő fuvarozásánál a feladónak és a fuvarozónak a fuvarozási feltételekben a fuvarozásra történő feladás előtt meg kell egyeznie.

**CW31** Azokat a kocsikat és nagykonténereket, amelyekben ezen osztály anyagait kocsirakományként, ill. teljes rakományként fuvarozták, és a kiskonténereket, amelyekben ezeket az anyagokat fuvarozták, kirakás után az esetleges rakomány-maradványok tekintetében ellenőrizni kell.

**CW32** (fenntartva)

**CW33** ***Megjegyzés: 1.** A „kritikus csoport” a lakosság egyedeinek olyan csoportja, amely egy adott sugárforrás által és adott besugárzási módon bekövetkező sugárterhelését tekintve elfogadhatóan homogén és jellegzetesen olyan személyekből áll, akiket a legnagyobb tényleges dózis ér az adott besugárzási módon az adott sugárforrástól.*

*2. A „lakosság” kifejezés általános értelemben a népesség minden egyedét jelenti, kivéve a foglalkozásból vagy gyógykezelésből eredően sugárterhelésnek kitett személyeket.*

*3. A „dolgozók” olyan személyek, akik teljes vagy részmunkaidőben vagy időszakosan egy munkaadónál dolgoznak és akiknek a munkahelyi sugárvédelemmel kapcsolatosan jogaik és kötelességeik vannak.*

## **1) Elkülönítés**

1.1) A radioaktív anyagokat tartalmazó küldeménydarabokat, egyesítőcsomagolásokat, konténereket és tartányokat, ill. a

csomagolatlan radioaktív anyagokat a szállítás során elkülönítve kell tartani:

- a) a rendszeresen használt munka-területeken tartózkodó dolgozóktól
  - i) a következő „A” táblázat szerint; vagy
  - ii) olyan távolságra, amelyet 5 mSv/év dózis kritérium és óvatos modell paraméterek alapján határoztak meg;

**Megjegyzés:** Az elkülönítés tekintetében nem kell figyelembe venni azokat a dolgozókat, akikről egyéni sugárterhelési nyilvántartás készül.

- b) a lakosság kritikus csoportjának tagjaitól az olyan területeken, ahol a lakosság rendszeresen tartózkodhat:
  - i) a következő „A” táblázat szerint; vagy
  - ii) olyan távolságra, amelyet 1 mSv/év dózis kritérium és óvatos modell paraméterek alapján határoztak meg;
- c) előhívatlan filmekről és fényképeszeti lemezekről, valamint postazsákokról
  - i) a következő „B” táblázat szerint; vagy
  - ii) olyan távolságra, amely úgy van meghatározva, hogy az előhívatlan filmeket és fényképeszeti lemezeket a radioaktív anyag szállítása folytán érő besugárzás film-küldeményenként 0,1 mSv értékre korlátozódjon;

**Megjegyzés:** A postazsákokat úgy kell kezelni, mintha előhívatlan filmeket és fényképeszeti lemezeket tartalmaznának és ezért a radioaktív anyagoktól ugyanúgy elkülönítve kell tartani.

- d) egyéb veszélyes áruktól a 7.5.2 szakasz szerint.

**„A” táblázat: A II-SÁRGA vagy a III-SÁRGA kategóriájú küldeménydarabok és személyek közötti legkisebb távolságok**

A szállítási mutatószámok összege legfeljebb	Besugárzási idő évente (órában)			
	Olyan területek, ahol a lakosság rendszeresen tartózkodhat		Rendszeresen használt munkaterületek	
	50	250	50	250
	Elkülönítési távolság m-ben, árnyékoló anyag használata nélkül, legalább:			
2	1	3	0,5	1
4	1,5	4	0,5	1,5
8	2,5	6	1,0	2,5
12	3	7,5	1,0	3
20	4	9,5	1,5	4
30	5	12	2	5
40	5,5	13,5	2,5	5,6
50	6,5	15,5	3	6,5

**„B” táblázat: A II-SÁRGA vagy III-SÁRGA kategóriájú küldeménydarabok és „FOTO” feliratú küldemények vagy postaszákok közötti legkisebb távolságok**

A küldeménydarabok száma legfeljebb		A szállítási mutató-számok összege legfeljebb	A szállítás vagy tárolás időtartama órában							
Kategória			1	2	4	10	24	48	120	240
III-SÁRGA	II-SÁRGA		Legkisebb távolság m-ben							
		0,2	0,5	0,5	0,5	0,5	1	1	2	3
		0,5	0,5	0,5	0,5	1	1	2	3	5
	1	1	0,5	0,5	1	1	2	3	5	7
	2	2	0,5	1	1	1,5	3	4	7	9
	4	4	1	1	1,5	3	4	6	9	13
	8	8	1	1,5	2	4	6	8	13	18
1	10	10	1	2	3	4	7	9	14	20
2	20	20	1,5	3	4	6	9	13	20	30
3	30	30	2	3	5	7	11	16	25	35
4	40	40	3	4	5	8	13	18	30	40
5	50	50	3	4	6	9	14	20	32	45

1.2) A II-SÁRGA és III-SÁRGA kategóriájú küldeménydarabok és egyesítőcsomagolások nem szállíthatók utasok által elfoglalt szakaszokban, kivéve az ilyen küldeménydarabok vagy egyesítőcsomagolások kísérésére felhatalmazott futárok számára fenntartott szakaszokat.

1.3) (fenntartva)

**2) Aktivitáshatárok**

LSA anyagok és SCO tárgyak IP-1 típusú, IP-2 típusú vagy IP-3 típusú küldeménydarabokban vagy csomagolatlanul történő szállításánál az összes aktivitás a kocsin nem haladhatja meg a „C” táblázatban található határértékeket.

**„C” táblázat: Aktivitáshatárok kocsinként ipari küldeménydarabokban vagy csomagolatlanul szállított LSA anyagokra és SCO tárgyakra**

Az anyag vagy tárgy jellege	Aktivitás határ a kocsira
LSA-I	Korlátlan
LSA-II és LSA-III nem éghető szilárd anyagok	Korlátlan
LSA-II és LSA-III éghető szilárd anyagok és minden folyékony anyag és gáz	100A <sub>2</sub>
SCO tárgyak	100A <sub>2</sub>

**3) Az áru elhelyezése a fuvarozás és az átmeneti tárolás során**

3.1) A küldeményeket biztonságosan kell elhelyezni.

3.2) Feltéve, hogy a felületen a közepes hőáram nem haladja meg a 15 W/m<sup>2</sup> értéket, és a közvetlen környezetben nincs zsákokba csomagolt áru, a küldeménydarab vagy az egyesítőcsomagolás

különleges rakodási előírás nélkül más, közönséges darabáruval együtt szállítható, amennyiben az illetékes hatóság engedélye kifejezetten nem ír elő mást.

3.3) A konténerek berakásakor és a küldeménydarabok, egyesítőcsomagolások és konténerek rakodásakor a következő előírásokat kell betartani:

- a) A kizárólagos használat esetét és az *LSA-I* anyagokat tartalmazó küldeményeket kivéve, a küldeménydarabok, egyesítőcsomagolások és konténerek számát egy kocsin oly módon kell korlátozni, hogy a szállítási mutatószámok összege a kocsin ne lépje túl a „D” táblázatban meghatározott értékeket.

**„D” táblázat: Szállítási mutatószám határértékek konténerenként és kocsinként nem kizárólagos használat esetén**

Konténer vagy kocsi típusa	A szállítási mutatószámok összegének határértéke konténerenként és kocsinként
Kiskonténer	50
Nagykonténer	50
Kocsi	50

- b) A sugárzási szint normális szállítási feltételek esetén a kocsi külső felületén egyetlen ponton sem haladhatja meg a 2 mSv/h értéket, és 2 m távolságban egyetlen ponton sem haladhatja meg a 0,1 mSv/h értéket, kivéve a kizárólagos használat mellett szállított küldeményeket, amelyeknél a kocsi körüli sugárzási szint határokat a 3.5) b) és c) pont határozza meg.
- c) A kritikussági biztonsági mutatószámok összege egy konténerben vagy kocsin nem haladhatja meg az „E” táblázatban megadott értékeket.

**„E” táblázat: Kritikussági biztonsági mutatószámok hasadóanyagot tartalmazó konténerenként és kocsinként**

Konténer vagy kocsi típusa	A kritikussági biztonsági mutatószámok összegének határértéke	
	Nem kizárólagos használat esetén	Kizárólagos használat esetén
Kiskonténer	50	tárgytalan
Nagykonténer	50	100
kocsi	50	100

3.4) Minden küldeménydarab vagy egyesítőcsomagolás, amelynek szállítási mutatószáma 10-nél nagyobb, ill. minden küldemény, amelynek kritikussági biztonsági mutatószáma 50-nél nagyobb, csak kizárólagos használat mellett szállítható.

3.5) A sugárzási szint kizárólagos használat mellett szállított küldeményeknél nem haladhatja meg a következő értékeket:

- a) 10 mSv/h-t a küldeménydarabok vagy egyesítőcsomagolások külső felületének bármely pontján; azonban a 2 mSv/h értéket is csak akkor haladhatja meg, ha:
- i) a kocsi el van látva olyan burkolattal, amely a szállítás során illetéktelen személyek számára a rakományhoz való

hozzáférést megakadályozza; és

- ii) megtették a szükséges intézkedéseket ahhoz, hogy a küldeménydarabok vagy egyesítőcsomagolások úgy legyenek rögzítve, hogy azok helyzete a kocsin belül normális szállítás során változatlan maradjon; és
  - iii) a szállítás kezdete és befejezése között be- és kirakási műveleteket nem végeznek;
- b) 2 mSv/h-t a kocsi külső felületének bármely pontján, beleértve a tető- és fenékfelületeket, vagy nyitott kocsinál bármely ponton, amely a kocsi külső éleitől kiindulva meghosszabbított függőleges síkban vagy a rakomány felületén, ill. a kocsi alsó felületén van; és
- c) 0,1 mSv/h-t a kocsi külső oldalai által alkotott függőleges síkuktól 2 méter távolságban bármely pontban, vagy amennyiben a rakományt nyitott kocsin szállítják, a kocsi külső élei által meghatározott függőleges síkuktól 2 m távolságban bármely ponton.

**4) A hasadóanyagot tartalmazó küldeménydarabok elkülönítése a szállítás és az átmeneti tárolás során**

- 4.1) Az azonos tárolóhelyen átmenetileg tárolt, hasadóanyagot tartalmazó küldeménydarabok, egyesítőcsomagolások és konténerek számát egy csoportban oly módon kell korlátozni, hogy a CSI-k összege a csoportban ne haladja meg az 50-et. A csoportokat úgy kell tárolni, hogy a többi, hasonló csoporttól legalább 6 méterre legyenek.
- 4.2) Ha a kritikussági biztonsági mutatószámok összege egy kocsin vagy egy konténerben meghaladja az 50-et, mint azt az előző „E” táblázat megengedi, akkor úgy kell tárolni, hogy legalább 6 m távolság maradjon a hasadóanyagot tartalmazó küldeménydarabok, egyesítőcsomagolások és konténerek más csoportjaitól vagy a radioaktív anyagokat tartalmazó más kocsiktól.

**5) Sérült vagy szivárgó küldeménydarabok, szennyezett csomagolóeszközök**

- 5.1) Amennyiben egy küldeménydarab nyilvánvalóan sérült vagy tömítetlen, vagy feltételezhető, hogy a küldeménydarab megsérült vagy tömítetlenné vált, az ehhez a küldeménydarabhoz való hozzáférést korlátozni kell és a szennyezettség mértékét, valamint az ebből származó sugárzási szintet szakembernek kell a lehető leggyorsabban megbecsülni. A vizsgálatnak a küldeménydarabra, a kocsira, a környező ki- és berakási területre, valamint szükség esetén a kocsiban szállított minden más árura ki kell terjednie.

A személyek, javak és a környezet védelme céljából, szükség esetén az illetékes hatóságok által hozott intézkedésekkel összhangban további rendelkezéseket kell fogantatni, hogy az ilyen szivárgás vagy sérülés következményeit leküzdjék és minimálisra csökkentsék.

- 5.2) A küldeménydarabokat, amelyekből a radioaktív tartalom a normális szállítási feltételekre engedélyezett határokat meghaladó mértékben kiszabadult, felügyelet mellett el szabad távolítani egy elfogadható átmeneti helyre, de csak helyreállítás vagy javítás és sugárszennyezettség-mentesítés után szállíthatók tovább.

- 5.3) A radioaktív anyagok szállítására rendszeresen használt kocsik és szerelvényeik szennyezettség szintjét időszakonként ellenőrizni kell. Az ilyen vizsgálatok gyakoriságát a szennyezettség valószínűsége és a radioaktív anyag szállított mennyisége szerint kell meghatározni.
- 5.4) Az 5.5) pontban előírtak kivételével, mindazon kocsikat, szerelvényeiket vagy más részüket, amelyek a szállítás során a 4.1.9.1.2 pontban meghatározott határokat meghaladó mértékben szennyeződtek radioaktív anyagokkal vagy amelyek  $5 \mu\text{Sv/h}$  értéket meghaladó sugárzási szintet mutatnak, szakembernek kell a lehető leghamarabb a szennyezettségtől mentesíteni; ezeket mindaddig nem szabad újra használni, amíg a nem tapadó szennyezettség mértéke meghaladja a 4.1.9.1.2 pontban megállapított értékeket és amíg a szennyezettségtől való mentesítés után a felületen a tapadó radioaktív szennyezettségből eredő sugárzási szint nem kisebb mint  $5 \mu\text{Sv/h}$ .
- 5.5) A csomagolatlan radioaktív anyagok kizárólagos használat melletti szállítására alkalmazott konténert, tartányt, IBC-t vagy kocsit csak a belső felületének tekintetében és csak addig, amíg kifejezetten ezen kizárólagos használat alatt maradnak, mentesíteni kell az előző 5.4) pont és a 4.1.9.1.2 pont követelményei alól.

#### 6) Egyéb előírások

Ha egy küldemény nem szolgáltatható ki, akkor a küldeményt biztonságos helyen kell tárolni, az illetékes hatóságokat a lehető leggyorsabban tájékoztatni kell, és a további eljárásra nézve utasítást kell kérni..

- CW34** Nyomástartó tartályok szállítása előtt meg kell győződni arról, hogy a tartályokban a nyomás a lehetséges hidrogénfejlődés következtében nem növekedett.
- CW35** Ha önálló csomagolásként zsákot alkalmaznak, a hőleadás lehetővé tételéhez a zsákokat megfelelően el kell különíteni.
- CW36** A küldeménydarabokat célszerű nyitott vagy jól szellőző kocsiba, ill. nyitott vagy jól szellőző konténerbe rakni. Ha ez nem lehetséges és a küldeménydarabokat más fajta fedett kocsiban, ill. zárt konténerben szállítják, a kocsit, ill. a konténer rakománytér ajtaját a következő, legalább 25 mm magas betűkkel írt felirattal kell megjelölni:

**„FIGYELEM!  
NINCS SZELLŐZÉS,  
ÓVATOSAN NYITNI !”**

Ezt a feliratot a feladó által alkalmasnak tartott nyelven kell feltüntetni.



## 7.6 fejezet

### Előírások az expresszáruként történő fuvarozásra

A COTIF C Függelék 5. cikk 1. §-a szerint egy áru expresszáruként csak akkor fuvarozható, ha a 3.2 fejezet „A” táblázat 19 oszlopában „CE” betűkkel kezdődő kód van megadva, ami ezt a fuvarozási módot kifejezetten megengedi és a megadott különleges előírás feltételeit betartják.

A következő különleges előírásokat kell betartani, ha a 3.2 fejezet „A” táblázat 19 oszlopában valamely tételnél meg vannak adva:

- CE1** Egy expresszáru küldeménydarab nem lehet 40 kg-nál nehezebb. Az expresszáru küldeményeket olyan vasúti kocsikba, amelyek egyidejűleg személyszállításra is szolgálhatnak, csak kocsinként legfeljebb 100 kg összmenyiségig szabad berakni.
- CE2** Egy expresszáru küldeménydarab nem lehet 40 kg-nál nehezebb.
- CE3** Egy expresszáru küldeménydarab nem lehet 50 kg-nál nehezebb.
- CE4** Egy expresszáru küldeménydarab nem tartalmazhat ebből az anyagból 45 liternél többet és nem lehet 50 kg-nál nehezebb.
- CE5** Egy expresszáru küldeménydarab nem tartalmazhat ebből az anyagból 2 liternél többet.
- CE6** Egy expresszáru küldeménydarab nem tartalmazhat ebből az anyagból 4 liternél többet.
- CE7** Egy expresszáru küldeménydarab nem tartalmazhat ebből az anyagból 6 liternél többet.
- CE8** Egy expresszáru küldeménydarab nem tartalmazhat ebből az anyagból 12 liternél többet.
- CE9** Egy expresszáru küldeménydarab nem tartalmazhat ebből az anyagból 4 kg-nál többet.
- CE10** Egy expresszáru küldeménydarab nem tartalmazhat ebből az anyagból 12 kg-nál többet.
- CE11** Egy expresszáru küldeménydarab nem tartalmazhat ebből az anyagból 24 kg-nál többet.
- CE12** Expresszáruként történő fuvarozáshoz az anyagnak törhetetlen tartályokban kell lennie. Egy expresszáru küldeménydarab nem lehet 25 kg-nál nehezebb.
- CE13** Csak a nemesfém tartalmú szervesetlen cianidokat és ezek keverékeit szabad expresszáruként fuvarozni. Ez esetben a 6.1.4.21 bekezdés szerinti, üveg, műanyag vagy fém belső csomagolással rendelkező kombinált csomagolást kell alkalmazni. Egy küldeménydarab nem tartalmazhat 2 kg-nál több anyagot.

Az utasok által hozzáférhető poggyászkocsiban vagy csomagtérben is lehet fuvarozni, ha az illetéktelenek hozzáféréseinek megakadályozására megtették a megfelelő intézkedéseket.

- CE14** Csak azokat az anyagokat szabad expresszáruként fuvarozni, amelyeknél nincs szükség meghatározott környezeti hőmérséklet fenntartására. Ebben az esetben a következő mennyiségi korlátozásokat kell betartani:
- azoknál az anyagoknál, amelyek nem tartoznak az UN 3373 alá:  
folyékony anyagoknál küldeménydarabonként legfeljebb 50 ml és szilárd anyagoknál küldeménydarabonként legfeljebb 50 g mennyiségig;
  - azoknál az anyagoknál, amelyek az UN 3373 alá tartoznak:  
a 4.1.4.1 bekezdés P650 csomagolási utasításában megadott mennyiségig;
  - testrészek vagy szervek esetén:  
egy küldeménydarab nem lehet 50 kg-nál nehezebb.
- CE15** Expresszáru küldeménydarabok esetében a veszélyességi bárcákon megadott szállítási mutatószámok összege a poggyászkocsiban vagy csomagtérben nem haladhatja meg a 10-et. III-SÁRGA kategóriájú küldeménydarabok esetén a fuvarozó meghatározhatja a küldemény kiszolgáltatásának időpontját. Egy expresszáru küldeménydarab nem lehet 50 kg-nál nehezebb.

## 7.7 fejezet

### **Kézipoggyászként, útipoggyászként vagy gépjárművön, ill. gépjárműben (vonaton lévő gépkocsin) szállított veszélyes áru**

- Megjegyzés:** 1. A Nemzetközi Vasúti Személyszállítási Szerződésre vonatkozó Egységes Szabályok (CIV – a COTIF A Függeléke) 12. cikk 4. §-a és a COTIF C Függeléke (RID) 5. cikke értelmében veszélyes áru kézipoggyászként, útipoggyászként vagy gépjárművön, ill. gépjárműben (vonaton lévő gépkocsin) csak a RID előírásai szerint szállítható.
2. A vasúttársaságok magánjogi szállítási feltételei között további korlátozások lehetségesek.

Veszélyes áru kézipoggyászként, útipoggyászként vagy gépjárművön, ill. gépjárműben (vonaton lévő gépkocsin) csak akkor szállítható, ha az 1.1.3.1 bekezdés a) vagy b) pontja, az 1.1.3.2 bekezdés b), d) vagy f) pontja, az 1.1.3.3 vagy az 1.1.3.7 bekezdés mentesítési előírásai alkalmazhatók.

## **A RID nemhivatalos része**

## Műanyag tartályok vizsgálati előírásai

### Irányelv a 6.1.5.2.7, ill. a 6.5.6.3.6 ponthoz

Laboratóriumi módszerek a tartály anyagából készített próbatest felhasználásával a 6.1.5.2.6, ill. a 6.5.6.3.5 pont meghatározása szerinti polietilén töltőanyagokkal (anyagokkal, keverékekkel és készítményekkel) szembeni kémiai összeférhetőség bizonyítására a 6.1.6 szakasz szerinti standardfolyadékokkal való összehasonlítás alapján.

A következőkben leírt A – C laboratóriumi módszerek végrehajtásával a megfelelő standardfolyadékkal való összehasonlítás alapján meghatározható az engedélyezendő töltőanyagnak a tartály anyagára kifejtett, lehetséges hatásmechanizmusa.

A vizsgálati módszert a várható károsító mechanizmus alapján kell kiválasztani.

Amennyiben a receptura alapján előre nem látható, a tartály anyagára kifejtett

- duzzasztás általi lágyítást („A” laboratóriumi módszer),
- feszültségkorróziós repedés kiváltását („B” laboratóriumi módszer),
- oxidációs és molekuladegradációs reakciókat („C” laboratóriumi módszer)

laboratóriumi módszerekkel állapítják meg és azután összevetik a megfelelő standardfolyadék azonos jellegű hatásával.

Ennek során a megadott tűréseken belül azonos vastagságú próbatesteket kell használni.

### „A” laboratóriumi módszer

A duzzadás általi tömegnövekedést a tartály anyagából készített sík próbatestet 40 °C-on az engedélyezendő folyadékban valamint az összehasonlításhoz szolgáló standardfolyadékban tárolva határozzák meg.

A duzzadás általi tömegnövekedést a próbatest tárolás előtti és legfeljebb 2 mm próbatest-vastagságig 4 hetes tárolás utáni, egyébként pedig a tömegállandóság eléréséig tartó tárolás utáni lemerésével határozzák meg.

Legalább 3 próbatest átlagértékét kell meghatározni. Egy próbatestet csak egyszer szabad felhasználni.

### „B” laboratóriumi módszer (csapbenyomós eljárás)

#### 1. Rövid leírás

A csapbenyomós módszerrel vizsgálják a polietilén tartály anyagának a termékkel és a mindenkori standardfolyadékkal szembeni viselkedését, valamint ezzel a módszerrel vizsgálható a legfeljebb 4%-ot kitevő duzzadással vagy anélkül bekövetkező feszültségi repedés képződés.

Ehhez a próbatesteket furattal és hornyolással kell ellátni és azután a vizsgálandó termékbe és a megfelelő standardfolyadékba merítve kell elótárolni. Az elótárolás után a furatba meghatározott túlméretes csapot kell besajtolni.

Az így előkészített próbatesteket azután a vizsgálandó termékbe és a megfelelő standardfolyadékba kell meríteni és különböző időtartamú tárolás után ki kell venni és meg kell vizsgálni a maradék szakítószilárdságra (3.1 eljárás) vagy a próbatest átszakadásáig eltelt időre nézve (3.2 eljárás).

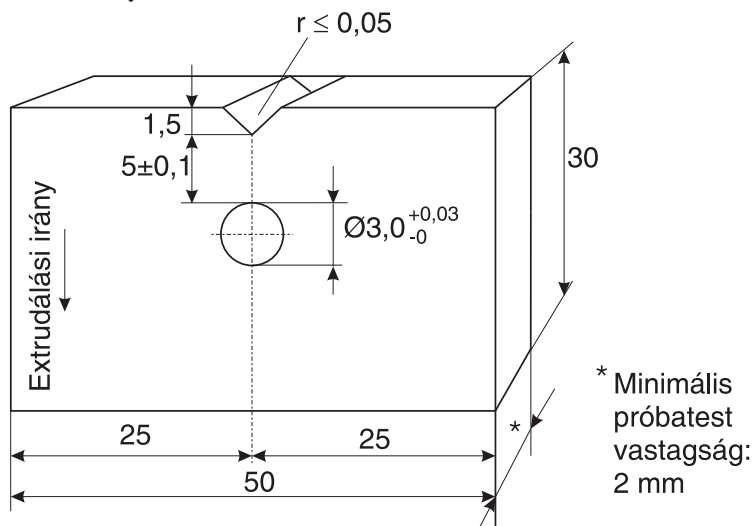
A „nedvesítőszersz-oldat”, „ecetsav”, „n-butil-acetát/nedvesítőszersz n-butil-acetáttal telített oldata” vagy „víz” standardfolyadékkal mint vizsgáló közeggel végzett összehasonlító méréssel kell meghatározni, hogy a vizsgálandó termék károsító hatása azzal egyenlő, annál kisebb vagy nagyobb-e.

## 2 *Próbatest*

### 2.1 *Alak és méretek*

A próbatestek alakját és ajánlott méreteit az 1. ábra mutatja. A próbatest vastagságának eltérése egy mérési sorozaton belül nem haladhatja meg a középérték  $\pm 15\%$ -át.

Egy mérési sorozathoz tartozik a vizsgálandó termék és a megfelelő standardfolyadék.



1. ábra Próbatest csap nélkül

### 2.2 *Gyártás*

Az egy mérési sorozat próbatestei akár ugyanazon gyártási minta tartályaiból, akár extrudált félkész termék azonos darabjaiból elkészíthetők.

A próbatestek forgácsolásos előállításánál fűrészelt vágási felület elegendő. A munkálásnál keletkező sorját tulajdonképpen a későbbi hornyolással ellátandó vágási felületről el kell távolítani. A próbatesteket az extrudálási iránnyal párhuzamosan kell hornyolni. Minden próbatesten az 1. ábra szerinti 3 mm  $+0,03/-0,00$  mm átmérőjű furatot kell készíteni. Ezután a próbatesteket az 1. ábra szerint  $\pm 0,05$  mm sugárral lekerekített, „V” alakú horonnyal kell ellátni.

A távolság a horony alja és a furat széle között  $5 \text{ mm} \pm 0,1 \text{ mm}$ .

### 2.3 *A próbatestek száma*

A 3.2 bekezdés szerinti maradék szakítószilárdság meghatározásához tárolási időszakonként 10 próbatest szükséges. Rendszerint legalább 5 tárolási időszakot

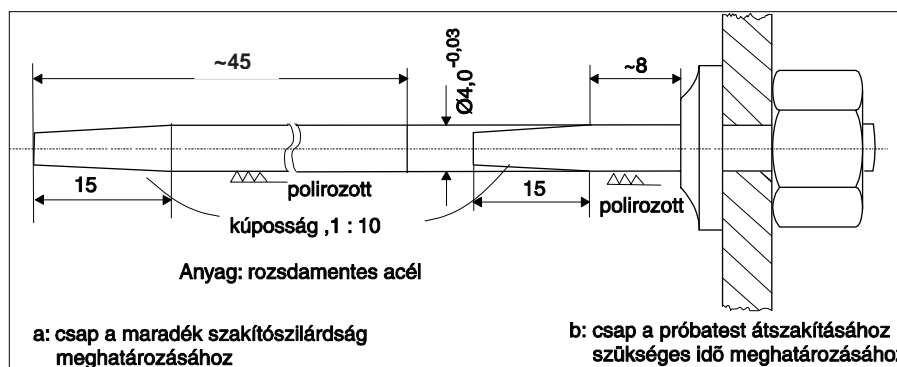
használnak.

A próbatestek 3.3 bekezdés szerinti átszakadásához szükséges tárolási idő meghatározásához összesen 15 próbatest szükséges.

## 2.4 Csapok

A 4 mm vastag csapok méretét lásd a 2 ábrán.

A csap anyagául megfelelő saválló acélt (pl. X12 Cr Si17) kell használni. Azokhoz az anyagokhoz, amelyek az acélt megtámadják, üvegcsapot kell használni.



2. ábra

## 3. Vizsgálati eljárás és kiértékelés

### 3.1 A próbatest előtárolása

A próbatesteket a csapok besajtolása előtt 21 napon át  $40\text{ °C} \pm 1\text{ °C}$  hőmérsékleten a vizsgálandó töltőanyagba és a standardfolyadékba merítve kell előtárolni. A 6.1.6.1 bekezdés c) pontja szerinti standardfolyadék esetében az előtárolás n-butil-acetátban történik.

### 3.2 Eljárás a maradék szakítószilárdsági görbe meghatározásához

#### 3.2.1 A vizsgálat végrehajtása

A 2.a ábra szerinti csapot kúpos részénél fogva a hengeres részével akadálytalanul a próbatest furatába kellé nyomni.

Az így előkészített próbatestet azután a megfelelő vizsgáló folyadékkal töltött és  $40\text{ °C}$ -ra temperált tárolóedénybe kell meríteni és szárítószekrényben  $40\text{ °C} \pm 1\text{ °C}$  hőmérsékleten kell tartani. A c) pont szerinti standardfolyadék esetében ezt a vizsgálatot a nedvesítőszer 2%-os n-butil-acetátos oldatával kell végezni.

A próbatestbe a csap benyomása és a vizsgáló folyadékba mártás folytatása között eltelt időt egy mérési sorozatnál egységesen kell megválasztani és állandó értéken kell tartani.

A tárolási időtől és a vizsgáló folyadéktól függő feszültségi repedés képződés meghatározásához a tárolási időt eközben úgy kell megválasztani, hogy a vizsgált standardfolyadék és az töltőanyag maradék szakítószilárdság-görbéi között egyértelmű eltérés legyen látható.

A tárolóedényből való kivétel után a próbatestektől azonnal el kell távolítani a csapokat és a próbatesteket meg kell tisztítani a vizsgáló folyadék maradékától.

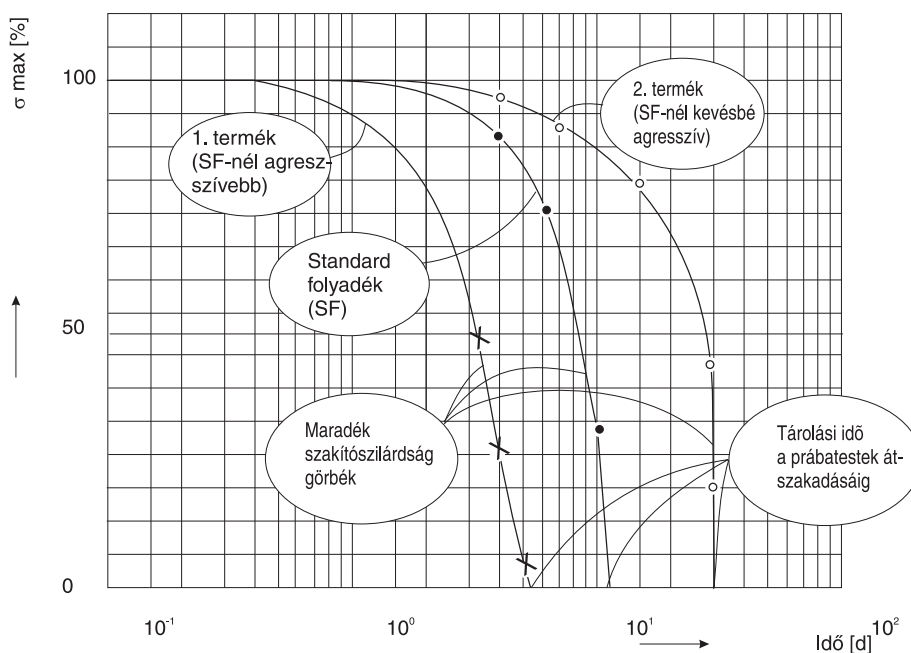
Szobahőmérsékletre hűlés után a próbatesteket a hornyolt oldallal párhuzamosan a furat közepén keresztül fűrészeléssel ketté kell vágni. A további vizsgálatokhoz csak a hornyolt próbatest részeket kell felhasználni.

A hornyolt próbatest részeket a vizsgáló folyadékból való kivétel után 8 órán belül szakítógépen 20 mm/min vizsgáló sebességgel (a mozgó pofa sebessége) egytengelyű húzó-igénybevételnek kell alávetni törésig. Meg kell határozni a legnagyobb erőt. A szakítóvizsgálatot szobahőmérsékleten kell végezni ( $23\text{ °C} \pm 2\text{ °C}$ ) az ISO/R 527 szabvány szerint.

### 3.2.2 Kiértékelés

A vizsgáló folyadék hatásának megállapítására az értékelés az előtárolt és csapbenyomás nélküli próbatestek legnagyobb feszültségének mint kiindulási értéknek és  $t_y$  tárolási idő után, ahol  $y \geq 5$  (nap), után a próbatestek legnagyobb feszültségének meghatározása alapján történik. Miután ezen  $t_y$  időpontoknál kapott legnagyobb feszültségeket a kiindulási értékhez viszonyítva %-ra átszámítottuk, ezeket az értékeket diagrammban kell ábrázolni, pl. a 3. ábra szerinti módon.

A „nedvesítőszer-oldat”, „ecetsav”, „n-butil-acetát/nedvesítőszer n-butil-acetáttal telített oldata” vagy „víz” standardfolyadékkal végzett mérésekből kapott megfelelő maradék feszültség görbékkel való összehasonlítás azután mutatja, hogy a vizsgált termék az azonos tartályanyagra erősebb, gyengébb vagy semmiféle hatást sem fejt-e ki (lásd a 3. ábrát).



3. ábra Feszültségi repedés vizsgálat (csapbenyomásos módszer)

### 3.3 Eljárás a próbatestek átszakadásához szükséges tárolási idő meghatározására

#### 3.3.1 A vizsgálat végrehajtása

15 próbatestet egyenként akadálymentesen a 2.b ábra szerinti 15 db csapra ütközésig felsajtolnak, és a mindenkor vizsgáló folyadékkal töltött és  $40\text{ °C}$ -ra temperált üvegcsőbe helyeznek.



A vizsgálati hőmérsékletet  $\pm 1$  °C pontossággal állandó értéken kell tartani. Vizuális megfigyeléssel meg kell határozni az egyes csapokon a próbatestek átszakadását. A repedés a tapasztalatok szerint mindig a horony aljától terjed a csap felületéig.

### 3.3.2 Értékelés

Az értékelés szempontjából mértékadó a 8 próbatest átszakadásáig eltelt  $t_{SF}$  idő standardfolyadék esetében. A többi próbatest átszakadását nem kell megvárni.

Az értékelés a termékkel való vizsgálatnál átszakadt próbatestek számával történő összehasonlítással történik. A  $t_{SF}$  tárolási időn belül átszakadt próbatestek száma nem haladhatja meg a 8-at.

### 3.4 Magyarázat

A „tárolási hőmérséklet” valamint a „horony alja és a lyukperem közötti távolság” vizsgálati paramétereket úgy kell megválasztani, hogy a megfelelő vizsgálat során „nedvesítőszer-oldat”, „ecetsav”, vagy „n-butil-acetát/nedvesítőszer n-butil-acetáttal telített oldata” standardfolyadékkal ezen vizsgálati előírás értelmében kb. 28 nap összes vizsgálati időtartamon belül mértékadó eredményt kapjunk. Ehhez  $\sim 0,952$  g/cm<sup>3</sup> sűrűségű és  $\sim 2,0$  g/10 min folyási mutatószámú (MFI 190 °C/21,6 kg terhelés) polietilén szolgál alapul.

Mivel a megítélés ezen vizsgálati előírás alapján mindig relatív megítélés kell legyen, a vizsgálat időtartamának rövidítése céljából a fent említett vizsgálati paraméterek bizonyos határok között változtathatók. Ezt a vizsgálati jelentésben fel kell tüntetni.

### 4. A kielégítő vizsgálati eredmény feltételei

- 4.1 Az „A” laboratóriumi módszer szerinti vizsgálati eredmény nem haladhatja meg a duzzadás általi 1% tömegnövekedést, ha az összehasonlításához az a) pont szerinti „nedvesítőszer oldatot” és a b) pont szerinti „ecetsavat” mint standardfolyadékot kell használni.

Az „A” laboratóriumi módszer szerinti vizsgálati eredmény a vizsgált termékkel nem haladhatja meg az n-butil-acetáttal kapott duzzadás tömegnövekedését (kb. 4%), ha az összehasonlításához a c) betű szerinti „n-butil-acetát/nedvesítőszer n-butil-acetáttal telített oldata” standardfolyadékot kell használni.

- 4.2 A „B” laboratóriumi módszer szerinti vizsgálati eredménynek az engedélyezendő töltőanyagra az összehasonlításához használt standardfolyadékhoz képest azonos vagy hosszabb tárolási időt kell adnia.

### „C” laboratóriumi módszer

A 6.1.5.2.6, ill. a 6.5.6.3.5 pont szerinti polietilénből készült tartály töltőanyag általi lehetséges oxidatív vagy molekula degradációs károsodásának meghatározásához a gyártási mintának megfelelő vastagság tartományba eső próbatest folyási mutatószámát (MFI 190 °C/21,6 kg terhelés az ISO 1133 szabvány 7. vizsgálati feltétele szerint) határozzák meg ezen próbatestnek a vizsgált töltőanyagban való tárolása előtt és után.

A geometriailag azonos próbatestet a 6.1.6.1 bekezdés e) pontja szerint „55%-os salétrom-sav” standardfolyadékban tárolva és a folyási mutatószámot meghatározva megállapítható, vajon az engedélyezendő töltőanyag károsító hatása a tartály anyagára gyengébb, azonos vagy erősebb.

A próbatesteket 40 °C-on kell tárolni a végső megítélés lehetőségéig, legfeljebb azonban 42 napig.

Amennyiben az engedélyezendő töltőanyag az "A" laboratóriumi módszer szerint  $\geq 1\%$  tömegnövekedéssel járó duzzadást okoz, a mérési eredmény meghamisításának elkerülésére a folyási mutatószám mérése előtt a próbatestet egyidejű tömegellenőrzés mellett meg kell szárítani, pl. vákuum szárítószekrényben tartva 50 °C-on tömegállandóságig, de rendszerint 7 napot meg nem haladó ideig.

*A kielégítő vizsgálati eredmény feltételei:*

A tartály anyagának az engedélyezendő töltőanyag által okozott folyási mutatószám növekedése ezen meghatározási módszer szerint az „55%-os salétromsav” standardfolyadék által okozott növekedést a vizsgálati módszerből fakadó 15%-os tűrés figyelembe vételével nem múlhatja felül.