

**OTIF**



**ORGANISATION INTERGOUVERNEMENTALE POUR  
LES TRANSPORTS INTERNATIONAUX FERROVIAIRES**

**ZWISCHENSTAATLICHE ORGANISATION FÜR DEN  
INTERNATIONALEN EISENBAHNVERKEHR**

**INTERGOVERNMENTAL ORGANISATION FOR INTER-  
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- 1.6.4** Amend to read as follows:
- "1.6.4** Tank-containers, portable tanks and MEGCs".
- 6.1.4.6** Amend to read as follows:
- "6.1.4.6** (Deleted)".
- 6.1.5.7** Replace "61 °C" with:
- "60 °C".
- 6.5.1** Amend to read as follows:
- "General requirements".
- 6.5.1.5** Delete.
- 6.5.1.6** Delete.
- 6.5.3 and  
6.5.3.1 to  
6.5.3.6** become **6.5.5** and **6.5.5.1** to **6.5.5.6**.
- Insert a new section 6.5.3 as follows:
- "6.5.3** Construction requirements
- 6.5.3.1** General requirements".
- 6.5.4 and  
6.5.4.1 to  
6.5.4.13** become **6.5.6** and **6.5.6.1** to **6.5.6.13**.
- 6.5.4.14** Delete.
- Insert a new section 6.5.4 as follows:
- "6.5.4** Testing, certification and inspection".

## **PART 1**

### **Chapter 1.1**

#### **1.1.3.1** Amend paragraph (d) to read as follows:

"(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;"

Add a new sub paragraph (f) to read as follows:

"(f) the carriage of uncleaned empty static or storage vessels and tanks 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 or storage vessels and tanks which have contained desensitized explosives or substances the carriage of which is prohibited by RID."

#### **1.1.3.2** Amend paragraph (d) to read as follows:

"(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;"

Delete paragraph (f). Current paragraph (g) becomes paragraph (f).

#### **1.1.4.1.3** Replace "consignment note" with:

"transport document".

#### **1.1.4.2.1** In the last sentence replace "classes 1 to 8" with:

"classes 1 to 9".

#### **1.1.4.3** In the title insert "IMO type" before "portable tanks".

In the first sentence, replace "Portable tanks" with "IMO type portable tanks (types 1, 2, 5 and 7)".

In the first sentence, replace "(Amdt. 30-00)" with:

"(Amdt. 33-06)".

Add a reference to a footnote 1 at the end. The footnote 1 will read as follows:

<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. Copies of this guidance can be found on the IMO website at: [www.imo.org](http://www.imo.org)."

Current footnotes 1 to 9 become 2 to 10.

**1.1.4.4** Amend the first sentence of the Note to read as follows:

"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."

In the second sentence of the Note, replace "consignment note" with:

"transport document".

## **Chapter 1.2**

**1.2.1** Add the following definitions in alphabetical order:

**"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);"

**"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.

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

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

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

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

**"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."

**"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 consignment note in accordance with the Contract of Use (see Uniform Rules concerning Contracts of Use of Vehicles in International Rail Traffic (CUV – Appendix D to COTIF)) or another transport document meeting the provisions of section 5.4.1."

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

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

In the definition of "**Aerosol or aerosol dispenser**", insert "under pressure" after "liquefied or dissolved".

In the definitions of "**CSC**", "**IMDG Code**" and "**Offshore bulk container**", print "**IMO**" in italics.

In the definition of "**Hermetically closed tank**", the second and fourth indents, replace "as allowed by special provision TE15 of 6.8.4" with:

"in accordance with the requirements of 6.8.2.2.3" at the end.

In the definition of "**ICAO Technical Instructions**", print "ICAO" in italics.

In the definition of "**Manual of Tests and Criteria**", replace "(ST/SG/AC.10/11/Rev.4)" with:

"(ST/SG/AC.10/11/Rev.4 as amended by document ST/SG/AC.10/11/Rev.4/Amend. 1)".

In the definition of "**Overpack**", replace "by a single consignor" with "(by a single consignor in the case of Class 7)".

In paragraph (a), replace "plastic" with "plastics".

In the definition of "**Remanufactured IBC**", replace "6.5.4.1.1" with:

"6.5.6.1.1".

In the definition of "**UN Model Regulations**", replace "thirteenth" with:

"fourteenth" and "(ST/SG/AC.10/1/Rev.13)" with:

"(ST/SG/AC.10/1/Rev.14)".

## **Chapter 1.3**

**1.3.2.2.2 (a)** Amend the beginning of the first indent to read:

"– how to access the necessary information ...".

**1.3.2.4** Replace "the radiation hazards involved and" with:

"radiation protection including".

Replace "to ensure restriction of their exposure and that" with:

"to restrict their occupational exposure and the exposure".

## Chapter 1.4

1.4.2.1.1 (b) Replace "consignment notes" with:

"transport documents".

1.4.2.2.1 In footnote 6) (current footnote 5)), delete the second sentence.

Insert a new 1.4.2.2.5 to read as follows:

**"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."

1.4.3.3 Add a new paragraph (j) to read as follows:

"(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."

1.4.3.6 Amend to read as follows:

**"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,
- weight 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

1.5.1.1 In the first sentence, replace "For the purpose of adapting the requirements of RID to technological and industrial developments, the competent authorities" with "The competent authorities".

## Chapter 1.6

**1.6.1.1** Replace "2005" and "2004" with:

"2007" and "2006".

In footnote 8 (current footnote 7), replace "2003" with:

"2005".

In the Note, replace "consignment note" with:

"transport document".

**1.6.1.2** Amend to read as follows:

**"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** and

**1.6.1.4** Replace "consignment note" with:

"transport document".

Add a new transitional measure 1.6.1.11 to read as follows:

**"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 6.1.6.1 (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."

Add the following new transitional measure to read as follows:

**"1.6.2.4** Pressure receptacles designed and constructed in accordance with technical codes no longer recognized according to 6.2.3 may still be used."

Insert a new sub-section 1.6.2.5 to read as follows:

**"1.6.2.5** Pressure receptacles and their closures designed and constructed in accordance with standards applicable at the time of their construction and no longer listed in 6.2.2 or 6.2.5 may still be used."

**1.6.3.7** Replace "61 °C" with:

"60 °C".

Add the following new transitional measures to read as follows:

**"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, 6.8.2.4 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."

**1.6.3.25** Add the following new paragraph at the end:

"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."

**1.6.3.26** Amend to read as follows:

**"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** Delete current footnote 10.

Insert the following new transitional measures:

**"1.6.3.30** (Reserved)

**1.6.3.31** Tank-wagons and battery-wagons designed and constructed in accordance with technical codes no longer recognized according to 6.8.2.7 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 substances 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 1 January 2015.

- 1.6.3.33 to 1.6.3.40** (Reserved)".
- 1.6.4** Amend the title to read as follows:  
**"Tank-containers, portable tanks and MEGCs".**
- 1.6.4.4** Replace "61 °C" with:  
"60 °C".
- 1.6.4.6** Amend to read as follows:  
"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."
- 1.6.4.9** Amend to read as follows:  
**"1.6.4.9** Tank-containers and MEGCs designed and constructed in accordance with technical codes no longer recognized according to 6.8.2.7 may still be used."
- 1.6.4.12** Add a new sentence, at the end, to read as follows:  
"Until the relevant code marking has been carried out, the proper shipping name of the substance carried<sup>10)</sup> shall be indicated on the tank-container itself or on a plate."  
<sup>10</sup> The proper shipping name may be replaced by a generic name grouping substances of a similar nature and also compatible with the characteristics of the tank.
- 1.6.4.15** Add the following new paragraph at the end:  
"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."  
Add the following new transitional measures to read as follows:
- "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 constructed before 1 January 2007 which do not conform to the requirements of 4.3.2, 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."

Insert a new sub-section 1.6.4.30 to read as follows:

**"1.6.4.30** The competent authority may continue to issue, until 31 December 2007, design approval certificates for new designs of UN portable tanks and MEGCs which meet the requirements of Chapter 6.7 in force up to 31 December 2006. UN portable tanks and 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."

**1.6.6.2.2** In the first sentence, delete "until 31 December 2003" and insert "the multilateral approval of package design;" before "the mandatory programme of quality assurance".

Delete the sentence: "After this date use may continue subject, additionally, to multilateral approval of package design."

## **Chapter 1.7**

**1.7.2.2** Delete:

"and (1.4)".

**1.7.2.3** Insert the following new first sentence:

"Doses to persons shall be below the relevant dose limits."

At the end of the second sentence (current first sentence), replace "and doses to persons shall be below the relevant dose limits" with:

"within the restriction that the doses to individuals be subject to dose constraints."

**1.7.2.4** Delete paragraph (a) and renumber (b) and (c) as (a) and (b).

**1.7.4.1** Insert "of radioactive material" after "which consignments" and "applicable" after "satisfy all the".

Delete "applicable to radioactive material" at the end.

## **Chapter 1.8**

**1.8.3.10** Add a new second sentence to read as follows:

"The examining body shall not be a training provider."

**1.8.3.11 b)** In the fourth and thirteenth indent, replace "consignment note" with:

"transport document".

Amend sub-section 1.8.3.12 to read as follows:

**"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** [Second sentence of current 1.8.3.12 followed by sub-paragraphs (a) and (b)] with the following amendments:  
At the beginning of this second sentence, replace "written examination" with "written test".  
In the fifth indent, replace "consignment note" with "transport document".  
In the eight indent, replace "consignment notes" with "transport documents".]

**1.8.3.16.2** Replace "1.8.3.12 (b)" with "1.8.3.12.4 (b)" at the end.

**1.8.5.1** Amend to read as follows:

"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."

**Chapter 1.9**

**1.9.3** At the end of the section, insert a reference to the new footnote 14 which reads as follows:

"<sup>14</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))."

Current footnote 14 becomes 15.

**Chapter 1.10**

**1.10.4** Amend to read as follows:

"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. 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** For Class 6.2:

- In column "substance or article", insert "(UN Nos. 2814 and 2900)" after "Category A".

- In column "bulk", replace "(a)" with "0".

Delete NOTE at the end of the table.

Add a new paragraph after Table 1.10.5 to read as follows:

**"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**

**1.11** In footnote 15 (current footnote 14), delete "published by ... Paris".

## PART 2

### Chapter 2.2

**2.2.1.1.3** In the first subparagraph, replace "2.2.1.1.7" with:

"2.2.1.1.8".

**2.2.1.1.7** becomes new 2.2.1.1.8.

Insert the following new paragraphs:

#### **"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.

**NOTE 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 hazard division are packed in the same package they shall be classified on the basis of the highest 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).

**NOTE 2:** "Flash composition" in this table refers to pyrotechnic compositions containing an oxidizing substance, or black powder, and a metal powder fuel that are used to produce an aural report effect or used as a bursting charge in fireworks devices.

**NOTE 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.

<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
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, thunderclap, 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
	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: $> 50$ mm and $< 180$ mm	1.2G
			Colour shell: $\leq 50$ mm, or $< 60$ g pyrotechnic composition, with $\leq 25\%$ flash composition as loose powder and/ or report effects	1.3G
Shell, spherical or cylindrical (cont'd)	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

Type	Includes: / Synonym:	Definition	Specification	Classification
		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 ≤ 70mm and/or pyrotechnic units, with ≤ 25% flash composition and ≤ 60% pyrotechnic composition and designed to be projected from a mortar	> 200 mm and ≤ 300 mm	1.3G
		Device with propellant charge, with delay fuse and bursting charge, containing colour shells ≤ 70 mm and/or pyrotechnic units, with ≤ 25% flash composition and ≤ 60% pyrotechnic composition and designed to be projected from a mortar	≤ 200 mm	1.3G
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	≥ 50 mm inner diameter, containing flash composition, or <50 mm with >25% flash composition	1.1G
			≥ 50 mm inner diameter, containing no flash composition	1.2G
			< 50 mm inner diameter and ≤ 25% flash composition	1.3G
			≤ 30 mm inner diameter, each pyrotechnic unit ≤ 25 g and ≤ 5% flash composition	1.4G
Shot tube	Single shot Roman candle, small preloaded mortar	Tube containing a pyrotechnic unit consisting of pyrotechnic composition, propellant charge with or without transmitting fuse	≤ 30 mm inner diameter and pyrotechnic unit > 25 g, or > 5% and ≤ 25% flash composition	1.3G

Type	Includes: / Synonym:	Definition	Specification	Classification
			≤ 30 mm inner diameter, pyrotechnic unit ≤ 25 g and ≤ 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 ≤ 25 %	1.3G
			≤ 20 g pyrotechnic composition, black powder bursting charge and ≤ 0.13 g flash composition per report and ≤ 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
			≥ 180 mm and ≤ 25% flash composition, as loose powder and/ or report effects	1.1G
			< 180 mm and ≤ 25% flash composition, as loose powder and/ or report effects	1.3G
			≤ 150 g pyrotechnic composition, containing ≤ 5% flash composition as loose powder and/ or report effects. Each pyrotechnic unit ≤ 25 g, each report effect < 2g ; each whistle, if any, ≤ 3 g	1.4G
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	≥ 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: ≤ 5 g per item and ≤ 10 items per pack; Nitrate based sparklers: ≤ 30 g per item	1.4G

Type	Includes: / Synonym:	Definition	Specification	Classification
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	1.3 G
			Perchlorate based items: ≤ 5 g per item and ≤ 10 items per pack; nitrate based items: ≤ 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 ≤ 3% flash composition as report effects, or whistle composition ≤ 5 g	1.3G
			Pyrotechnic composition per item ≤ 20 g, containing ≤ 3% flash composition as report effects, or whistle composition ≤ 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	≥ 1 kg total pyrotechnic composition, no report effect, each whistle (if any) ≤ 25 g and ≤ 50 g whistle composition per wheel	1.3G
			< 1 kg total pyrotechnic composition, no report effect, each whistle (if any) ≤ 5 g and ≤ 10 g whistle composition per wheel	1.4G
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, ≤ 3% flash composition as report effects, each whistle (if any) ≤ 25 g and ≤ 50 g whistle composition per wheel	1.3G

Type	Includes: / Synonym:	Definition	Specification	Classification
			<p>≤ 200 g total pyrotechnic composition and ≤ 60 g pyrotechnic composition per driver, ≤ 3% flash composition as report effects, each whistle (if any) ≤ 5 g and ≤ 10 g whistle composition per wheel</p>	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	
Fire-cracker	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 ≤ 140 mg of flash composition or ≤ 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
			≤ 2 g flash composition per item and ≤ 10 g per inner packaging	1.3G
			≤ 1 g flash composition per item and ≤ 10 g per inner packaging or ≤ 10 g black powder per item	1.4G

**2.2.2.1.5** Under the heading "Oxidizing gases", replace "see ISO 10156:1996" with:  
"see ISO 10156:1996 and ISO 10156-2:2005".

**2.2.3.1.1** Replace "61 °C" with "60 °C" (three times).

**2.2.3.1.2** Replace "61 °C" with "60 °C" (twice).

**2.2.3.1.3** Replace "61 °C" with "60 °C".

**2.2.3.3** Under classification code "F2" for UN 3256, replace "61 °C" with:  
"60 °C".

Under classification code "FC", add at the beginning:

"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 (including paint thinning or reducing compound)".

**2.2.41.1.9** Amend (b) to read as follows:

"(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 5.0% or more of combustible organic substances shall be subjected to the classification procedure defined in Note 2;"

Add a new NOTE 2 to read as follows and renumber the following Notes accordingly:

**"NOTE 2:** Mixtures of oxidizing substances meeting the criteria of Class 5.1 which contain 5.0% 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)."

**2.2.41.4** Add the following new entry to the table:

Self-reactive substance	Concentration (%)	Packing method	UN generic entry	Remarks
ACETONE-PYROGALLOL COPOLYMER 2-DIAZO-1-NAPHTHOL-5-SULPHONATE	100	OP8	3228	

**2.2.42.3** Under classification code "SW" delete:

"2445 LITHIUM ALKYLs, LIQUID  
3433 LITHIUM ALKYLs, SOLID  
3051 ALUMINIUM ALKYLs

3052 ALUMINIUM ALKYL HALIDES, LIQUID  
 3461 ALUMINIUM ALKYL HALIDES, SOLID  
 3053 MAGNESIUM ALKYL  
 3076 ALUMINIUM ALKYL HYDRIDES".

**2.2.61.1.7** Amend the table to read as follows:

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)
I	≤ 5.0	≤ 50	≤ 0.2
II	> 5.0 and ≤ 50	> 50 and ≤ 200	> 0.2 and ≤ 2.0
III <sup>a</sup>	> 50 and ≤ 300	> 200 and ≤ 1000	> 2.0 and ≤ 4.0

**2.2.61.3** In footnote (k), replace "61 °C" with:

"60 °C".

**2.2.62.1.3** Amend the definition of "cultures" to read as follows:

"*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;".

Add a new definition to read as follows:

"*Patient specimens*" are human or animal materials, collected directly from humans or animals, including, but not limited to, excreta, secreta, 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."

**2.2.62.1.4** Insert ", UN 3291" after "UN 2900".

**2.2.62.1.4.1** In the first sentence, replace "disease to humans or animals" with "disease in otherwise healthy humans or animals".

In the Table with the indicative examples:

Under UN 2814:

- In the entry for "Crimean-Congo hemorrhagic fever virus", replace "hemorrhagic" with "haemorrhagic".
- Insert an asterisk \* after entries "Escherichia coli (verotoxigenic) (cultures only)", "Mycobacterium tuberculosis (cultures only)" and "Shigella dysenteriae type I (cultures only)".

Insert a new Note after the table to read as follows:

"\* Nevertheless, when the cultures are intended for diagnostic or clinical purposes, they may be classified as infectious substances of Category B."

- Replace "Hantaviruses causing hantavirus pulmonary syndrome" with:  
"Hantavirus causing haemorrhagic fever with renal syndrome".
- In the entry for "Omsk hemorrhagic fever virus", replace "hemorrhagic" with "haemorrhagic".
- Add "(cultures only)" after "Rabies virus", "Rift Valley fever virus" and "Venezuelan equine encephalitis virus".

Under UN 2900:

- Delete "African horse sickness virus" and "Bluetongue virus".
- Insert "Velogenic" before "Newcastle disease virus".
- Add "(cultures only)" after each microorganism in the list.

**2.2.62.1.4.2** Delete "except that cultures, as defined in 2.2.62.1.3, shall be assigned to UN 2814 or UN 2900 as appropriate".

In the Note amend the proper shipping name to read:

"BIOLOGICAL SUBSTANCE, CATEGORY B".

**2.2.62.1.5** Amend to read as follows:

**"2.2.62.1.5 Exemptions**

**2.2.62.1.5.1** [Text of current 2.2.62.1.5]

**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** [Text of current 2.2.62.1.6. Amend the beginning of the paragraph to read as follows:]

"Dried blood spots, collected by applying a drop of blood onto absorbent material, or faecal occult blood screening tests and blood or blood components ...".

**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 to be 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:** 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."

**2.2.62.1.6** and

**2.2.62.1.7** Replace current text with:

"(Reserved)".

**2.2.62.1.8** Amend to read as follows (current text is moved to new 2.2.62.1.12.1):

"(Reserved)".

**2.2.62.1.11.1** Delete "or containing Category B infectious substances in cultures" in the first sentence and ", other than in cultures," in the last sentence.

Add the following Note at the end:

**"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>4</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.

<sup>4</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 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)."

**2.2.62.1.11.2** Existing NOTE becomes NOTE 1. Add a new NOTE 2 to read as follows:

**"NOTE 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 (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>4</sup> as amended, are not subject to the provisions of RID.

<sup>4</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 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)."

Current footnotes 4 to 10 become 5 to 11.

Add the following new paragraph:

**"2.2.62.1.12** *Infected animals*

**2.2.62.1.12.1** [Text of current 2.2.62.1.8 adding the following new first sentence:]

"Unless an infectious substance cannot be consigned by any other means, live animals shall not be used to consign such a substance."

**2.2.62.1.12.2** Animal carcasses affected by pathogens of Category A or which would be assigned to Category A in cultures only, shall be assigned to UN 2814 or UN 2900 as appropriate.

Other animal carcasses affected by pathogens included in Category B shall be carried in accordance with provisions determined by the competent authority."

- 2.2.62.2** Replace "2.2.62.1.8" with:  
"2.2.62.1.12.1".
- 2.2.62.3** Under classification code I4, amend the name for UN 3373 to read as follows:  
"BIOLOGICAL SUBSTANCE, CATEGORY B".
- 2.2.7.1.2 (e)** Replace "the values specified in 2.2.7.7.2" with:  
"the values specified in 2.2.7.7.2.1 (b), or calculated in accordance with 2.2.7.7.2.2 to 2.2.7.7.2.6".
- 2.2.7.2** In the definition of "Multilateral approval", amend the first sentence to read as follows:  
  
**"Multilateral approval** means approval by the relevant competent authority of the country of origin of the design or shipment, as applicable and also, where the consignment is to be carried through or into any other country, approval by the competent authority of that country."  
  
In the definition of "*Specific activity of a radionuclide*", delete:  
  
"or volume".  
  
In the definition of "Natural Uranium" (under "Uranium-natural, depleted, enriched") replace "chemically separated uranium" with:  
  
"uranium (which may be chemically separated)".
- 2.2.7.3.2 (a)** Amend paragraph (ii) to read as follows:  
  
"(ii) natural uranium, depleted uranium, natural thorium or their compounds or mixtures, providing they are unirradiated and in solid or liquid form;"
- 2.2.7.4.6 (a)** Amend to read as follows:  
  
"(a) The tests prescribed in 2.2.7.4.5 (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".
- 2.2.7.4.6 (b)** Replace "ISO 2919:1980" with:  
"ISO 2919:1999".
- 2.2.7.7.1.7** Amend the beginning of the first sentence to read:  
  
"Unless excepted by 6.4.11.2, packages containing ...".

2.2.7.7.1.8 Amend to read as follows:

**2.2.7.7.1.8 Packages containing uranium hexafluoride**

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 handed over for carriage."

2.2.7.7.2.1 In the table, amend the value in the last column for Te-121m to read " $1 \times 10^6$ " instead of " $1 \times 10^5$ ".

Amend (a) and (b) after the table as follows:

"(a)  $A_1$  and/or  $A_2$  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) Insert "Ag-108m Ag-108" after: "Ru-106 Rh-106".

Delete the entries for:

"Ce-134, La-134";

"Rn-220, Po-216";

"Th-226, Ra-222, Rn-218, Po-214"; and

"U-240, Np-240m".

**2.2.7.7.2.2** In the first sentence, delete:

"competent authority approval, or for international carriage,".

Amend the beginning of the second sentence to read as follows:

"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 ...".

In the table:

– Amend the second entry in the first column to read:

"Alpha emitting nuclides but no neutron emitters are known to be present".

– Amend the third entry in the first column to read:

"Neutron emitting nuclides are known to be present or no relevant data are available".

**2.2.7.8.4**

(d) and (e) Add at the end:

"except under the provisions of 2.2.7.8.5".

Add a new 2.2.7.8.5 to read:

**"2.2.7.8.5**

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 by the shipment, assignment to the category as required in 2.2.7.8.4 shall be in accordance with the certificate of the country of origin of design."

**2.2.7.9.7**

Insert "Chapter 1.10" in the list of provisions which do not apply.

**2.2.8.1.6**

Amend the beginning of the first sentence of the second paragraph to read as follows:

"Liquids, and solids which may become liquid during carriage, which are judged not to cause ..." (*remainder of the sentence unchanged*).

**2.2.8.3**

Under classification code "C2", amend the name of UN 1740 to read as follows:

"HYDROGEN DIFLUORIDES, SOLID, N.O.S."

Under classification code "CF1", add at the beginning:

"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 or reducing compound)".

Under classification code "CT1", add at the beginning:

"3471 HYDROGENDIFLUORIDES SOLUTION, N.O.S."

**2.2.9.1.14** Replace "61 °C" with:

"60 °C".

**2.2.9.2** Amend the second indent to read as follows:

"– 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** Under classification code "M8", amend the name for UN 3245 to read as follows:

"GENETICALLY MODIFIED MICROORGANISMS or GENETICALLY MODIFIED ORGANISMS".

**2.3.3.1.7,**

**2.3.3.1.8** and

**2.3.6** Figure Replace "61 °C" with:

"60 °C".

## PART 3

### Chapter 3.1

#### 3.1.2.2 and

#### 3.1.2.3

Replace "consignment note" with:

"transport document".

### Chapter 3.2

#### 3.2.1

In the explanatory note for column (5), delete the second indent.

In the explanatory note for column (11), add the following NOTE at the end:

**"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."

In the explanatory note for column (13), add the following NOTE at the end:

**"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."

In the explanatory note for column (13), delete the Note in the first and third indents.

### Table A

Amend Table A as follows:

Replace the code "LQ19" with "LQ7" wherever it is listed in Column (7), except in the case of UN 2809.

*(applies to UN Nos. 1556, 1583, 1591, 1593, 1597, 1599, 1602, 1656, 1658, 1686, 1710, 1718, 1719, 1731, 1755, 1757, 1760, 1761, 1783, 1787, 1788, 1789, 1791, 1793, 1805, 1814, 1819, 1824, 1835, 1840, 1848, 1851, 1887, 1888, 1897, 1902, 1903, 1908, 1935, 1938, 2021, 2024, 2030, 2205, 2206, 2209, 2225, 2235, 2269, 2272, 2273, 2274, 2279, 2289, 2290, 2294, 2299, 2300, 2311, 2320, 2321, 2326, 2327, 2328, 2431, 2432, 2433, 2470, 2491, 2496, 2501, 2504, 2511, 2515, 2518, 2525, 2533, 2564, 2565, 2580, 2581, 2582, 2586, 2609, 2656, 2661, 2664, 2667, 2669, 2672, 2677, 2679, 2681, 2688, 2689, 2693, 2730, 2732, 2735, 2739, 2747, 2753, 2785, 2788, 2790, 2801, 2810, 2815, 2817, 2818, 2819, 2820, 2821, 2829, 2831, 2837, 2849, 2872, 2873, 2874, 2902, 2903, 2904, 2922, 2937, 2941, 2942, 2946, 2991, 2992, 2993, 2994, 2995, 2996, 2997, 2998, 3005, 3006, 3009, 3010, 3011, 3012, 3013, 3014, 3015, 3016, 3017, 3018, 3019, 3020, 3025, 3026, 3055, 3066, 3140, 3141, 3142, 3144, 3145, 3172, 3264, 3265, 3266, 3267, 3276, 3278, 3280, 3281, 3282, 3287, 3293, 3320, 3347, 3348, 3351, 3352, 3410, 3411, 3413, 3414, 3415, 3418, 3421, 3422, 3424, 3426, 3429, 3434, 3435 and 3440)*

Delete the code "TE15" wherever it is listed in Column (13).

In column (13), delete footnote \* everywhere it appears in relation to special provisions "TU38" and "TE22".

In column (13) insert "TE25" against the following entries:

- Tanks for gases of Class 2 with classification codes containing the letters T, TF, TC, TO, TFC or TOC,
- Tanks for substances of classes 3 to 8 with tank code L15CH, L15DH or L21DH.

UN No.	Column	Amendment
1267, 1268 and 3295		Delete the entries for which "640P" is assigned in column (6).
1267, 1268 and 3295	6	For each entry that is currently assigned "640A" in column (6), insert: "649".
1133, 1139, 1169, 1197, 1210, 1263, 1266, 1267, 1268, 1286, 1287, 1308, 1863, 1866, 1989, 1993, 2059 and 3295	2	Delete "(vapour pressure at 50 °C more than 175 kPa)" for each entry that is assigned "640A" in column (6).
	6	Delete "640A" for each entry that is assigned "640A" in column (6).
1133, 1139, 1169, 1197, 1210, 1263, 1266, 1267, 1268, 1286, 1287, 1308, 1863, 1866, 1989, 1993, 2059 and 3295		Delete the entries for which "640B" is assigned in column (6).
1133, 1139, 1169, 1197, 1210, 1224, 1263, 1266, 1267, 1268, 1286, 1287, 1306, 1308, 1863, 1866, 1987, 1989, 1993, 1999, 3295 and 3336	2	Delete "but not more than 175 kPa" for each entry that is assigned "640C" in column (6).
1133, 1139, 1169, 1197, 1210, 1263, 1266, 1286, 1287, 1306, 1866, 1993 and 1999	2	For each entry that is assigned "640F" in column (6) replace "vapour pressure at 50 °C more than 175 kPa" with "boiling point not more than 35 °C".
1133, 1139, 1169, 1197, 1210, 1263, 1266, 1286, 1287, 1306, 1866, 1993 and 1999	2	For each entry that is assigned "640G" in column (6) replace "but not more than 175 kPa" with "boiling point of more than 35 °C".

UN No.	Column	Amendment
0015	6	Delete: "204".
0016	6	Delete: "204".
0303	6	Delete: "204".
1013	6	Add: "653".
1014	1-20	Delete the whole entry.
1015	1-20	Delete the whole entry.
1143	2	Amend the name to read as follows: "CROTONALDEHYDE or CROTONALDEHYDE, STABILIZED".
	6	Add: "324".
1155	12	Replace "L1.5BN" with:

UN No.	Column	Amendment
		"L4BN".
1167	12	Replace "L1.5BN" with: "L4BN".
1169, PG II and III	6	Insert: "601" (six times).
1170, PG II and III	6	Insert: "330 601" (twice).
	9	Delete: "PP2" (twice).
1197, PG II and III	6	Insert: "601" (six times).
1202 (first and third entry)	2	Replace "61 °C" with: "60 °C".
1202 (sec- ond entry)	2	Replace "EN 590:1993" with: "EN 590:2004" (twice).
1203	(9a)	Insert "BB2" adjacent to "IBC02" in column (8).
1218	12	Replace "L1.5BN" with: "L4BN".
1219	6	Insert: "601".
1263, VG I	11	Add: "TP27".
1263, VG II	11	Add: "TP28" (twice).
1263, VG III	11	Add: "TP29" (twice).
1280	12	Replace "L1.5BN" with: "L4BN".
1293, PG II and III	6	Insert: "601" (twice).
1302	12	Replace "L1.5BN" with: "L4BN".
1366	1-20	Delete the whole entry.
1370	1-20	Delete the whole entry.
1391	2	Add, at the end: "having a flash-point above 60 °C".
	6	Delete: "282"
1463	3b	Replace "OC2" with: "OTC".
	5	Replace "5.1 + 8" with: "5.1 + 6.1 + 8".
	16	Insert: "W11 W12".
	18	After "CW24", add: "CW28".
	20	Replace "58" with:

UN No.	Column	Amendment
		"568".
1614	8	Insert before "P601": "P099".
1649	2	Add, at the end: "having a flash-point above 60 °C".
	6	Delete: "162".
1733	10	Insert: "T3".
	11	Insert: TP33".
1740	2	Amend the name to read as follows: "HYDROGENDIFLUORIDES, SOLID, N.O.S." (twice).
1779	2	Amend the name to read as follows: "FORMIC ACID with more than 85% acid by mass".
	3b	Replace "C3" with: "CF1".
	5	After "8", add: "+3".
	20	Replace "80" with: "83".
1848	2	Amend the name to read as follows: "PROPIONIC ACID with not less than 10% and less than 90% acid by mass".
1950	6	After "190", insert: "327" (twelve times).
	8	Replace "P204" with: "P003 LP02" (twelve times).
	9a	Insert: "PP17 PP87 RR6 L2" (twelve times).
	16	Insert: "W14".
1956	6	After "274", insert: "292".
1979	1-20	Delete the whole entry.
1980	1-20	Delete the whole entry.
1981	1-20	Delete the whole entry.
1987 PG II and III	6	Insert: "330 601" (three times).
1993 PG I, II and III	6	Insert: "330" (seven times).
1993, PG II and III	6	Insert: "601" (six times).
2005	1-20	Delete the whole entry.
2015	10	Replace "T10" with: "T9" (twice).
2030	2	Add, at the end: "having a flash-point above 60 °C" (three times).
	6	Delete: "298" (three times).
2030, PG I	10	Replace "T20" with: "T10".

<b>UN No.</b>	<b>Column</b>	<b>Amendment</b>
2030, PG II	10	Replace "T15" with: "T7".
2030, PG III	11	Replace "TP2" with: "TP1".
2037	8	Replace "P204" with: "P003" (nine times).
	9a	Add: "PP17 RR6" (nine times).
2356	12	Replace "L1.5BN" with: "L4BN".
2363	12	Replace "L1.5BN" with: "L4BN".
2445	1-20	Delete the whole entry.
2600	1-20	Delete the whole entry.
2662	1-20	Delete the whole entry.
2814	6	Delete: "634".
2823	2	Amend the name to read as follows: "CROTONIC ACID, SOLID".
2880, PG II	6	Add: "322".
2880, PG III	6	Replace "316" with: "313 314".
2900	6	Delete: "634".
	10	Delete: "BK1 BK2".
2912	6	Add: "325".
2915	6	Add: "325".
3051	1-20	Delete the whole entry.
3052	1-20	Delete the whole entry.
3053	1-20	Delete the whole entry.
3066, PG II	11	Add: "TP28".
3066, PG III	11	Add: "TP29".
3076	1-20	Delete the whole entry.
3077	6	Insert: "601".
3082	6	Insert: "601".
3175	2	Replace "61 °C" with: "60 °C".
3245	2	Amend the name to read as follows: "GENETICALLY MODIFIED MICROORGANISMS or GE- NETICALLY MODIFIED ORGANISMS".
	6	Delete: "634".
3256	2	Replace "61 °C" with: "60 °C".
	13	Delete: "TE24".
3257	13	Delete:

UN No.	Column	Amendment
		"TE24".
3272, PG II and III	6	Insert: "601" (twice).
3291	6	Delete: "634".
	10	Add: "BK2".
3321	6	Add: "325".
3322	6	Add: "325".
3324	6	Add: "326".
3325	6	Add: "326".
3327	6	Add: "326".
3336	12	Replace "L1.5BN" with: "L4BN".
3364, 3365, 3366, 3367, 3368, 3370	2	Replace "wetted" with: "WETTED".
3373	2	Amend the name to read as follows: "BIOLOGICAL SUBSTANCE, CATEGORY B".
	5	Insert: "6.2".
	10	Insert: "T1".
	11	Insert: "TP1".
3375, liquid	13	Delete: "TU26".
3375, solid	13	Delete: "TU26".
3433	1-20	Delete the whole entry.
3435	1-20	Delete the whole entry.
3461	1-20	Delete the whole entry.

Add the following new entries:

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited quantities	Packaging			Portable tanks and bulk containers		RID tanks		Vehicle for tank carriage (ADR)	Transport category	Special provisions for carriage			Operation (ADR)	Collis expres	Hazard identification No.
								Packing instructions	Special packing provisions	Mixed pack. provisions	Instructions	Special provisions	Tank code	Special provisions			Packages	Bulk	Loading, unloading and handling			
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(19)	(20)
0015	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge, containing corrosive substances	1	1.2G		1+8		LQ0	P130 LP101	PP67 L1	MP23					1	W2		CW1			1.2G	
0016	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge, containing corrosive substances	1	1.3G		1+8		LQ0	P130 LP101	PP67 L1	MP23					1	W2		CW1			1.3G	
0303	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge, containing corrosive substances	1	1.4G		1.4+8		LQ0	P130 LP101	PP67 L1	MP23					2	W2		CW1			1.4G	
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	P402 PR1		MP2			L10BN(+)	TU1 TE5 TT3 TM2	1	W1		CW23			X323	
1649	MOTOR FUEL ANTI-KNOCK MIXTURE having a flash-point of not more than 60 °C	6.1	TF1	I	6.1+3		LQ0	P602		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 TE22 TT6	1			CW13 CW28 CW31			663	
2030	HYDRAZINE AQUEOUS SOLUTION, with more than 37% hydrazine by mass having a flash-point of not more than 60 °C	8	CFT	I	8+6.1 +3	530	LQ0	P001		MP8 MP17	T10	TP2	L10BH	TU38 TE22	1			CW13 CW28			886	
2814	INFECTIOUS SUBSTANCE, AFFECTING HUMANS, in refrigerated liquid nitrogen	6.2	I1		6.2+ 2.2	318	LQ0	P620		MP5					0	W9		CW13 CW18 CW26 CW28		CE14	606	
2814	INFECTIOUS SUBSTANCE, AFFECTING HUMANS (animal carcasses only)	6.2	I1		6.2	318	LQ0	P099 P620		MP5	BK1 BK2				0	W9		CW13 CW18 CW26 CW28		CE14	606	
2900	INFECTIOUS SUBSTANCE, AF-	6.2	I2		6.2+	318	LQ0	P620		MP5					0	W9		CW13		CE14	606	

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited quantities	Packaging			Portable tanks and bulk containers		RID tanks		Vehicle for tank carriage (ADR)	Transport category	Special provisions for carriage			Operation (ADR)	Colis expres	Hazard identification No.	
								Packing instructions	Special packing provisions	Mixed pack. provisions	Instructions	Special provisions	Tank code	Special provisions			Packages	Bulk	Loading, unloading and handling				
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(19)	(20)	
	INFECTING ANIMALS only, in refrigerated liquid nitrogen				2.2														CW18 CW26 CW28				
2900	INFECTIOUS SUBSTANCE, AFFECTING ANIMALS only (animal carcasses and wastes only)	6.2	I2		6.2	318	LQ0	P099 P620		MP5	BK1 BK2					0	W9		CW13 CW18 CW26 CW28		CE14	606	
3245	GENETICALLY MODIFIED MICROORGANISMS or GENETICALLY MODIFIED ORGANISMS, in refrigerated liquid nitrogen	9	M8		9+2.2	219 637	LQ0	P904 IBC08		MP6						2			CW13 CW17 CW18 CW26 CW28 CW31			90	
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	P621 IBC620 LP621		MP6						2	W9		CW13 CW18 CW28		CE14	606	
3412	FORMIC ACID with not less than 10% but not more than 85% acid by mass	8	C3	II	8		LQ22	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	P001 IBC03 LP01 R001		MP15	T4	TP1	L4BN			3						CE8	80
3463	PROPIONIC ACID with not less than 90% acid by mass	8	CF1	II	8+3		LQ22	P001 IBC02		MP15	T7	TP2	L4BN			2						CE6	83
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 or reducing compound)	3	FC	I	3+8	163	LQ3	P001		MP7 MP17	T11	TP2 TP27	L10CH	TU14 TU38 TE21 TE22		1							338
3469	PAINT, FLAMMABLE, CORROSIVE (including paint, lacquer, enamel, stain, shellac, varnish,	3	FC	II	3+8	163	LQ4	P001 IBC02		MP19	T7	TP2 TP8 TP28	L4BH			2						CE7	338

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited quantities	Packaging			Portable tanks and bulk containers		RID tanks		Vehicle for tank carriage (ADR)	Transport category	Special provisions for carriage			Operation (ADR)	Colis expres	Hazard identification No.	
								Packing instructions	Special packing provisions	Mixed pack. provisions	Instructions	Special provisions	Tank code	Special provisions			Packages	Bulk	Loading, unloading and handling				
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(19)	(20)	
	polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE (including paint thinning or reducing compound)																						
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 or reducing compound)	3	FC	III	3+8	163	LQ7	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 or reducing compound)	8	CF1	II	8+3	163	LQ22	P001 IBC02		MP15	T7	TP2 TP8 TP28	L4BN			2						CE6	83
3471	HYDROGEN DIFLUORIDES SOLUTION, N.O.S.	8	CT1	II	8+ 6.1		LQ22	P001 IBC02		MP15	T7	TP2	L4DH	TU14 TE17 TE21 TT4		2			CW13 CW28			CE6	86
3471	HYDROGEN DIFLUORIDES SOLUTION, N.O.S.	8	CT1	III	8+ 6.1		LQ7	P001 IBC03 R001		MP15	T4	TP1	L4DH	TU14 TE21		3			CW13 CW28			CE8	86
3472	CROTONIC ACID, LIQUID	8	C3	III	8		LQ7	P001 IBC03 LP01 R001		MP15	T4	TP1	L4BN			3						CE8	80
3473	FUEL CELL CARTRIDGES containing flammable liquids	3	F1		3	328	LQ13	P003	PP88							3						CE7	30

**Table B**

<b>Name and description</b>	<b>UN No.</b>	<b>Amendment</b>
ALUMINIUM ALKYL	3051	Delete.
ALUMINIUM ALKYL HALIDES, SOLID	3461	Delete.
ALUMINIUM ALKYL HALIDES, LIQUID	3052	Delete.
ALUMINIUM ALKYL HYDRIDES	3076	Delete.
CARBON DIOXIDE AND NITROUS OXIDE MIXTURE	1015	Delete.
CARBON DIOXIDE AND OXYGEN MIXTURE, COMPRESSED	1014	Delete.
CARBON MONOXIDE AND HYDROGEN MIXTURE, COMPRESSED	2600	Delete.
CLINICAL SPECIMENS	3373	Delete.
CROTONIC ACID	2823	Amend the name to read as follows: "CROTONIC ACID, SOLID".
DIAGNOSTIC SPECIMENS	3373	Amend the name to read as follows: "BIOLOGICAL SUBSTANCE, CATEGORY B".
DIETHYLZINC	1366	Delete.
DIMETHYLZINC	1370	Delete.
ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. with flash-point above 61 °C, at or above its flash-point	3256	Replace "61 °C" with: "60 °C".
Fischer Tropsch gas: see	2600	Delete.
FORMIC ACID	1779	Amend the name to read as follows: "FORMIC ACID with more than 85% acid by mass".
GENETICALLY MODIFIED MICRO-ORGANISMS	3245	Amend the name to read as follows: "GENETICALLY MODIFIED MICROORGANISMS". In Column "NHM-Code" replace "051199" with: "300290".
GENETICALLY MODIFIED ORGANISMS		In Column "UN No.", insert: "3245".
HYDROGENDIFLUORIDES, N.O.S.	1740	Amend the name to read as follows: "HYDROGENDIFLUORIDES, SOLID, N.O.S.".
HYDROQUINONE, SOLID	2662	Delete.
HYDROQUINONE SOLUTION	3435	Delete.
LITHIUM ALKYL, SOLID	3433	Delete.
LITHIUM ALKYL, LIQUID	2445	Delete.
MAGNESIUM ALKYL	3053	Delete.
MAGNESIUM DIPHENYL	2005	Delete.
Mixtures of solids containing flammable liquid, n.o.s. having a flash-point up to 61 °C	3175	Replace "61 °C" with: "60 °C".
PAINT (including paint, lacquer, enamel, stain, shellac, varnish,	1263	In Column "NHM-Code", delete: "381400".

Name and description	UN No.	Amendment
polish, liquid filler and liquid lacquer base)		
PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)	3066	In Column "NHM-Code", delete: "381400".
PAINT RELATED MATERIAL (including paint thinning or reducing compound)	1263	In Column "NHM-Code", delete: "3208++".
PAINT RELATED MATERIAL (including paint thinning or reducing compound)	3066	In Column "NHM-Code", delete: "3208++".
PICRIC ACID wetted with not less than 10% water, by mass	3364	Replace "wetted" with: "WETTED".
PICRYL CHLORIDE wetted with not less than 10% water, by mass	3365	Replace "wetted" with: "WETTED".
Preparations containing flammable liquid, n.o.s. having a flash-point up to 61 °C	3175	Replace "61 °C" with: "60 °C".
PROPIONIC ACID	1848	Amend the name to read as follows: "PROPIONIC ACID with not less than 10% and less than 90% acid by mass".
RARE GASES AND NITROGEN MIXTURE, COMPRESSED	1981	Delete.
RARE GASES AND OXYGEN MIXTURE, COMPRESSED	1980	Delete.
RARE GASES, MIXTURE, COMPRESSED	1979	Delete.
SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S. having a flash-point up to 61 °C	3175	Replace "61 °C" with: "60 °C".
Synthesis gas: see	2600	Delete.
TNT, wetted with not less than 10% water, by mass	3366	Replace "wetted" with: "WETTED".
TRINITROBENZENE, wetted with not less than 10% water, by mass	3367	Replace "wetted" with: "WETTED".
TRINITROBENZOIC ACID, wetted with not less than 10% water, by mass	3368	Replace "wetted" with: "WETTED".
TRINITROCHLOROBENZENE wetted with not less than 10% water, by mass	3365	Replace "wetted" with: "WETTED".
TRINITROPHENOL wetted with not less than 10% water, by mass	3364	Replace "wetted" with: "WETTED".
TRINITROTOLUENE, wetted with not less than 10% water, by mass	3366	Replace "wetted" with: "WETTED".
UREA NITRATE, wetted with not less than 10% water, by mass	3370	Replace "wetted" with: "WETTED".
Wastes containing flammable liquid, n.o.s. having a flash-point up to 61 °C	3175	Replace "61 °C" with: "60 °C".
Water gas: see	2600	Delete.

Add the following new entries:

Name and description	UN No.	Note	NHM-Code
CROTONALDEHYDE	1143		291219
CROTONIC ACID, LIQUID	3472		291619
FORMIC ACID with not less than 10% but not more than 85% acid by mass	3412		291511
FUEL CELL CARTRIDGES containing flammable liquids	3473		850680
HYDROGEN DIFLUORIDES SOLUTION, N.O.S.	3471		282619
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, CORROSIVE, FLAMMABLE (including paint thinning or reducing compound)	3470		381400
PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE (including paint thinning or reducing compound)	3469		381400
PROPIONIC ACID with not less than 90% acid by mass	3463		291550

## Chapter 3.3

### 3.3.1

**SP 250 (b),  
SP 318,  
SP 581,  
SP 582,  
SP 583,  
SP 640 and  
SP 650 (e)**

Replace "consignment note" with:

"transport document".

**SP 162**

Replace current text with:

"(Deleted)".

**SP 181**

Insert "(see 5.2.2.2.2)" after "model No.1".

**SP 204**

Replace current text with:

"(Deleted)".

**SP 216**

In the last sentence, insert "and articles" before "containing" and amend the end to read: "... free liquid in the packet or article."

**SP 247**

Amend the end of the first paragraph to read:

"... 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: ...".

Replace the word "casks" with "wooden barrels" (5 times).

- SP 251** In the first sentence, add "for example" before "for medical," add "or repair" before "purposes".
- SP 282** Replace current text with:  
"(Deleted)".
- SP 289** Replace "vehicles" and "vehicle" with "conveyances" and "conveyance", respectively.
- SP 292** Amend to read as follows:  
"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 5.1 is not required for any concentrations within this limit."
- SP 298** Replace current text with:  
"(Deleted)".
- SP 303** Amend to read as follows:  
"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."
- SP 309** Amend to read as follows:  
"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."
- SP 316** Delete "or hydrated".
- SP 319** Delete the first sentence.
- SP 320** Amend to read as follows:  
"(Deleted)",

- "322–  
499** (Reserved)" becomes:
- "331–  
499** (Reserved)".
- SP 601** Amend to read as follows:  
  
"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."
- SP 617** Delete:  
  
"and shall be specified in the consignment note".
- SP 633** Amend "unless any international tariffs or agreements between the railways provide otherwise" to read:  
  
"unless any agreements concluded between the countries concerned in the transport operation provide otherwise".
- SP 634** Amend to read as follows:  
  
"(Deleted)".
- SP 645** Add the following new sentence at the end:  
  
"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."
- SP 649** Delete the address in footnote 2.  
  
Add the following new special provisions:
- "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 sal-

vage 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 containing flammable liquids including methanol or methanol/water solutions. Fuel cell cartridge means a container that stores fuel for discharge into fuel cell powered equipment through a valve(s) that controls the discharge of fuel into such equipment and is free of electric charge generating components. The cartridge shall be designed and constructed to prevent the fuel from leaking during normal conditions of carriage.

This entry applies to fuel cell cartridge design types shown without their packaging to pass an internal pressure test at a pressure of 100 kPa (gauge).

**329** (Reserved)

**330** Alcohols containing petroleum products (e.g. gasoline) up to 5% shall be carried under the entry UN 1987 ALCOHOLS, N.O.S.

**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."

## Chapter 3.4

**3.4.6** In the first column of table 3.4.6 replace "LQ4" and "LQ5" with "LQ4<sup>c</sup>" and "LQ5<sup>c</sup>" respectively.

In the table, for LQ19, replace respectively "3 l" and "1 l" with "5 kg".

## PART 4

### Chapter 4.1

**4.1.1.2** In the Note, delete "high and medium molecular mass".

**4.1.1.3** Replace "6.5.4" with:

"6.5.6".

**4.1.1.5** Insert the following new second sentence:

"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."

**4.1.1.5.1** Insert a new paragraph 4.1.1.5.1 with the same text as in existing 6.1.5.1.6 with the insertion of the words "or a large packaging" after "combination packaging" and the words "or large packaging" after "outer packaging" in the first sentence.

**4.1.1.8** Amend to read as follows:

**"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** Replace "6.5.4" with:

"6.5.6".

**4.1.1.12** In the first sentence, replace ", including IBCs," with "as specified in Chapter 6.1" and delete ", or 6.5.4.7 for the various types of IBCs".

Delete (c).

In the last paragraph, delete ", or IBC," in the first sentence and "or IBC" in the second sentence.

**4.1.1.18.1** Add at the end:

"and 4.1.1.18.3".

Add a new paragraph to read as follows:

**"4.1.1.18.3** Appropriate measures shall be taken to ensure that there is no dangerous build up of pressure."

**4.1.1.19.1** In the first sentence, delete "high and medium molecular mass" and "high molecular mass".

In the first sentence, replace "6.5.4.3.5" with:

"6.5.6.3.5".

In the first sentence, replace "6.5.4" with:

"6.5.6".

In the second sentence, replace "6.5.4.3.3 or 6.5.4.3.6" with:

"6.5.6.3.3 or 6.5.6.3.6".

**4.1.1.19.2** Replace "6.5.4.1.3" with:

"6.5.6.9.4".

Replace "6.5.4.6" with:

"6.5.6.6".

Replace "6.5.4.8.4.2" with:

"6.5.6.8.4.2".

**4.1.1.19.3** (c)  
and (d) Replace "6.5.4.3.3 or 6.5.4.3.6" with:

"6.5.6.3.3 or 6.5.6.3.6".

**4.1.1.19.6** Make the following modifications in Column (2b) of the Table:

- For UN numbers 1198, 1760, 1835, 1920, 2324, 2357, 2394, 2617, 2620, 2656, 2683, 2850, 2920 (three times), 2922, 3082 (seven times), 3264, 3265, 3266, 3267 and 3271, replace "61 °C" with:

"60 °C".

- For UN No. 1202, replace "EN 590:1993" with:

"EN 590:2004" (twice).

- Amend the name for UN No. 1779 to read as follows:

"FORMIC ACID with more than 85% acid by mass".

- In the table, in Note \* to UN No. 1791, replace "For hypochlorite solutions" with:

"If the test is carried out with hypochlorite solutions themselves".

- Amend the name for UN No. 1848 to read as follows:

"PROPIONIC ACID with not less than 10% and less than 90% acid by mass".

**4.1.2.1** Replace "61 °C" with:

"60 °C".

**4.1.2.2** Replace the first sentence with the following paragraph:

"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:

- (a) before it is put into service;
- (b) thereafter at intervals not exceeding two and a half and five years, as appropriate;
- (c) after the repair or remanufacture, before it is re-used for carriage."

Amend the end of the second sentence (starting with "An IBC shall not be filled ...") to read as follows: "... expiry of the last periodic test or inspection."

In the Note, replace "consignment note" with:

"transport document".

**4.1.3.6** Amend to read as follows:

**"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 and in 4.1.4.4.

**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 (f).
- 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."
- 4.1.3.8.2** Replace "consignment note" with:  
"transport document".
- 4.1.4.1**
- P001** Insert a new row after "Composite packagings" to read as follows:  
  
"**Pressure receptacles** may be used provided that the general provisions of 4.1.3.6 are met."
- Amend special packing provision **PP2**, to read as follows:  
  
"**PP2** For UN 3065, wooden barrels with a maximum capacity of 250 litres and which do not meet the provisions of Chapter 6.1 may be used."

**P002** Insert a new row after "Composite packagings" to read as follows:

**"Pressure receptacles** may be used provided that the general provisions of 4.1.3.6 are met."

In special packing provision **PP37**, amend the second sentence to read as follows:

"All bags of any type shall be carried in closed wagons or containers or be placed in closed rigid overpacks."

**P003** Add the following new special packing provisions:

**"PP17** For UN Nos. 1950 and 2037, packages shall not exceed 55 kg net mass for fibreboard or 125 kg net mass for other packagings.

**PP87** 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.

**PP88** For UN 3473 when fuel cell cartridges are packed with equipment, they shall be packed in inner packagings or placed in the outer packaging with cushioning material so that the cartridges are protected against damage that may be caused by the movement or placement of the equipment and the cartridges within the outer packaging."

Add a new row at the end to read as follows:

<b>"Special packing provision specific to RID and ADR</b>	
<b>RR6</b>	For UN 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."

**P101** In the Note, replace "consignment note" with:

"transport document".

**P200** In paragraph (5)(b), in the sentence preceding the first equation, replace "gases for which data are not provided in the table" with:

"gases and gas mixtures for which relevant data are not available".

In paragraph (5)(c), in the sentence before the equation, replace "gases for which filling data are not provided in the table" with:

"gases and gas mixtures for which relevant data are not available".

In paragraph (10), amend special provisions "k", "l", "n", "p" and "z" as follows:

k: Add the following text before the third paragraph:

"Bundles containing UN 1045 Fluorine, compressed, may be constructed with isolation valves on assemblies (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."

l: In the last sentence, replace "total quantity" with:

"maximum net mass".

n: Amend to read as follows:

For UN 2190, oxygen difluoride, compressed, cylinders and individual cylinders within a bundle shall contain not more than 5 kg of the gas.

For UN 1045 fluorine, compressed, cylinders, individual cylinders within a bundle and assemblies of cylinders within a bundle shall contain not more than 5 kg of the gas. Bundles containing this gas may be divided in assemblies (groups) of cylinders not exceeding 150 litres total water capacity."

p: In the first and third sub-paragraph, replace "porous mass" with "porous material".

z: Amend the third paragraph to read as follows:

"Toxic substances with an LC<sub>50</sub> less than or equal to 200 ml/m<sup>3</sup> 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."

In Column "Reference" of the table in paragraph (11), add "+ A1:2005" after "EN 13365:2002".

[In the Table in paragraph (11), add the following rows:

<b>Applicable requirements</b>	<b>Reference</b>	<b>Title of document</b>
(7)	EN 1439:2005 (except 3.5 and Annex C)	LPG equipment and accessories – Transportable refillable welded and brazed steel Liquefied Petroleum Gas (LPG) cylinders – Procedures for checking 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

]

In Tables 1 and 2, delete the entries for the following UN Nos.:

1014, 1015, 1979, 1980, 1981 and 2600.

In Table 1, in the heading of column 11, replace "Working pressure, bar" with:

"Maximum working pressure, bar<sup>b</sup>".

In Table 2:

- For UN Nos. 2192 and 2199, add "q" (twice for UN No. 2199) in the column under the heading "Special packing provisions".
- For UN No. 2451, delete "300" and "0.75" in the columns for "Test pressure" and "Filling ratio", respectively.

In paragraph (11), in the title of standard "EN 1801:1998", replace "porous masses" with "porous materials".

**P204** Amend to read as follows:

"(Deleted)".

**P400** Amend paragraph (1) to read as follows:

"(1) Pressure receptacles may be used 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)."

**P401 and  
P402**

Amend paragraph (1) to read as follows:

"(1) Pressure receptacles may be used 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)."

**P403,  
P404 and  
P410**

Insert a new row after "Composite packagings" to read as follows:

"**Pressure receptacles** may be used provided that the general provisions of 4.1.3.6 are met."

**P404** In the first sentence, delete: "2005,".

At the end of the first sentence, replace "3391, 3393 and 3461" with:

"3391 and 3393".

**P520** Under "Additional requirements" in "4.", insert "(model No.1, see 5.2.2.2.2)" after "risk label".

**P601 and  
P602**

Amend paragraph (1) to read as follows:

- "(1) Combination packagings with a maximum gross mass of 15 kg, consisting of
- 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
  - metal receptacles together with cushioning and absorbent material sufficient to absorb the entire contents of the glass inner packaging(s), further packed in
  - 1A2, 1B2, 1N2, 1H2, 1D, 1G, 4A, 4B, 4C1, 4C2, 4D, 4F, 4G or 4H2 outer packagings."

Amend paragraph (4) to read as follows:

- "(4) Pressure receptacles may be used 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:
- (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;
  - (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;
  - (c) Each valve outlet shall be sealed by a threaded cap or threaded solid plug and inert gasket material;
  - (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.

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."

**P650**

Amend paragraph (2) to read as follows:

- "(2) The packaging shall consist of at least three components:
- (a) A primary receptacle;
  - (b) A secondary packaging; and

(c) An outer packaging

of which either the secondary or the outer packaging shall be rigid."

In paragraph (4), amend the second sentence to read as follows:

"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."

In paragraph (4), add the following new third sentence:

"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."

Insert a new paragraph (5) to read as follows:

"(5) At least one surface of the outer packaging shall have a minimum dimension of 100 mm x 100 mm."

Current paragraphs (5) to (8) become (6) to (9).

Amend current paragraph (5) (renumbered (6)) to read as follows:

"(6) The completed package shall be capable of successfully passing the drop test in 6.3.2.5 as specified in 6.3.2.2 to 6.3.2.4 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."

In (7) (renumbered (8)), add a new sub-paragraph (d) to read as follows:

"(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."

Insert a new paragraph (10) to read as follows:

"(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."

Current paragraphs (9) and (10) become (11) and (12).

Add a new paragraph (13) to read as follows:

"(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."

Current paragraph (11) becomes (14).

**P800** Amend paragraph (1) to read as follows:

"(1) Pressure receptacles may be used provided that the general provisions of 4.1.3.6 are met."

In paragraph (2), replace "2.5 l" with "3 l".

**P802** In paragraph (4), delete "Austenitic".

Amend paragraph (5) to read as follows:

"(5) Pressure receptacles may be used provided that the general provisions of 4.1.3.6 are met."

**4.1.4.2**  
**IBC 02**

Add a new row at the end to read as follows:

<b>"Special packing provision specific to RID and ADR</b>	
<b>BB 2</b>	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."

**4.1.4.3**

**LP02** Add a new row at the end to read as follows:

<b>"Special packing provision</b>	
<b>L 2</b>	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."

**4.1.4.4**

**PR1** In column "UN Nos.", delete:

"1366", "1370", "2445", "3051", "3052", "3053" and "3076".

**4.1.5.5** Replace "6.5.4" with:

"6.5.6".

**4.1.6.2** In the second sentence, replace "porous mass" with "porous material".

In paragraph (b), replace "mass" with "material".

**4.1.8.5** Replace "UN No. 3373 Diagnostic specimens or clinical specimens" with:

"UN No. 3373 Biological substance, category B".

**4.1.9.1.3** Amend to read as follows:

"A 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."

**4.1.9.2.2** Amend to read as follows:

"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."

**4.1.10.4**

**MP 5** Replace "UN No. 3373 Diagnostic specimens or clinical specimens" with:

"UN No. 3373 Biological substance, category B".

**MP 20** Amend the second sentence to read as follows:

"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."

**MP 21 to  
MP 24**

Replace "consignment note" with:

"transport document".

**MP 22** Amend the second sentence to read as follows:

"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."

**MP 23** Amend the second sentence to read as follows:

"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."

## Chapter 4.2

Add a new 4.2.1.15 to read as follows:

**"4.2.1.15 Additional provisions applicable to the carriage of Class 6.2 substances in portable tanks**

(Reserved)".

Renumber subsequent paragraphs accordingly.

**4.2.5.1.1** Add a note at the end of the paragraph to read as follows:

**"NOTE:** The gases authorized for carriage in MEGCs are indicated with the letter "(M)" in Column (10) of Table A of Chapter 3.2."

**4.2.5.3** In special provision TP4, replace "4.2.1.15.2" with:

"4.2.1.16.2".

In special provision TP33, replace "4.2.1.18" with:

"4.2.1.19".

## Chapter 4.3

Add a new 4.3.2.1.7 to read as follows:

**"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."

**4.3.3.2.5** In the Table, delete the entries for the following UN Nos.:

1014, 1015, 1979, 1980, 1981 and 2600.

**4.3.3.4.1 (b)** Replace "consignment note" with:

"transport document".

**4.3.4.1.2** In the table, for tank code L1.5BN, amend the first three entries to read as follows:

L1.5BN	3	F1	II vapour pressure at 50 °C > 1.1 bar
	3	F1	III flash-point < 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

In the table, include the following amendments under tank code L4BN in column (4):

- first entry (Class 3, classification code F1), read: "I, III, boiling point > 35 °C"
- third entry (Class 3, classification code D), delete: "vapour pressure at 50 °C > 1.75 bar".

In "Hierarchy of tanks", first paragraph, replace "the first part of the code (L or S) remains unchanged and that any other" with "any" and replace "parts 2 to 4" with "parts 1 to 4".

Before "Part 2: Calculation pressure", insert "Part 1: Types of tanks  
S → L".

Amend the paragraph before the note to read as follows:

"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."

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Delete the Note.

## **PART 5**

### **Chapter 5.1**

#### **5.1.2.1** Amend (a) to read as follows:

"(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 markings and the labels representative of all dangerous goods contained in the overpack are visible. If the same marking 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."

Amend (b) to read as follows:

"(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 marked 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** Delete the second sentence ("The "overpack" marking is an indication of compliance with this requirement.").

Add a new sub-section 5.1.2.3 to read as follows:

#### **"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."

Current 5.1.2.3 becomes 5.1.2.4.

#### **5.1.5.1.2** Amend (c) to read as follows:

"c) For each package requiring competent authority approval, it shall be ensured that all the requirements specified in the approval certificates have been satisfied;".

In paragraph (e), replace "6.4.8.7" with:

"6.4.8.8".

**5.1.5.2.2 (c)** Amend to read:

"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; and".

**5.1.5.2.4 (d)** In (v), insert "symbol" after "SI prefix".

## **Chapter 5.2**

**5.2.1.4** Add "and large packagings" after "capacity".

**5.2.1.5** Amend "unless any international tariffs or agreements between the railways provide otherwise" to read:

"unless any agreements concluded between the countries concerned in the transport operation provide otherwise".

**5.2.1.7.4 (c)** Amend the end of the sentence to read as follows:

"... 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."

Add the following new paragraph:

**"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."

Add a new 5.2.1.8 to read as follows:

**"5.2.1.8** (Reserved)".

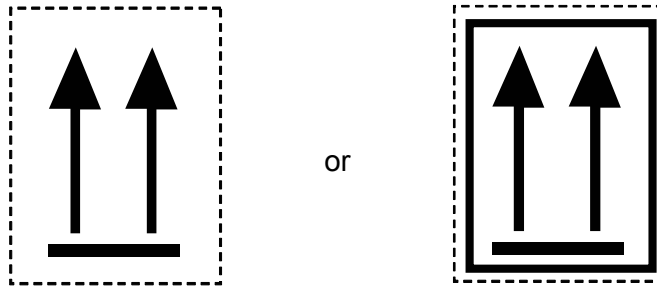
Add the following new sub-section:

**"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.



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 closed 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-1, Type IP-2, 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."
- 5.2.2.1.7** Add "and large packagings" after "capacity".
- 5.2.2.1.8** Replace "consignment note" with:  
"transport document".
- 5.2.2.1.11.2** In paragraph (b), insert "symbol" after "SI prefix".  
In paragraph (c), replace "Consignment Note" with:  
"transport documents".  
Add the following new paragraph:
- "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."
- 5.2.2.1.12** Delete.

**5.2.2.2.1** Add the following note at the end of the existing text:

**"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** In the first sentence, delete ", except label conforming to model No. 11,".

Add the following sentence after the second sentence:

"Labels shall be displayed on a background of contrasting colour, or shall have either a dotted or solid outer boundary line."

Delete the third sentence ("Label conforming to model No. 11 ...").

**5.2.2.2.1.2** Insert the following new paragraph at the end:

"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."

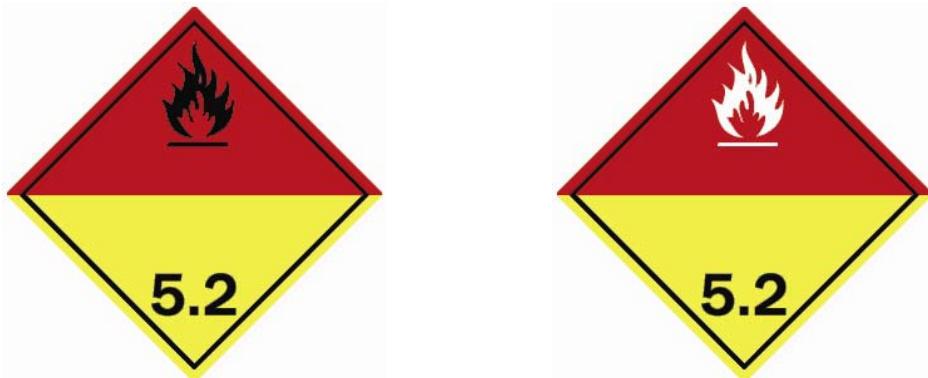
**5.2.2.2.1.3** In the first sentence, delete ", except label conforming to model No. 11,".

**5.2.2.2.2** Replace the text under label No. 5.1 with the following:

(No. 5.1)  
Symbol (flame over circle): black; Background: yellow  
Figure "5.1" in bottom corner"

Replace label No. 5.2 and the text under the label with the following:

"



(No. 5.2)  
Symbol (flame): black or white;  
Background: upper half red; lower half yellow;  
Figure "5.2" in bottom corner".

Delete label No. 11 and the text under this label.

## Chapter 5.3

**5.3.1.1.1** Add the following sentence at the end:

"Placards shall be displayed on a background of contrasting colour, or shall have either a dotted or solid outer boundary line."

**5.3.1.1.2** Add the following sub-paragraph after the sentence "When 1.5 D substances ... as Division 1.1.":

"Placards are not required for the carriage of explosives of Division 1.4, compatibility group S."

**5.3.1.3.2** In paragraph (a), delete:

", unless the railways concerned on a particular route decide to the contrary,".

At the end of paragraph (a), replace ", and" with:

",".

At the end of paragraph (b), replace "." with:

",".

Add a new paragraph (c) to read as follows:

"(c) for other carriage of road vehicles carrying packages when these vehicles visibly bear placards corresponding to the packages being carried."

**5.3.2** Amend as follows:

**5.3.2.1.1** Insert ", and so as to be clearly visible," in the first sentence, after "conforming to 5.3.2.2.1".

**5.3.2.1.2** Insert the text of current 5.3.2.1.3 at the end.

**5.3.2.1.3** Amend to read as follows:

"(Reserved)".

**5.3.2.1.4** Amend to read as follows:

"(Reserved)".

Insert the following new paragraphs 5.3.2.1.5 to 5.3.2.1.8:

**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.

**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 marking 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 marking which does 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."

**5.3.2.2.1** In the first sentence, insert "may be reflectorized and" before "shall be of 40 cm base".

Amend the current second sentence ("The marking shall be affixed ... durable marking") to read as follows:

"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.

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 sub-section except for the provisions concerning resistance to fire mentioned in 5.3.2.2.1 and 5.3.2.2.2."

Amend the third sentence of the new text to be inserted instead of the current second sentence to read as follows:

Add the following new text at the end of the note:

"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** Add the following sub-paragraph:

"The hazard identification number and the UN number shall be indelible and shall remain legible after 15 minutes' engulfment in fire."

**5.3.2.3.2** In the explanations concerning hazard identification numbers 30 (twice), 36, 38, 63, 638, 639, 663, 83, X83, 839, X839 and 883, replace "61 °C" with:

"60 °C".

## Chapter 5.4

Throughout Chapter 5.4, replace "consignment note" with:

"transport document".

**5.4.1.1.1** In paragraph (b), insert "in brackets" after "technical name".

In paragraph (c), at the end of the 2<sup>nd</sup> indent, add a Note to read as follows:

**"NOTE:** For radioactive material with a subsidiary risk, see also special provision 172."

In paragraph (c), 3<sup>rd</sup> indent, add at the end of the first sentence:

"or applicable according to a special provision referred to in Column (6)".

In paragraph (e), add the words "when applicable" after "the packages".

In paragraph (e), insert at the end:

"UN packaging codes may only be used to supplement the description of the kind of package (e.g. one box (4G))."

In paragraph (f), delete the words:

"with the exception of empty means of containment, uncleaned,".

In the paragraph after (j) replace "(a), (b), (c) and (d) shall be shown ... or in sequence (b), (c), (a), (d)" with:

"(a), (b), (c) and (d) shall be shown in the order listed above (i.e. (a), (b), (c), (d))".

Replace the second example with:

"UN 1098, ALLYL ALCOHOL, 6.1 (3), PG I".

**5.4.1.1.6** Amend to read as follows:

**"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, UNCLEANED" 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).

Example: "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 TANK CONTAINER", "EMPTY PORTABLE TANK", "EMPTY BATTERY-WAGON", "EMPTY BATTERY-VEHICLE", "EMPTY MEGC", "EMPTY WAGON", "EMPTY VEHICLE", "EMPTY CONTAINER" or "EMPTY RECEPTACLE", 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** (Unchanged)".

**5.4.1.2.1** In paragraph (c), amend the second sentence to read as follows:

"It shall be drafted in an official language of the forwarding country 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".

In paragraph (d), replace "the approval certificate" with "a copy of the competent authority approval".

In paragraph (d), add the following new sentence at the end:

"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;".

**5.4.1.2.2 (d)** Insert after "tank-wagons":

", portable tanks".

**5.4.1.2.3.3** Amend the last sentence to read as follows:

"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."

**5.4.1.2.5.1 (c)** Insert "symbol" after "SI prefix".

Insert the following new paragraph:

**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."

Re-number existing 5.4.1.2.5.3 as 5.4.1.2.5.4.

**5.4.1.4.1** Amend to read as follows:

"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** In footnote 6, replace "UN/ECE" with:

"UNECE".

**5.4.2** In footnote 7, replace "UN/ECE" and "UN-ECE" with:

"UNECE".

## **Chapter 5.5**

**5.5.2.1** In the first sentence, replace "consignment note" with:

"transport document".

In the third sentence, amend "unless any international tariffs or agreements between the railways provide otherwise" to read:

"unless any agreements concluded between the countries concerned in the transport operation provide otherwise".

## PART 6

### Chapter 6.1

**6.1.2.5** Under 2., replace "wooden barrel" with:

"(Reserved)".

**6.1.2.7** In the table, replace the text in the row for "Wooden barrels" with:

"(Reserved)".

**6.1.3.1 (d)** Delete the Note.

**6.1.4.6** Amend to read as follows:

"6.1.4.6 (Deleted)".

**6.1.4.8.8** Add a new NOTE at the end to read as follows:

**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."

**6.1.5.1.6** Amend to read as follows:

"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."

**6.1.5.2.4** Amend to read as follows:

"(Reserved)".

**6.1.5.2.5** In the Note, delete "high or average molecular mass".

**6.1.5.2.6** Amend the text beginning with "For high molecular mass polyethylene drums ..." and finishing with "... with standard liquids (see 6.1.6)." to read as follows:

"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)."

In the second paragraph ("The standard liquids are representative ... this procedure is not required"), delete "high or medium molecular mass" and add the following new sentence at the end:

"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"."

In the last paragraph, delete "high density, high or medium mass".

- 6.1.5.2.7** In the first sentence, delete "high or medium molecular mass".  
In footnote 3) delete "high molecular mass".
- 6.1.5.3.1** In the table, delete "wooden barrels" under "Packaging".
- 6.1.5.7** Replace "61 °C" with:  
"60 °C".
- 6.1.6** Delete "high or medium molecular mass".  
Replace "6.5.4.3.5" with:  
"6.5.6.3.5".  
Before the sentence "The following standard liquids shall be used for this plastics material." insert the following paragraph number:  
"6.1.6.1".
- 6.1.6.1 (a)** (current 6.1.6 a)) Replace "An aqueous solution of 1 to 10% of a wetting agent shall be used." by:  
"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."
- 6.1.6.1 (f)** (current 6.1.6 f)) After the second sentence, insert the following text:  
"A design type test with water is not required if adequate chemical compatibility is proved with wetting solution or nitric acid."

## **Chapter 6.2**

- 6.2.1.1.2** In the first sentence and in paragraph (b), replace "porous mass" with "porous material".
- 6.2.1.3.3.5.4** Amend footnote 1 to read as follows:  
"<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"."
- 6.2.1.5.1 (j)** Replace "porous mass" with "porous material".
- 6.2.1.6.1** Amend subparagraph (c) to read as follows:  
"(c) Checking of the threads if there is evidence of corrosion or if the fittings are removed;"  
Amend the end of Note 2 under subparagraph (d) to read as follows:  
"... based on acoustic emission testing, ultrasonic examination or a combination of acoustic emission testing and ultrasonic examination."

**6.2.1.6.2** Replace "porous mass" with "porous material".

**6.2.1.7.2** In the second sentence of paragraph (f), delete "With the exception of pressure receptacles of UN No. 1965 hydrocarbon gas mixture, liquefied, n.o.s.,".

Add the following new sentences at the end of paragraph (f):

"In the case of pressure receptacles for UN 1001 acetylene, dissolved and UN 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. This mark is not required for pressure receptacles for UN No. 1965 hydrocarbon gas mixture, liquefied, n.o.s.;".

In paragraphs (f), (j) and (k), replace "porous mass" with "porous material".

Amend the first sentence of paragraph (i) to read as follows:

"The water capacity of the 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."

In paragraphs (j) and (k), insert ", any coating," after "during filling".

In paragraphs (j) and (k), replace "two" with "three" in the first sentence.

In paragraph (j) and (k), insert the following two new last sentences at the end of the existing text:

"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;".

**6.2.1.7.7** Amend to read as follows:

"With the agreement of the competent authority, the date of the most recent periodic inspection and the stamp of the expert 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."

**[6.2.2** Amend the table as follows:

- In Column "Reference", replace "EN 1442:1998" with:  
"EN 1442:1998/A2:2005".
- In Column "Reference", replace "EN 13322-1:2003" with:  
"EN 13322-1:2003 + A1:2006".
- In Column "Reference", replace "EN 14427:2004" with:  
"EN 14427:2004 + A1:2005".

In Column "Title of the document", renumber Note as Note 1.

Insert the following Note 2:

"2. In 5.2.9.2.1 and 5.2.9.3.1, both cylinders shall be subject to a burst test when they show damage equal to or worse than the rejection criteria."

- In Column "Reference", replace "EN 13769:2003" with:  
"EN 13769:2003 + A1:2005".
- In Column "Reference", replace "EN 849:1996/A2:2001" with:  
"EN ISO 10297:2006".
- In Column "Reference", replace "EN 1968:2002 (except Annex B)" with:  
"EN 1968:2002 + A1:2005 (except Annex B)".
- In Column "Reference", replace "EN 12863:2002" with:  
"EN 12863:2002 + A1:2005".
- Under the heading "for materials", insert the following row at the end:

Reference	Title of document	applicable sub-sections and paragraphs
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

]

**6.2.3** In the first sentence, replace "table of 6.2.2" with "tables of 6.2.2 or 6.2.5".

Add the following new paragraphs after the first sentence:

"Where an appropriate standard is referenced in the tables of 6.2.2 or 6.2.5 the competent authority shall, within two years, withdraw recognition for the use of any technical code for the same purpose.

This does not remove the competent authority's rights to recognise technical codes to reflect scientific and technical progress or where no standard exists or to deal with specific aspects not addressed in a standard.

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."

**6.2.4.3.1,**  
**6.2.4.3.2** and  
**6.2.4.3.3** Renumber as 6.2.4.3.1.1, 6.2.4.3.1.2 and 6.2.4.3.1.3 respectively.

Insert a new 6.2.4.3.1 to read as follows:

**"6.2.4.3.1 Small receptacles containing gas (gas cartridges)".**

**6.2.4.3.1.1**  
(new)

Replace "Each aerosol dispenser and small receptacle containing gas (gas cartridges)" with:

"Each receptacle".

Add the following new paragraphs:

**"6.2.4.3.2 Aerosol dispensers**

Each filled aerosol dispenser shall be subjected to a test performed in a hot water bath or an approved water bath alternative.

**6.2.4.3.2.1 Hot water bath test**

**6.2.4.3.2.1.1** 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.

**6.2.4.3.2.1.2** No leakage or permanent deformation of an aerosol dispenser may occur, except that a plastic aerosol dispenser may be deformed through softening provided that it does not leak.

**6.2.4.3.2.2 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 6.2.4.3.2.2.1, 6.2.4.3.2.2.2 and 6.2.4.3.2.2.3 are met.

**6.2.4.3.2.2.1 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.

#### **6.2.4.3.2.2.2** 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.

#### **6.2.4.3.2.2.3** 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."

Add a new paragraph to read as follows:

**"6.2.4.3.3** 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 6.2.4.3.1 and 6.2.4.3.2 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)\*; and
- (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."

\* WHO Publication: "Quality assurance of pharmaceuticals. A compendium of guidelines and related materials. Volume 2: Good manufacturing practices and inspection".

**6.2.5.2.1** Insert the following new entry at the end of the table:

"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"
-------------------	--

**6.2.5.2.3** In the table, under "For the cylinder shell:", delete the reference to ISO 7866:1999.

In the title of the second table, replace "porous mass" with "porous material".

Add a new paragraph 6.2.5.2.4 to read as follows:

**"6.2.5.2.4** The following standard applies to 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 6.2.5.6:

ISO 21029-1:2004	Cryogenic vessels – Transportable vacuum insulated vessels of not more than 1000 l volume – Part 1: Design, fabrication, inspection and tests"
------------------	--

**6.2.5.6.3.1** In paragraph (a), insert "of personnel" after "responsibilities" and delete ", and power of the management".

In paragraph (b), replace "systematic actions" with "procedures".

Delete the commas before "and" in (c) and (d).

**6.2.5.6.4.10** Amend to read as follows:

**"6.2.5.6.4.10** 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."

**6.2.5.8.2** In paragraph (g), add the following new last sentence at the end of the existing text:

"In the case of pressure receptacles for UN 1001 acetylene, dissolved and UN 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;".

In paragraphs (g), (k) and (l), replace "porous mass" with "porous material".

In paragraphs (k) and (l): Insert ", any coating," after "during filling" and replace "two" with "three" in the first sentence. Insert the following two new last sentences at the end of the existing text:

"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;"

Add the following new paragraph:

- 6.2.5.8.7** 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."

## **Chapter 6.4**

**6.4.5.2 (b),**

**6.4.5.4.1 (c) (ii) and**

**6.4.7.14 (b)** Amend to read as follows:

"(b) more than a 20% increase in the maximum radiation level at any external surface of the package."

**6.4.5.4.2 (c)** Amend the end to read as follows:

"... and of preventing an increase of more than 20% in the maximum radiation level at any external surface of the tank-containers or portable tanks."

**6.4.5.4.4 (c)** Amend paragraph (ii) to read as follows:

"(ii) more than a 20% increase in the maximum radiation level at any external surface of the containers."

**6.4.5.4.5 (b)** Amend paragraph (ii) to read as follows:

"(ii) more than a 20% increase in the maximum radiation level at any external surface of the intermediate bulk container."

**6.4.7.16** In the first sentence, replace "liquids" with "liquid radioactive material".

**6.4.8.2** Replace "6.4.8.4 and 6.4.8.5" with:

"6.4.8.5 and 6.4.8.6".

**6.4.8.3** In the first sentence, replace "6.4.8.4," with:

"6.4.8.5 and in the absence of insolation,".

**6.4.8.4** The text of current 6.4.8.13 becomes new 6.4.8.4, with the following amendments:

In the first sentence, insert "under exclusive use" before "shall not exceed 85 °C" and replace "6.4.8.4" with "6.4.8.5".

Delete the second sentence: ("The package shall ... exceeds 50 °C.").

- 6.4.8.4 to 6.4.8.12** Renumber as 6.4.8.5 to 6.4.8.13.
- 6.4.8.6** (current 6.4.8.5) Replace "Table 6.4.8.5" with:  
"Table 6.4.8.6" (twice).
- 6.4.9.1** In the first sentence, replace "6.4.8.4, 6.4.8.5 and 6.4.8.8" with:  
"6.4.8.5, 6.4.8.6 and 6.4.8.9".  
In the second sentence, replace "6.4.8.8" with:  
"6.4.8.9".
- 6.4.10.1** Replace "6.4.8.5, 6.4.8.9" with:  
"6.4.8.6, 6.4.8.10".
- 6.4.10.2** Replace "6.4.8.7 (b) and 6.4.8.11" with:  
"6.4.8.8 (b) and 6.4.8.12".
- 6.4.11.2 (a)** Amend the end of the sentence after the formula to read:  
"provided that the smallest external dimension of each package is not less than 10 cm and that either:".  
Amend (iii) and the following paragraph to read as follows:  
"(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 6.4.11.2, except for deuterium in natural concentration in hydrogen."
- 6.4.11.7 (b)** Amend the first sentence to read as follows:  
"For packages containing uranium hexafluoride only, with maximum enrichment of 5 mass percent uranium-235:".
- 6.4.17.2** Replace "6.4.8.7" with:  
"6.4.8.8".
- 6.4.17.3** Replace "6.4.8.5" with:  
"6.4.8.6" (twice).
- 6.4.22.1 (b)** Amend to read as follows:  
"(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."

**6.4.23.3 (a)** Replace "the consignment" with:

"the shipment".

**6.4.23.5** Replace "6.4.8.4, 6.4.8.5 and 6.4.8.8" with:

"6.4.8.5, 6.4.8.6 and 6.4.8.9".

**6.4.23.12 (p)** Replace "6.4.8.4, 6.4.8.5" with:

"6.4.8.5, 6.4.8.6".

**6.4.23.12 (e)** Replace "routing" with "routeing".

**6.4.23.14** Insert a new paragraph (m) to read as follows:

"(m) A description of the containment system;"

Rename current paragraphs (m) and (n) accordingly.

Under paragraph (n) (current paragraph (m)), insert a new sub-paragraph (ii) to read as follows:

"(ii) A description of the confinement system;"

Rename current sub-paragraphs (ii) to (vi) accordingly.

Under paragraph (o) (current paragraph (n)), replace "6.4.8.4, 6.4.8.5 and 6.4.8.8" with:

"6.4.8.5, 6.4.8.6 and 6.4.8.9".

Insert a new paragraph (p) to read as follows:

"(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;"

Rename current paragraphs (o) to (u) accordingly.

In paragraph (s) (current paragraph (q)), replace "6.4.8.4, 6.4.8.5" with:

"6.4.8.5, 6.4.8.6".

**6.4.23.15** Delete the last sentence.

## **Chapter 6.5**

**6.5.1** Amend the title to read:

**"General requirements"**.

**6.5.1.4.3** In the last column of the table, replace "6.5.3.1", "6.5.3.2" ... "6.5.3.6" with:

"6.5.5.1", "6.5.5.2" ... "6.5.5.6".

- 6.5.1.4.4** Replace "6.5.3" with:  
"6.5.5".
- 6.5.3** The existing 6.5.1.5 becomes new section 6.5.3, with appropriate renumbering of paragraphs and with modifications, as follows:
- 6.5.3** [Heading of existing 6.5.1.5]
- 6.5.3.1** **General requirements**
- 6.5.3.1.1 to 6.5.3.1.8** [Text of existing 6.5.1.5.1 to 6.5.1.5.8]
- 6.5.1.5.9** Delete.  
Insert a new section 6.5.4 to read as follows:
- 6.5.4** [Heading of existing 6.5.1.6]
- 6.5.4.1** [Text of existing 6.5.1.6.1]
- 6.5.4.2** [Text of existing 6.5.1.6.2 with the following amendments:]  
Replace "periodic tests" with "periodic inspections and tests" and "6.5.4.14" with "6.5.4.4" respectively.
- 6.5.4.3** [Text of existing 6.5.1.6.3.]
- 6.5.4.4** [Text of existing 6.5.1.6.4 with the following amendments:]  
In the first paragraph, replace "Inspection:" with the heading:  
"Inspection and testing:".  
Add a new NOTE after the heading to read as follows:  
**"NOTE:** See also 6.5.4.5 for tests and inspections on repaired IBCs."  
The text beginning with "every metal, rigid plastics ..." and paragraphs (a) and (b) become new 6.5.4.4.1 with the following amendments:  
In (a), insert "(including after remanufactured)" after "put into service".  
Insert a new sentence, after the last sentence of sub-paragraph (b) (ii) ("Thermal insulation, ... body of the IBC."), to read as follows:  
"Each IBC shall correspond in all respects to its design type."  
Insert a new paragraph 6.5.4.4.2 as follows:
- "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 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 need not have its closures fitted. 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** [Text of the last paragraph of existing 6.5.1.6.4 ("A report of each inspection ... requirements in 6.5.2.2.1).") with the following amendments:]

In the first sentence, add "and test" after "each inspection" and "or test" after "next inspection" respectively.

In the second sentence, add "and test" after "inspection" twice.

**6.5.4.5** [Title of existing 6.5.1.6.6]

**6.5.4.5.1** [Text of existing 6.5.1.6.5]

**6.5.4.5.2** [Text of existing 6.5.1.6.6.1 with the following amendment:]

Replace "6.5.4.14.3 and 6.5.1.6.5 (a)" with "6.5.4.4".

**6.5.4.5.3** [Text of existing 6.5.1.6.6.2]

**6.5.4.5.4** [Text of existing 6.5.1.6.6.3 with the following amendment:]

Replace "6.5.1.6.6.1" with "6.5.4.5.2".

**6.5.4.5.5** [Text of existing 6.5.1.6.7]

Current  
**6.5.3** and  
**6.5.4**

Renumber as **6.5.5** and **6.5.6**.

**6.5.5.1.6** (a)  
and (b) (current 6.5.3.1.6 (a) and (b)) Replace "6.5.3.1.5" with:  
"6.5.5.1.5" (twice).

**6.5.5.4.20** (current 6.5.3.4.20) Replace "6.5.3.4.6 to 6.5.3.4.9" with:  
"6.5.5.4.6 to 6.5.5.4.9".

**6.5.6.1.3** (current 6.5.4.1.3) Delete.

**6.5.6.2.1** (current 6.5.4.2.1) Replace "6.5.4.5 to 6.5.4.12" with:  
"6.5.6.5 to 6.5.6.12".

Replace "6.5.4.3.5" with:

"6.5.6.3.5".

- 6.5.6.2.2** (current 6.5.4.2.2) Replace "6.5.4.3.3 or 6.5.4.3.5" with:  
"6.5.6.3.3 or 6.5.6.3.5".
- 6.5.6.2.4** (current 6.5.4.2.4) Replace "6.5.4.13" with:  
"6.5.6.13".
- 6.5.6.3.2** (current 6.5.4.3.2) Replace "6.5.3.3.2 to 6.5.3.3.4 and 6.5.3.4.6 to 6.5.3.4.9" with:  
"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** (current 6.5.4.3.3) Replace "6.5.4.3.5" with:  
"6.5.6.3.6".
- 6.5.6.3.5** (current 6.5.4.3.5) Amend the text beginning with "For high molecular mass polyethylene rigid plastics IBCs ..." and finishing with "... with standard liquids (see 6.1.6)." to read as follows:  
  
"For polyethylene rigid plastics IBCs (types 31H1 and 31H2) in accordance with 6.5.5.3 and polyethylene composite IBCs (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)."  
  
In the second paragraph (from "The standard liquids are representative ..." to "... combinations thereof."), delete "high molecular mass".  
  
In the third paragraph (beginning with "The sufficient chemical compatibility ..."), insert the following new second sentence after "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."  
  
In the third paragraph, replace "6.5.4.4 to 6.5.4.9" with:  
  
"6.5.6.4 to 6.5.6.9".  
  
In the last paragraph, delete "high density, high molecular mass".
- 6.5.6.3.6** (current 6.5.4.3.6) In the first sentence, delete "high molecular mass".  
  
In the first sentence, replace "6.5.4.3.5" with:  
  
"6.5.6.3.5" (twice).  
  
In footnote 2, delete "high molecular mass".  
  
In footnote 2, replace "6.5.4.3.5" with:  
  
"6.5.6.3.5".
- 6.5.6.3.7** (current 6.5.4.3.7) In footnote f, replace "6.5.4.2.2" with:  
  
"6.5.6.2.2".

- 6.5.6.5.2** (current 6.5.4.5.2) Replace the last sentence of this paragraph with the following text:
- "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."
- 6.5.6.5.5 (b)** (current 6.5.4.5.5 (b)) Add at the end:
- "and no loss of contents".
- 6.5.6.6.3 (a)** (current 6.5.4.6.3 (a)) Replace "6.5.4.6.4" with:
- "6.5.6.6.4".
- Replace "6.5.4.3.3 or 6.5.4.3.5" with:
- "6.5.6.3.3 or 6.5.6.3.5".
- Replace "6.5.4.2.2" with:
- "6.5.6.2.2".
- 6.5.6.8.3** (current 6.5.4.8.3) Replace "6.5.4.8.4" with:
- "6.5.6.8.4".
- 6.5.6.8.5 (a)**  
and (b) (current 6.5.4.8.5 (a) and (b)) Replace "6.5.4.8.4.1" with:
- "6.5.6.8.4.1" (twice).
- 6.5.6.9.2** (current 6.5.4.9.2) In paragraph (a), amend the first sentence to read:
- "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."
- Amend paragraph (b) to read as follows:
- "Flexible IBCs: the IBC shall be filled to the maximum permissible gross mass, the contents being evenly distributed."
- In paragraph (c), amend the first sentence to read:
- "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."
- In paragraph (c), replace "6.5.4.3.1" with:
- "6.5.6.3.1".
- In paragraph (d), insert "maximum" before "capacity" and delete "in accordance with the design type".

**6.5.6.9.4** (current 6.5.4.9.4) Amend to read as follows:

**"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
$d \times 1.0 \text{ m}$	$d \times 0.67 \text{ m}$

**6.5.6.14 to 6.5.6.14.4** (current 6.5.4.14 to 6.5.4.14.4) Delete.

## Chapter 6.6

**6.6.5.1.3** Replace "6.6.5.2.3" with:

"6.6.5.2.4".

**6.6.5.1.6** Amend to read as follows:

**"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."

**6.6.5.2.2** Renumber as **6.6.5.2.3**.

In the third sentence, replace "6.6.5.2.3" with:

"6.6.5.2.4".

Insert a new 6.6.5.2.2 with the same text as existing 6.5.4.1.3, replacing the reference to 6.5.4.9.4 by a reference to 6.6.5.3.4.4 in paragraph (a).

**6.6.5.2.3** Renumber as **6.6.5.2.4**.

**6.6.5.3.2.4** Amend by replacing the existing text with that of 6.5.4.5.5 (renumbered 6.5.6.5.5), but with the following amendments:

In (a), replace "Metal, rigid plastics and composite IBCs" with "Metal and rigid plastics large packagings" and "the IBC" with "the large packaging".

In (b), replace "Flexible IBCs" with "Flexible large packagings" and "IBC" with "large packaging" (twice).

- 6.6.5.3.3.5** Amend by replacing the existing text with that of 6.5.4.6.5 (renumbered 6.5.6.6.5), but replacing the word "IBCs" by "large packagings".

## **Chapter 6.7**

**6.7.2.19.1,**  
**6.7.3.15.1** and

- 6.7.4.14.1** Replace the existing text and list of standards with the following text:

"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."

**6.7.2.19.6,**  
**6.7.3.15.6** and

- 6.7.4.14.6** In paragraph (b), replace "consignment note" with:

"transport document".

**6.7.3.8.1.1** and

- 6.7.4.7.4** In footnotes 5 and 9 respectively, replace "CGA S-1.2-1995" and "CGA Pamphlet S-1.2-1995" with:

"CGA S-1.2-2003 "Pressure Relief Device Standards – Part 2 – Cargo and Portable Tanks for Compressed Gases"".

- 6.7.5.4.1** Replace the first sentence with the following two sentences:

"The elements of MEGCs used for the carriage of UN No. 1013 carbon dioxide and UN No. 1070 nitrous oxide shall be isolated by a valve into assemblies of not more than 3000 litres. Each assembly shall be fitted with one or more pressure relief devices."

**6.7.5.5.1** and

- 6.7.5.5.2** Replace "CGA S-1.2-1995" with "CGA S-1.2-2003 "Pressure Relief Device Standards – Part 2 – Cargo and Portable Tanks for Compressed Gases"".

Replace "CGA S-1.1-1994" with "CGA S-1.1-2003 "Pressure Relief Device Standards – Part 1 – Cylinders for Compressed Gases"".

- 6.7.5.6.1** Amend to read as follows:

- "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** Delete.

**6.7.5.6.3** Renumber as **6.7.5.6.2**.

**6.7.5.8.1** In the third sentence, replace "and oxidizing" with:

", pyrophoric and oxidizing".

**6.7.5.12.1** Replace the existing text and list of standards with the following text:

"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."

## **Chapter 6.8**

**6.8.2.1.2** Replace "the competent railway authorities" with:

"the competent authority".

**6.8.2.1.14 (c)** Replace "but not more than 175 kPa (1.75 bar) (absolute pressure)" with "and a boiling point of more than 35 °C".

**6.8.2.1.14 (d)** Replace "having a vapour pressure of more than 175 kPa (1.75 bar) (absolute pressure)" with "having a boiling point of not more than 35 °C".

**6.8.2.1.26** and

**6.8.2.1.27** Replace "61 °C" with:

"60 °C".

**6.8.2.2.2** Replace the second and fifth indents with the following:

"– 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."

**6.8.2.2.3** In the first sentence, replace "vacuum-relief valves" with:

"valves".

Amend the second sentence ("Hermetically closed tanks ... provisions of 6.8.4.") to read as follows:

"Hermetically closed tanks shall not be fitted with vacuum valves or with self-operating ventilation valves. |

However, tanks with 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)."

Add a new subparagraph to read as follows:

"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."

**6.8.2.2.7** Replace "but not exceeding 175 kPa (1.75 bar) (absolute)" with "and a boiling point of more than 35 °C".

**6.8.2.2.8** Replace "a vapour pressure of more than 175 kPa (1.75 bar) but not exceeding 300 kPa (3 bar) (absolute) at 50 °C" with "a boiling point of not more than 35 °C".

**6.8.2.2.9** Replace "61 °C" with:

"60 °C".

**6.8.2.3.1** Amend the fourth indent to read as follows:

"– 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,".

Add the following new subparagraph:

"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)."

**6.8.2.4.5** Add the following new subparagraph:

"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)."

**6.8.2.4.6** In the second indent of the last but third sub-paragraph, replace "standard EN 45004" with:

"standard EN ISO/IEC 17020:2004 ("General criteria for the operation of various types of bodies performing inspection)".

Amend the last sub-paragraph to read as follows:

"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."

**6.8.2.5.1** Insert the following new sixth indent:

"– external design pressure (see 6.8.2.1.7);".

Amend the current eighth indent to read as follows:

"– 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;

**NOTE:** Where the periodic test includes a leakproofness test, only the letter "P" shall be marked on the plate."

**6.8.2.5.2** Amend the seventh indent (left and right hand column) to read as follows:

"– 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;	– 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;"
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**6.8.2.6** For EN 13094:2004, amend the introductory text to read as follows:

***"For tanks with a maximum working pressure not exceeding 50 kPa and intended for substances for which a tank code with the letter "G" is given in column (12) of Table A in Chapter 3.2"***

**6.8.2.7** Add the following new paragraphs after the second sentence:

"Where an appropriate standard is referenced in 6.8.2.6 the competent authority shall, within two years, withdraw recognition for the use of any technical code for the same purpose.

This does not remove the competent authority's rights to recognise technical codes to reflect scientific and technical progress or where no standard exists or to deal with specific aspects not addressed in a standard.

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."

Amend paragraphs 6.8.3.2.11 and 6.8.3.2.12 to read as follows:

**"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.

- 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."
- 6.8.3.4.16** Add the following new subparagraph:  
 "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)."
- 6.8.3.5.6 (d)** Amend "unless any international tariffs or agreements between the railways provide otherwise" to read:  
 "unless any agreements concluded between the countries concerned in the transport operation provide otherwise".
- 6.8.4** In Note 1, replace "61 °C" with:  
 "60 °C".
- 6.8.4 (b)**
- TE 1 and TE 2** Replace "(Reserved)" with:  
 "(Deleted)".
- TE 15** Amend to read as follows:  
 "TE 15 (Deleted)".
- TE 22** Delete the Note.
- TE 24** Amend to read as follows:  
 "TE 24 (Deleted)".
- Insert the following new special provision TE 25 (left-hand column only):
- "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:  
 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 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."

**6.8.4 (e)** In the Note, amend "unless any international tariffs or agreements between the railways provide otherwise" to read:

"unless any agreements concluded between the countries concerned in the transport operation provide otherwise".

**6.8.5.1.1 (a)** Amend the second indent to read as follows:

"– UN Nos. 1380, 2845, 2870, 3194 and 3391 to 3394 of Class 4.2; and".

## **Chapter 6.9**

**6.9.2.10** In the definition for  $\tau_R$ , replace "EN 63:1977" with:  
"EN ISO 14125:1998 (three points method)".

**6.9.2.14** Replace "61 °C" with:  
"60 °C".

**6.9.4.2.1** Replace "EN 61:1977" with:  
"EN ISO 527-5:1997".

**6.9.4.2.2** In the third indent, replace "EN 61:1977" with:  
"EN ISO 527-5:1997".  
In the fourth indent, replace "EN 63:1977" with:  
"ISO 14125:1998".

**6.9.4.2.3** Replace "EN 61:1977" with:  
"EN ISO 14130:1997".

## **Chapter 6.11**

**6.11.4** In the Note, replace "consignment note" with:  
"transport document".

**6.11.4.1** In the Note, delete:  
"590,".

## **PART 7**

### **Chapter 7.1**

**7.1.3** Delete "590 (status at 01.01.1979, 10<sup>th</sup> edition, including amendments Nos. 1 to 4)," and "590,".

Replace "592-2 (status at 01.07.1996, 5<sup>th</sup> edition)" with:

"592-2 (status at 01.10.2004, 6<sup>th</sup> edition)".

Replace "592-4 (status at 01.07.1995, new edition)" with:

"592-4 (status at 01.09.2004, 2<sup>nd</sup> edition)".

Delete footnote 2.

### **Chapter 7.2**

**7.2.4** Insert a new W 14 to read as follows:

**"W 14** Aerosols carried for the purposes of reprocessing or disposal under special provision 327 shall only be carried in ventilated or open wagons or containers."

### **Chapter 7.3**

**7.3.1.1** Replace the words "wagons or containers" with:

"bulk containers, containers or wagons".

**7.3.1.3,  
7.3.1.4,  
7.3.1.6 to  
7.3.1.8 and  
7.3.1.10 to  
7.3.1.13**

Wherever it appears replace the word "container" with "bulk container, container" and "containers" with "bulk containers, containers".

**7.3.2.1** Replace "in sheeted containers or wagons" with:

"in sheeted bulk containers".

Replace "in closed containers or wagons" with:

"in closed bulk containers".

**7.3.2.2** Replace "The container used or the body of the wagon" with:

"The bulk container used".

**7.3.2.3** Replace "container or wagon" with:

"bulk container".

**7.3.2.4** Replace "containers or wagons " with:  
"bulk containers".

**7.3.2.5** Replace "container or wagons" with:  
"bulk containers".

Add a new 7.3.2.6 to read as follows:

**"7.3.2.6 Wastes of Class 6.2".**

Existing paragraph 7.3.2.6 becomes new 7.3.2.6.1 with the following title:

"Wastes of Class 6.2 (UN Nos. 2814 (animal carcasses only) and 2900 (animal carcasses and wastes only)"

**7.3.2.6.1** (current 7.3.2.6) In paragraphs (a), (c), (d) and (e), replace "UN No. 2900" with:  
"UN Nos. 2814 and 2900".

(a) Replace "sheeted containers or wagons" with:  
"sheeted bulk containers".

Replace "Closed containers or wagons" with:  
"Closed bulk containers".

(b) Replace "Closed and sheeted containers or wagons" with:  
"Closed or sheeted bulk containers".

(d) Replace "in a sheeted container or wagons" with:  
"in a sheeted bulk container".

(e) Replace "Closed or sheeted containers or wagons" with:  
"Closed or sheeted bulk containers".

Add a new paragraph 7.3.2.6.2 to read as follows:

**"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 re-

sistance 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."

**7.3.2.8** Replace "containers or wagons" with:

"bulk containers".

## **Chapter 7.5**

**7.5.1.3** Amend to read as follows:

"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."

Add a new sub-section 7.5.1.5 to read as follows:

**"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."

**7.5.2.1** In the Note, replace "consignment notes" with:  
"transport documents".

**7.5.7.1** Amend to read as follows:

**"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 slatboards, 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."

Add two new sub-sections to read as follows:

**"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."

Renumber current 7.5.7.2 and 7.5.7.3 as 7.5.7.4 and 7.5.7.5 respectively.

**7.5.11**

**CW 33** Amend paragraph (1.1) to read as follows:

"(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 unchanged)

Delete paragraph (1.4). Move Table B to come after Table A in paragraph (1.1).

In paragraph (3.3) (a) amend the beginning of the first sentence to read as follows:

"(a) Except under the condition of exclusive use, and for consignments of LSA-I material, the total number of packages, ...".

Delete the last sentence of paragraph (a).

Delete paragraph (b). Rename (c) and (d) accordingly.

**Chapter 7.7** Amend to read as follows:

**"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 to COTIF) and Article 5 of Appendix C (RID) to 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) or 1.1.3.3 are applicable for the carriage.

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