



Organisation intergouvernementale pour les transports internationaux ferroviaires
Zwischenstaatliche Organisation für den internationalen Eisenbahnverkehr
Intergovernmental Organisation for International Carriage by Rail

OTIF/RID/NOT/2025

24 June 2024

Original: English/French/German

Notification

1 January 2025 edition of RID

Texts adopted by the 58th session of the RID Committee of Experts (Berne, 23 May 2024)

TITLE PAGE

Replace "With effect from 1 January 2023" by:

"With effect from 1 January 2025".

Replace "This text replaces the requirements of 1 January 2021." by:

"This text replaces the requirements of 1 January 2023."

Replace "The following are RID Contracting States (as at 1 July 2022):" by:

"The following are RID Contracting States (as at 1 July 2024):".

TABLE OF CONTENTS

- 4.3.2.2** [The amendment in the French version does not apply to the English text.]
- 5.1.5.2** [The amendment in the German version does not apply to the English text.]
- 5.3.1.4** Replace "Placarding of wagons for carriage in bulk" by:
"Placarding of wagons when used for carriage in bulk".
- 5.5.4** [The amendment in the French version does not apply to the English text.]
- 6.1.4.12** Amend to read:
"6.1.4.12 Fibreboard boxes (including corrugated fibreboard boxes)".
- 6.1.6** [The amendment in the French version does not apply to the English text.]

PART 1

Chapter 1.1

- 1.1.3.1** Rename current paragraph (a) as paragraph (a) (i).
After paragraph (a) (i), add the following new paragraph (ii):
"(ii) The carriage of dangerous goods by private individuals in the limits defined in paragraph (a) (i) intended initially for their personal or domestic use or for their leisure or sporting activities and which are carried as waste, including the cases when these dangerous goods are no longer packaged in the original package for retail sale, provided that measures have been taken to prevent any leakage under normal conditions of carriage;"
- 1.1.3.6.3** In the table, amend the following:
- For transport category 2, in the second column, for Class 9, replace "and 3536" by:
", 3536, 3551 and 3552".
 - For transport category 3, in the second column, for Class 8, replace "and 3506" by:
", 3506 and 3554".

- For transport category 4, in the second column, for Class 9, replace "and 3548" by:
", 3548 and 3559".

1.1.3.7 [The amendment to paragraph (b) in the French version does not apply to the English text.]

1.1.4.4.5 Before the last sub-paragraph, insert the following sub-paragraph:

"The road vehicle and the dangerous goods carried on it shall be identified in the transport document (see 5.4.0.1)."

Chapter 1.2

1.2.1 [The amendment to the definition of "**Bulk container**" in the French version does not apply to the English text.]

[The amendment to the definition of "**Competent authority**" in the German version does not apply to the English text.]

Amend the definition of "**Filling ratio**" to read:

- [The first amendment in the German version does not apply to the English text.]
- Replace "a pressure receptacle" by:
"the means of containment".

Amend the definition of "**Globally Harmonized System of Classification and Labelling of Chemicals**" to read:

- Replace "ninth" by:
"tenth".
- Replace "(ST/SG/AC.10/30/Rev.9)" by:
"(ST/SG/AC.10/30/Rev.10)".

Amend the definition of "**Manual of Tests and Criteria**" to read:

- Replace "seventh" by:
"eighth".
- Replace "(ST/SG/AC.10/11/Rev.7 and Amend.1)" by:
"(ST/SG/AC.10/11/Rev.8)".

Amend the definition of "**Recycled plastics material**" to read:

- Amend the definition to read:

"Recycled plastics material" means material recovered from used industrial *packagings* or from other plastics material that has been pre-sorted and prepared for processing into new *packagings*, including *IBCs*. The specific properties of the recycled material used for production of new *packagings*, including *IBCs*, shall be

assured and documented regularly as part of a quality assurance programme recognized by the competent authority. The quality assurance programme shall include a record of proper pre-sorting and verification that each batch of recycled plastics material, which is of homogeneous composition, is consistent with the material specifications (melt flow rate, density, and tensile properties) of the design type manufactured from such recycled material. This necessarily includes knowledge about the plastics material from which the recycled plastics have been derived, as well as awareness of the prior use, including prior contents, of the plastics material if that prior use might reduce the capability of new *packagings*, including *IBCs*, produced using that material. In addition, the *packaging* or *IBC* manufacturer's quality assurance programme under 6.1.1.4 or 6.5.4.1 shall include performance of the appropriate mechanical design type tests in 6.1.5 or 6.5.6 on *packagings* or *IBCs* manufactured from each batch of recycled plastics material. In this testing, stacking performance may be verified by appropriate dynamic compression testing rather than static load testing;"

- In the note under the definition, in the first sentence, replace "to be followed" by:
"which may be followed".

Amend the definition of **"UN Model Regulations"** to read:

- Replace "twenty-second" by:
"twenty-third".
- Replace "(ST/SG/AC.10/1/Rev.22)" by:
"(ST/SG/AC.10/1/Rev.23)".

Insert the following new definition in proper alphabetical order:

"Degree of filling" means the ratio, expressed in %, of the volume of *liquid* or *solid* introduced at 15 °C into the means of containment and the volume of the means of containment ready for use;"

- 1.2.2.1** In the table, in the row for "Mass", in the third column, replace "t (ton)" by:
"t (tonne)".

In the table, in the entry for "Electrical resistance", in the last column, replace " $1 \Omega = 1 \text{ kg} \cdot \text{m}^2 / \text{s}^3 / \text{A}^2$ " by:

$1 \Omega = 1 \text{ kg} \cdot \text{m}^2 \cdot \text{s}^{-3} \cdot \text{A}^{-2}$.

Chapter 1.4

- 1.4.2.1.1** [The first amendment to paragraph (e) in the French version does not apply to the English text.]

At the end of paragraph (e), replace the full stop by a semicolon.

Add the following new paragraph (f):

"(f) in the case of tanks carrying refrigerated liquefied gases ensure that the actual holding time is determined or, in the case of empty, uncleaned tanks, ensure that the pressure is sufficiently reduced."

1.4.2.2.1 In footnote 17, replace "1 January 2023" by:

"1 January 2025".

1.4.2.2.7 Amend the second sub-paragraph to read:

"The requirements of this paragraph are considered to have been complied with if appendices A, B and C of IRS 40472 ("Braking sheet, consist list for locomotive drivers and requirements for the exchange of data necessary to the operation of freight rail services")¹⁸ are applied.

¹⁸ Version of the IRS (International Railway Solution) applicable as from September 2022."

1.4.3.3 In paragraph (e), replace "permissible degree of filling or the permissible mass of contents per litre of capacity" by:

"permissible degree of filling, permissible filling ratio or permissible mass of contents per litre of capacity, as appropriate,".

Chapter 1.6

1.6.1.1 Replace "30 June 2023" by:

"30 June 2025".

Replace "31 December 2022" by:

"31 December 2024".

In footnote 21, replace "1 January 2021" by:

"1 January 2023".

1.6.1.8 After "may continue to be used", add:

"until 31 December 2026".

"1.6.1.16 (Deleted)

1.6.1.17 (Deleted)

1.6.1.18 (Deleted)

1.6.1.19 (Deleted)

1.6.1.20 (Deleted)" amend to read:

**1.6.1.16 to
1.6.1.20** (Deleted)".

"1.6.1.24 (Deleted)

1.6.1.25 (Deleted)" amend to read:

**"1.6.1.24 and
1.6.1.25** (Deleted)".

"1.6.1.30 (Deleted)
1.6.1.31 (Deleted)
1.6.1.32 (Deleted)" amend to read:

"1.6.1.30 to
1.6.1.32 (Deleted)".

"1.6.1.35 (Reserved)
1.6.1.36 (Reserved)" amend to read:

"1.6.1.35 and
1.6.1.36 (Reserved)"

1.6.1.38 Amend to read:

"1.6.1.38 (Deleted)".

"1.6.1.37 (Deleted)
1.6.1.38 (Deleted)
1.6.1.39 (Deleted)
1.6.1.40 (Deleted)
1.6.1.41 (Deleted)
1.6.1.42 (Deleted)" amend to read:

"1.6.1.37 to
1.6.1.42 (Deleted)".

1.6.1.43 Replace "2.2.9.1.7" by:
"2.2.9.1.7.1".

1.6.1.51 In the sub-paragraph after the three indents, replace "30 June 2025" by:
"30 June 2027".

1.6.1.53 Amend to read:

"1.6.1.53 (Deleted)".

1.6.1 Add the following sub-sections:

"1.6.1.54 Vats for the carriage of molten aluminium of UN No. 3257 which have been constructed and approved before 1 July 2025 in accordance with the provisions of national law but which do not, however, conform to the construction and approval requirements of additional provision AP 11 in 7.3.3.2.7 applicable as from 1 January 2025 may continue to be used with the approval of the competent authorities in the countries of use.

1.6.1.55 Substances assigned to UN No. 1835 or 3560 may be carried until 31 December 2026 in accordance with the classification provisions and transport conditions of RID applicable to UN 1835 TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION up to 31 December 2024.

1.6.1.56 Substances assigned to UN No. 3423 may be carried until 31 December 2026 in accordance with the classification provisions and transport conditions of RID applicable up to 31 December 2024.

- 1.6.1.57** Packagings manufactured before 1 January 2027 and which do not conform to the requirements of 6.1.3.1 regarding the affixing of marks on non-removable components applicable as from 1 January 2025 may continue to be used."
- "**1.6.2.7** (Deleted)
1.6.2.8 (Deleted)" amend to read:
- "**1.6.2.7** and
1.6.2.8 (Deleted)".
- 1.6.2.17** Amend to read:
- "**1.6.2.17** (Deleted)".
- "**1.6.2.16** (Deleted)
1.6.2.17 (Deleted)" amend to read:
- "**1.6.2.16** and
1.6.2.17 (Deleted)".
- 1.6.2.21** Amend to read:
- "**1.6.2.21** (Deleted)".
- 1.6.2.22** Amend to read:
- "**1.6.2.22** (Deleted)".
- "**1.6.2.21** (Deleted)
1.6.2.22 (Deleted)" amend to read:
- "**1.6.2.21** and
1.6.2.22 (Deleted)".
- 1.6.2** Add the following new sub-sections:
- "**1.6.2.23** The requirements of Note 3 of 6.2.1.6.1 applicable until 31 December 2024 may continue to be applied until 31 December 2026.
- 1.6.2.24** For the carriage of gases of UN Nos. 1006, 1013, 1046 and 1066 in cylinders having a test pressure capacity product of maximum 15.2 MPa·l (152 bar·l), the provisions of special provision 653 of Chapter 3.3 applicable until 31 December 2024 may continue to be applied until 31 December 2026."
- "**1.6.3.1** (Deleted)
1.6.3.2 (Deleted)" amend to read:
- "**1.6.3.1** and
1.6.3.2 (Deleted)".
- "**1.6.3.3.1** (Deleted)
1.6.3.3.2 (Deleted)
1.6.3.3.3 (Deleted)" amend to read:
- "**1.6.3.3.1** to
1.6.3.3.3 (Deleted)".

"1.6.3.9 (Reserved)
1.6.3.10 (Reserved)" amend to read:

"1.6.3.9 and
1.6.3.10 (Reserved)".

"1.6.3.12 (Deleted)
1.6.3.13 (Deleted)" amend to read:

"1.6.3.12 and
1.6.3.13 (Deleted)".

1.6.3 Add the following new sub-section:

"1.6.3.61 Tank-wagons constructed before 1 July 2025 in accordance with the requirements in force up to 31 December 2024, but which however do not conform to the requirements of 6.8.2.2.11 applicable from 1 January 2025, may continue to be used."

"1.6.4.15 (Deleted)
1.6.4.16 (Deleted)
1.6.4.17 (Deleted)" amend to read:

"1.6.4.15 to
1.6.4.17 (Deleted)".

"1.6.4.31 (Deleted)
1.6.4.32 (Deleted)" amend to read:

"1.6.4.31 and
1.6.4.32 (Deleted)".

"1.6.4.34 (Deleted)
1.6.4.35 (Deleted)
1.6.4.36 (Deleted)" amend to read:

"1.6.4.34 to
1.6.4.36 (Deleted)".

"1.6.4.44 (Deleted)
1.6.4.45 (Deleted)" ändern in:

"1.6.4.44 and
1.6.4.45 (Deleted)".

1.6.4.59 Amend to read:

"1.6.4.59 Fibre-reinforced plastics tank-containers constructed before 1 July 2033 in accordance with the requirements of Chapter 6.9 in force up to 31 December 2022 may still be used in accordance with the provisions of Chapter 4.4 in force up to 31 December 2022."

1.6.4 Add the following sub-sections:

"1.6.4.65 Tank-containers constructed before 1 July 2025 in accordance with the requirements in force up to 31 December 2024, but which however do not conform to the requirements of 6.8.2.2.11 applicable from 1 January 2025, may continue to be used.

1.6.4.66 Portable tanks constructed before 1 January 2027 in accordance with the requirements in force up to 31 December 2024, but which do not, however, conform to the requirements of 6.7.4.15.1 (i) (iv) applicable as from 1 January 2025 may continue to be used."

Chapter 1.8

1.8.3.2 In paragraph (c), before "carriage", insert:

"consignment," (twice).

1.8.3.3 [The amendment in the German version does not apply to the English text.]

1.8.3.11 In paragraph (b), amend the following:

– In the second indent, replace ", provisions for tanks and tank-containers" by:

"and provisions for tanks".

– In the fifth indent, replace "carriage in fixed or demountable tanks" by:

"carriage in tanks".

– In the tenth indent, amend the text in parentheses to read:

"(packing, filling – degree of filling or filling ratio, as appropriate –, loading and unloading, stowage and segregation)".

1.8.6.1 Before "surveillance", add:

"authorization and".

1.8.6.2.1 Amend the last sub-paragraph to read:

"When the competent authority performs the tasks of the inspection body itself, the competent authority shall comply with the provisions of 1.8.6.3. However, when a competent authority designates an inspection body to act as the competent authority the designated body shall be accredited according to the standard EN ISO/IEC 17020:2012 (except clause 8.1.3) type A."

1.8.6.3.1 Amend the last sentence to read:

"The requirements above are deemed to be met in the case of accreditation according to the standard EN ISO/IEC 17020:2012 (except clause 8.1.3)."

1.8.7.7 In the heading, replace "**Surveillance**" by:

"**Authorization and surveillance**".

1.8.8.1.4 Replace "1.8.7.7.1 (d)" by:

"1.8.7.7.1 (b) (ii)".

1.8.8.6 Replace "1.8.7.7.1 (d)" by:

"1.8.7.7.1 (b) (ii)".

Chapter 1.11

In footnote 31, amend "1 January 2019" to read:

"1 June 2024".

PART 2

Chapter 2.1

2.1.5.2 Amend to read:

"2.1.5.2 Such articles may in addition contain cells or batteries. Lithium metal, lithium ion and sodium ion cells and batteries that are integral to the article shall be of a type proven to meet the testing requirements of the Manual of Tests and Criteria, Part III, subsection 38.3. For articles containing pre-production prototype lithium metal, lithium ion or sodium ion cells or batteries carried for testing, or for articles containing lithium metal, lithium ion or sodium ion cells or batteries manufactured in production runs of not more than 100 cells or batteries, the requirements of special provision 310 of Chapter 3.3 shall apply."

Chapter 2.2

2.2.1.1.1 In paragraph (a), in the explanation for "Pyrotechnic substances", replace "substances or mixtures of substances" by:

"explosive substances".

At the end, before the definition of "*Phlegmatized*", replace "definition applies" by:

"definitions apply".

At the end of the last paragraph, replace the full stop by a semicolon and add the following new paragraph:

"*Explosive or pyrotechnic effect* means, in the context of (c), an effect produced by self-sustaining exothermic chemical reactions including shock, blast, fragmentation, projection, heat, light, sound, gas and smoke."

[The amendment to paragraph (c) in the French version does not apply to the English text.]

2.2.1.4 Add the following new entry in alphabetical order:

"FIRE SUPPRESSANT DISPERSING DEVICES: UN No. 0514

Articles which contain a pyrotechnic substance, which are intended to disperse a fire extinguishing agent (or aerosol) when activated, and which do not contain any other dangerous goods."

2.2.2.1.1 [The amendment in the German version does not apply to the English text.]

2.2.2.3 Under classification code 2 F, for UN No. 1010, replace "40%" by:

"20%".

- 2.2.3.1.1** In the last sentence before the notes, replace "3357 and 3379" by:
"3357, 3379 and 3555".
- 2.2.3.3** For classification code "F1", before "3065 ALCOHOLIC BEVERAGES", insert:
"3269 POLYESTER RESIN KIT, liquid base material".
For classification code "F3", delete:
"3269 POLYESTER RESIN KIT, liquid base material".
- 2.2.41.1.2** Amend the name of subdivision "F" to read:
"Flammable solids, without subsidiary hazard, and articles containing such substances".
- 2.2.41.1.3** At the end, add the following new definition:
"*Metal powders* are powders of metals or metal alloys."
- 2.2.41.1.5** In paragraph (a), replace "metal powders or powders of metal-alloys" by:
"metal powders".
In paragraph (b), replace "Metal powders or powders of metal-alloys" by:
"Metal powders".
- 2.2.41.1.8** In paragraph (b), replace "Metal powders or powders of metal-alloys" by:
"Metal powders".
- 2.2.41.3** For classification code "F1", before the first entry, insert:
"3527 POLYESTER RESIN KIT, solid base material".
For classification code "F4", delete:
"3527 POLYESTER RESIN KIT, solid base material".
- 2.2.42.1.2** Amend the name of subdivision "S" to read:
"S Substances liable to spontaneous combustion, without subsidiary hazard, and articles containing such substances".
Amend subdivision "SW" to read:
"SW Substances liable to spontaneous combustion, which, in contact with water, emit flammable gases, and articles containing such substances:
SW1 Substances;
SW2 Articles".

2.2.42.3 After the table heading, replace "**Substances liable to spontaneous combustion**" by:

"Substances liable to spontaneous combustion and articles containing such substances".

Amend the branch for "**Water-reactive SW**" to read:

"

	Sub- stances	SW1	3393 ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC, WATER-REACTIVE 3394 ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE
Water- reactive SW	Articles	SW2	(No collective entry with this classification code available; if need be, classification under a collective entry with a classification code to be determined according to the table of precedence of hazard in 2.1.3.10.)

"

2.2.43.3 After the table heading, replace "**Substances which, in contact with water, emit flammable gases**" by:

"Substances which, in contact with water, emit flammable gases, and articles containing such substances".

For classification code "W3", for UN No. 3292, replace "SODIUM" by:

"METALLIC SODIUM OR SODIUM ALLOY" (twice).

2.2.52.4 In the table amend the following:

- Under the entry for "DIBENZOYL PEROXIDE", after the row for "≤ 52 as a paste", insert the following new row:

"

Organic peroxide	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
"	≤ 42	≥ 38			≥ 13	OP8	3109	

"

- For "DI-2,4-DICHLOROBENZOYL PEROXIDE", concentration "≤ 52 as a paste with silicon oil", in column "Packing method", replace "OP7" by:

"OP5".

- For "DI-2,4-DICHLOROBENZOYL PEROXIDE", concentration "≤ 52 as a paste with silicon oil", in column "Number (generic entry)", replace "3106" by:

"3104".

- Under the entry for "2,5-DIMETHYL-2,5-DI-(tert-BUTYLPEROXY) HEXANE", at the end, insert the following new row:

"

Organic peroxide	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
"	≤ 22			≥ 78			Exempt	(29)

"

- Under the entry for "METHYL ETHYL KETONE PEROXIDE(S)", insert the following new first row:

Organic peroxide	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
METHYL ETHYL KETONE PEROXIDE(S)	see remark (33)	≥ 41			≥ 9	OP8	3105	(33), (34)

- Under the entry for "METHYL ETHYL KETONE PEROXIDE(S)", in the second row (current first row), in the second column, replace "METHYL ETHYL KETONE PEROXIDE(S)" by:

"".

After the table, add the following new remarks:

"(33) Available oxygen ≤ 10%.

(34) Sum of diluent type A and water ≥ 55%, and in addition methyl ethyl ketone."

2.2.61.1.2 In the first sentence, after "Substances", add:

"and articles".

Amend the name of subdivision "T" to read:

"T Toxic substances without subsidiary hazard and articles containing such substances".

Amend the name of subdivision "TF" to read:

"TF Toxic substances, flammable, and articles containing such substances".

After the row for "TF3 Solid;", insert the following new subdivision:

"TF4 Articles;".

Amend the name of subdivision "TC" to read:

"TC Toxic substances, corrosive, and articles containing such substances".

After the row for "TC4 Inorganic, solid;", insert the following new subdivision:

"TC5 Articles;".

2.2.61.3 After the table heading, replace "**Toxic substances**" by:

"Toxic substances and articles containing such substances".

For classification code "TF3", delete:

"1700 TEAR GAS CANDLES".

After the branch for "solid TF3", insert the following new branch:

"

Articles	TF4	1700 TEAR GAS CANDLES
-----------------	------------	-----------------------

"

After the branch for "Corrosive TC inorganic solid TC4", insert the following new branch:

"

Articles	TC5	
		(No collective entry with this classification code available; if need be, classification under a collective entry with a classification code to be determined according to the table of precedence of hazard in 2.1.3.10.)

"

2.2.62.1.4.1 In the table, for UN 2814, in the entry for "Monkeypox virus", at the end, add:

"(cultures only)".

2.2.62.1.6 (Reserved)

2.2.62.1.7 (Reserved)

2.2.62.1.8 (Reserved)" amend to read:

2.2.62.1.6 to

2.2.62.1.8 (Reserved)".

2.2.7.1.3 In the definition for "***Specific activity of a radionuclide***", at the end, add the following new note:

"NOTE: The terms "activity concentration" and "specific activity" are synonymous for the purpose of RID."

2.2.7.2.3.1.3 (Deleted)

2.2.7.2.3.1.4 (Deleted)

2.2.7.2.3.1.5 (Deleted)" amend to read:

2.2.7.2.3.1.3 to

2.2.7.2.3.1.5 (Deleted)".

2.2.9.1.2 For classification code "M4", after "Lithium batteries", insert:

"and sodium ion batteries".

2.2.9.1.3 Move the heading before the paragraph number to the height of the paragraph number.

2.2.9.1.4 Move the heading before the paragraph number to the height of the paragraph number.

2.2.9.1.5 Move the heading before the paragraph number to the height of the paragraph number.

2.2.9.1.6 Move the heading before the paragraph number to the height of the paragraph number.

2.2.9.1.7 Amend the following:

– Amend the title "*Lithium batteries*" to read:

2.2.9.1.7 *Lithium batteries and sodium ion batteries*".

- Renumber current "2.2.9.1.7" as "2.2.9.1.7.1" with the following heading:

"2.2.9.1.7.1 Lithium batteries".

2.2.9.1.7.1 (current 2.2.9.1.7)

[The amendments to paragraph (d) and (e) in the German version do not apply to the English text.]

At the end of paragraph (g), add the following new note:

"NOTE: The term "make available" means that manufacturers and subsequent distributors ensure that the test summary is accessible so that the consignor or other persons in the supply chain can confirm compliance."

2.2.9.1.7 Insert the following new 2.2.9.1.7.2:

"2.2.9.1.7.2 Sodium ion batteries

Cells and batteries, cells and batteries contained in equipment, or cells and batteries packed with equipment containing sodium ion, which are a rechargeable electrochemical system where the positive and negative electrode are both intercalation or insertion compounds, constructed with no metallic sodium (or sodium alloy) in either electrode and with an organic non aqueous compound as electrolyte, shall be assigned to UN Nos. 3551 or 3552, as appropriate.

NOTE: Intercalated sodium exists in an ionic or quasi-atomic form in the lattice of the electrode material.

They may be carried under these entries if they meet the following provisions:

- (a) Each cell or battery is of the type proved to meet the requirements of applicable tests of the Manual of Tests and Criteria, Part III, sub-section 38.3;

NOTE: Batteries shall be of a type proved to meet the testing requirements of the Manual of Tests and Criteria, Part III, sub-section 38.3, irrespective of whether the cells of which they are composed are of a tested type.

- (b) Each cell and battery incorporates a safety venting device or is designed to preclude a violent rupture under conditions normally encountered during carriage;
- (c) Each cell and battery is equipped with an effective means of preventing external short circuits;
- (d) Each battery containing cells or a series of cells connected in parallel is equipped with effective means as necessary to prevent dangerous reverse current flow (e.g. diodes, fuses, etc.);
- (e) Cells and batteries shall be manufactured under a quality management programme as prescribed under 2.2.9.1.7.1 (e) (i) to (ix);
- (f) Manufacturers and subsequent distributors of cells or batteries shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

NOTE: The term "make available" means that manufacturers and subsequent distributors ensure that the test summary is accessible so that the consignor or other persons in the supply chain can confirm compliance.

Sodium ion batteries are not subject to the provisions of RID if they meet the requirements of special provisions 188 or 400 of Chapter 3.3."

2.2.9.1.8 Move the heading before the paragraph number to the height of the paragraph number.

2.2.9.1.10 Amend the heading to read:

"2.2.9.1.10 Pollutants to the aquatic environment: environmentally hazardous substances (aquatic environment)".

2.2.9.1.11 Move the heading before the paragraph number to the height of the paragraph number.

Add the following new note 3:

"3: Pharmaceutical products (such as vaccines) that are packed in a form ready to be administered, including those in clinical trials, and that contain GMMOs or GMOs are not subject to RID."

Renumber current notes 3 and 4 as notes 4 and 5.

2.2.9.1.13 Move the heading before the paragraph number to the height of the paragraph number.

2.2.9.1.14 Move the heading before the paragraph number to the height of the paragraph number.

In the introductory sentence, after "miscellaneous substances" add:

"and articles".

2.2.9.1.15 Move the heading before the paragraph number to the height of the paragraph number.

2.2.9.2 In the first indent, after "Lithium batteries", add:

"and sodium ion batteries".

2.2.9.3 For "**Lithium batteries M4**", amend the following:

– Amend the heading "**Lithium batteries M4**" to read:

"Lithium batteries and sodium ion batteries M4".

– Add the following new entries:

"3551 SODIUM ION BATTERIES WITH ORGANIC ELECTROLYTE
3552 SODIUM ION BATTERIES CONTAINED IN EQUIPMENT or SODIUM ION BATTERIES PACKED WITH EQUIPMENT, with organic electrolyte".

For "Live-saving appliances M5", add the following new entry:

"3559 FIRE SUPPRESSANT DISPERSING DEVICES".

For "Other substances and articles presenting a danger during carriage, but not meeting the definitions of another class M11", before the entry for UN No. 3548, insert the following new entries:

"3556 VEHICLE, LITHIUM ION BATTERY POWERED
3557 VEHICLE, LITHIUM METAL BATTERY POWERED
3558 VEHICLE, SODIUM ION BATTERY POWERED".

PART 3

Chapter 3.1

3.1.2.2 In the first sentence, delete:

""and" or".

Chapter 3.2

3.2.1 In the explanatory note for column (4) amend the following:

– In the last sentence, replace "Certain articles and substances" by:

"Articles and certain substances".

– Add the following new sentence at the end:

"Packing groups may also be assigned via special provisions in Chapter 3.3 as indicated in column (6)."

[The amendment to the explanatory note for column (10) in the French version does not apply to the English text.]

In the explanatory note for column (12), in the fourth sub-paragraph after the title, in the second sentence, replace "maximum degree of filling" by:

"maximum degree of filling or filling ratio, as appropriate".

Table A

Amend the following:

UN number	Column	Amendment
0331	(11)	Delete: "TP1".
1006	(6)	Replace "653" by: "406".
1010	(2)	Replace "40%" by: "20%".
	(6)	After "386", insert: "402".

UN number	Column	Amendment
1013	(6)	Delete: "653". After "392", insert: "406".
1046	(6)	Replace "653" by: "406".
1066	(6)	Replace "653" by: "406".
1204	(6)	Before "601", insert: "28".
1310	(6)	Insert: "28".
1320	(6)	Insert: "28".
1321	(6)	Insert: "28".
1322	(6)	Insert: "28".
1336	(6)	Insert: "28".
1337	(6)	Insert: "28".
1344	(6)	Insert: "28".
1345	(2)	[The amendment in the German version does not apply to the English text.]
1347	(6)	Insert: "28".
1348	(6)	Insert: "28".
1349	(6)	Insert: "28".
1354	(6)	Insert: "28".
1355	(6)	Insert: "28".
1356	(6)	Insert: "28".
1357	(6)	Before "227", insert: "28".
1391	(10)	Insert: "T13".
	(11)	Insert: "TP2 TP7 TP42".
1517	(6)	Insert: "28".
1571	(6)	Before "568", insert: "28".
1700	(3b)	Replace "TF3" by: "TF4".
1745	(13)	Delete: "TE16".

UN number	Column	Amendment
1746	(13)	Delete: "TE16".
1774	(3b)	Replace "C11" by: "C9".
1835, PG II	(2)	Replace "SOLUTION" by: "AQUEOUS SOLUTION with more than 2.5% but less than 25% tetramethylammonium hydroxide".
	(3b)	Replace "C7" by: "CT1".
	(5)	Add: "+6.1".
	(6)	Insert: "279 408".
	(18)	Insert: "CW13 CW28".
	(20)	Replace "80" by: "86".
1835, PG III	(2)	Replace "SOLUTION" by: "AQUEOUS SOLUTION with not more than 2.5% tetramethylammonium hydroxide".
	(6)	Insert: "408".
1873	(13)	Delete: "TE16".
2015 (both entries)	(13)	Delete: "TE16".
2016	(3b)	Replace "T2" by: "T10".
2017	(3b)	Replace "TC2" by: "TC5".
2028	(4)	Delete: "II".
2037 (all entries)	(16)	Insert: "W14".
2059 (all entries)	(6)	Before "198", insert: "28".
2073	(6)	Delete: "532".
2210	(3b)	Replace "SW" by: "SW1".
2212	(6)	Add: "678".
	(17)	Add: "VC1 VC2 AP12".
	(18)	Add: "CW38".
2426	(6)	Delete: "644".

UN number	Column	Amendment
2495	(13)	Delete: "TE16".
2555	(6)	Before "394", insert: "28".
2556	(6)	Before "394", insert: "28".
2590	(6)	Add: "678".
	(17)	Add: "VC1 VC2 AP12".
	(18)	Add: "CW38".
2672	(6)	Delete: "543".
2795	(6)	After "295", insert: "401".
2803	(6)	Insert: "365".
2852	(6)	Before "545", insert: "28".
2870, first entry	(3b)	Replace "SW" by: "SW1".
2870, sec- ond entry	(3b)	Replace "SW" by: "SW2".
	(4)	Delete: "I".
2907	(6)	Before "127", insert: "28".
2956	(18)	Insert: "CW14".
3064	(6)	Before "359", insert: "28".
3082	(6)	At the end, add: "650".
3090	(6)	At the end, add: "677".
3091	(6)	At the end, add: "677".
3165	(4)	Delete: "I".
3241	(18)	Insert: "CW14".
3242	(18)	Insert: "CW14".
3251	(18)	Insert: "CW14".
3257	(17)	Add: "AP11".
3269 (all en- tries)	(3b)	Replace "F3" by: "F1".

UN number	Column	Amendment
3270	(6)	Add: "403".
3292	(2)	Replace "SODIUM" by: "METALLIC SODIUM OR SODIUM ALLOY" (twice).
	(6)	Add: "401".
3317	(6)	Insert: "28".
3319	(6)	Before "272", insert: "28".
3343	(6)	Before "274", insert: "28".
3344	(6)	Before "272", insert: "28".
3357	(6)	Before "274", insert: "28".
3364	(6)	Insert: "28".
3365	(6)	Insert: "28".
3366	(6)	Insert: "28".
3367	(6)	Insert: "28".
3368	(6)	Insert: "28".
3369	(6)	Insert: "28".
3370	(6)	Insert: "28".
3376	(6)	Insert: "28".
3393	(3b)	Replace "SW" by: "SW1".
3394	(3b)	Replace "SW" by: "SW1".
3423	(2)	[The amendment in the German version does not apply to the English text.]
	(3a)	Replace "8" by: "6.1".
	(3b)	Replace "C8" by: "TC2".
	(4)	Replace "II" by: "I".
	(5)	Replace "8" by: "6.1+8".
	(6)	Insert: "279".
	(7a)	Replace "1 kg" by: "0".
	(7b)	Replace "E2" by: "E5".

UN number	Column	Amendment
	(8)	Replace "IBC08" by: "IBC99".
	(9a)	Delete: "B4".
	(9b)	Replace "MP10" by: "MP18".
	(10)	Replace "T3" by: "T6".
	(12)	Replace "SGAN L4BN" by: "S10AH L10CH".
	(13)	Insert: "TU14 TU15 TU38 TE21 TE22".
	(15)	Replace "2" by: "1".
	(18)	Insert: "CW13 CW28 CW31".
	(19)	Delete: "CE10".
	(20)	Replace "80" by: "668".
3480	(6)	At the end, add: "677".
3481	(6)	At the end, add: "677".
3482	(10)	Insert: "T13".
	(11)	Insert: "TP2 TP7 TP42".
3527 (both entries)	(3b)	Replace "F4" by: "F1".
3537	(6)	After "274", insert: "310".
3538	(6)	After "274", insert: "310".
3540	(6)	After "274", insert: "310".
3541	(6)	After "274", insert: "310".
3546	(6)	After "274", insert: "310".
3547	(6)	After "274", insert: "310".
3548	(6)	After "274", insert: "310".
3550	(9b)	Insert: "MP18".
	(12)	Delete: "L10CH".
	(13)	Delete: "TU14", "TU38", "TE21" and "TE22".

Insert the following new entries:

(1) UN No.	(2) Name and description	(3a) Class	(3b) Classification code	(4) Packing group	(5) Labels	(6) Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID Tanks		(15) Transport category	Special provisions for carriage			(19) Colis express (express parcels)	(20) Hazard identification No.
									(8) Packing instructions	(9a) Special packing provisions	(9b) Mixed packing provisions	(10) Instructions	(11) Special provisions	(12) Tank code	(13) Special provisions		(16) Packages	(17) Bulk	(18) Loading, unloading and handling		
0514	FIRE SUPPRESSANT DISPERSING DEVICES	1	1.4S		1.4	407	0	E0	P135		MP23					4	W2		CW1	CE1	1.4S
3551	SODIUM ION BATTERIES with organic electrolyte	9	M4		9A	188 230 310 348 376 377 400 401 636 677	0	E0	P903 P908 P909 P910 P911 LP903 LP904 LP905 LP906							2				CE2	90
3552	SODIUM ION BATTERIES CONTAINED IN EQUIPMENT or SODIUM ION BATTERIES PACKED WITH EQUIPMENT, with organic electrolyte	9	M4		9A	188 230 310 348 360 376 377 400 401 670 677	0	E0	P903 P908 P909 P910 P911 LP903 LP904 LP905 LP906							2				CE2	90
3553	DISILANE	2	2F		2.1 + 13	632 662	0	E0	P200		MP9	(M)		PxBN(M)	TU38 TE22 TA4 TT9 TM6	2			CW9 CW10 CW36		23
3554	GALLIUM CONTAINED IN MANUFACTURED ARTICLES	8	C11		8	366	5 kg	E0	P003	PP90	MP10					3				CE11	80
3555	TRIFLUOROMETHYLTE-TRAZOLE-SODIUM SALT IN ACETONE, with not less than 68% acetone, by mass	3	D	II	3	28	0	E0	P303	PP26	MP2					2			CW14 CW29		33

UN No.	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging			Portable tanks and bulk containers		RID Tanks		Transport category	Special provisions for carriage			Colis express (express parcels)	Hazard identification No.
									Packing instructions	Special packing provisions	Mixed packing provisions	Instructions	Special provisions	Tank code	Special provisions		Packages	Bulk	Loading, unloading and handling		
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)	(10)	(11)	(12)	(13)	(15)	(16)	(17)	(18)	(19)	(20)
3556	VEHICLE, LITHIUM ION BATTERY POWERED	9	M11		9A	388 666 667 669	0	E0	P912							-					
3557	VEHICLE, LITHIUM METAL BATTERY POWERED	9	M11		9A	388 666 667 669	0	E0	P912							-					
3558	VEHICLE, SODIUM ION BATTERY POWERED	9	M11		9A	388 404 666 667 669	0	E0	P912							-					
3559	FIRE SUPPRESSANT DISPERSING DEVICES	9	M5		9	407	0	E0	P902							4				CE2	90
3560	TETRAMETHYLAMMONIUM HYDROXIDE AQUEOUS SOLUTION with not less than 25% tetramethylammonium hydroxide	6.1	TC1	I	6.1 + 8	279 408	0	E5	P001		MP8 MP17	T14	TP2	L10CH	TU14 TU15 TU38 TE21 Te22	1			CW13 CW28 CW31		668

3.2.2

In the third sub-paragraph, replace "(UIC leaflet 221¹)" by:

"(IRS (International Railway Solution) 20221¹ published by UIC)".

The text of footnote 1 remains unchanged.

Table B

Amend the following entries:

Name and description	UN No.	Amendment
BATTERIES, CONTAINING SODIUM	3292	In column "Name and description", replace "SODIUM" by: "METALLIC SODIUM OR SODIUM ALLOY". [The second amendment in the German version does not apply to the English text.]
BATTERY POWERED VEHICLE	3171	In column "NHM Code", replace "+++++" by: "870+++".
BATTERY POWERED EQUIPMENT	3171	In column "NHM Code", replace "+++++" by: "850+++".
BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED, containing more than 40% butadienes	1010	In column "Name and description", replace "40%" by: "20 %".
CELLS, CONTAINING SODIUM	3292	In column "Name and description", replace "SODIUM" by: "METALLIC SODIUM OR SODIUM ALLOY". [The second amendment in the German version does not apply to the English text.]
ISOBUTANE	1969	In column "NHM Code", after "271113", insert: "290110".
LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT (including lithium ion polymer batteries)	3481	In column "NHM Code", replace "847+++" by: "8507++".
LITHIUM ION BATTERIES (including lithium ion polymer batteries)	3480	In column "NHM Code", replace "850780" by: "850760".
LITHIUM ION BATTERIES PACKED WITH EQUIPMENT (including lithium ion polymer batteries)	3481	In column "NHM Code", replace "847+++" by: "8507++".
RUBBER SCRAP, powdered or granulated, not exceeding 840 microns and rubber content exceeding 45%	1345	[The amendment in the German version does not apply to the English text.]

Name and description	UN No.	Amendment
RUBBER SHODDY, powdered or granulated, not exceeding 840 microns and rubber content exceeding 45%	1345	[The amendment in the German version does not apply to the English text.]
TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION	3560	In column "Name and description", before "SOLUTION", insert: "AQUEOUS".
VEHICLE, FLAMMABLE GAS POWERED	3166	In column "NHM Code", replace "8407++" by: "870+++".
VEHICLE, FLAMMABLE LIQUID POWERED	3166	In column "NHM Code", replace "8407++" by: "870+++".
VEHICLE, FUEL CELL, FLAMMABLE GAS POWERED	3166	In column "NHM Code", replace "8407++" by: "870+++".
VEHICLE, FUEL CELL, FLAMMABLE LIQUID POWERED	3166	In column "NHM Code", replace "8407++" by: "870+++".

Insert the following new entries in alphabetical order:

Name and description	UN No.	Note	NHM Code
Batteries, sodium nickel chloride: see	3292		8506++
DISILANE	3553		290110
FIRE SUPPRESSANT DISPERSING DEVICES	0514		842410
FIRE SUPPRESSANT DISPERSING DEVICES	3559		842410
GALLIUM CONTAINED IN MANUFACTURED ARTICLES	3554		811292
SODIUM ION BATTERIES CONTAINED IN EQUIPMENT, with organic electrolyte	3552		8506++
SODIUM ION BATTERIES PACKED WITH EQUIPMENT, with organic electrolyte	3552		8506++
SODIUM ION BATTERIES with organic electrolyte	3551		8506++
TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION with not less than 25% tetramethylammonium hydroxide	3560		292390
TRIFLUOROMETHYLTETRAZOLE-SODIUM SALT IN ACETONE, with not less than 68% acetone, by mass	3555		2921++
VEHICLE, LITHIUM ION BATTERY POWERED	3556		870+++
VEHICLE, LITHIUM METAL BATTERY POWERED	3557		870+++
VEHICLE, SODIUM ION BATTERY POWERED	3558		870+++

Chapter 3.3

SP 188 In paragraph (a), amend the following:

– After "lithium ion", insert:

"or sodium ion".

- In the note, replace "2.2.9.1.7 (f)" by:
"2.2.9.1.7.1 (f)".

In paragraph (b), amend the following:

- In the first sentence, after "lithium ion", insert:
"or sodium ion".
- In the second sentence, after "Lithium ion", insert:
"and sodium ion".
- In the second sentence, replace "except those" by:
"except lithium ion batteries".
- In the note, replace "2.2.9.1.7 (f)" by:
"2.2.9.1.7.1 (f)".

In paragraph (c), amend the following:

- After "Each", insert:
"lithium".
- Replace "2.2.9.1.7" by:
"2.2.9.1.7.1".
- After "(g)", insert:
"or for sodium ion cells or batteries, the provisions of 2.2.9.1.7.2 (a), (e) and (f) shall apply".

In paragraph (f), amend the following:

- In the first sentence, replace "lithium battery mark" by:
"battery mark".
- In the last sub-paragraph before the Note, first sentence, replace "lithium battery mark" by:
"battery mark".
- [The second amendment to the last sub-paragraph before the Note in the German version does not apply to the English text.]
- In the Note, replace "(lithium battery mark)" by:
"(battery mark)".

In the sub-paragraph after paragraph (h), in the second sentence, delete:

"lithium".

SP 230 Replace "2.2.9.1.7" by:

"2.2.9.1.7.1".

At the end, add the following new sentence:

"Sodium ion cells and batteries may be carried under this entry if they meet the provisions of 2.2.9.1.7.2."

SP 252 Amend to read:

"252 (1) Ammonium nitrate hot concentrated solutions can be carried under this entry provided:

- (a) The solution contains not more than 93% ammonium nitrate;
- (b) The solution contains at least 7% water;
- (c) The solution contains not more than 0.2% combustible material;
- (d) The solution contains no chlorine compounds in quantities such that the chloride ion level exceeds 0.02%;
- (e) The pH of an aqueous solution of 10% of the substance is between 5 and 7, measured at 25 °C; and
- (f) The maximum allowable carriage temperature of the solution is 140 °C.

(2) Additionally, ammonium nitrate hot concentrate solutions are not subject to RID provided:

- (a) The solution contains not more than 80% ammonium nitrate;
- (b) The solution contains not more than 0.2% combustible material;
- (c) The ammonium nitrate remains in solution under all conditions of carriage; and
- (d) The solution does not meet the criteria of any other class."

SP 280 In the last sentence, before the full stop, insert:

"or to fire suppressant dispersing devices described in special provision 407 (UN Nos. 0514 and 3559)".

SP 296 In paragraph (d), after "lithium batteries", insert:

"or sodium ion batteries".

SP 310 Replace the first sub-paragraph by the following sub-paragraphs:

"Cells or batteries from production runs of not more than 100 cells or batteries, or pre-production prototypes of cells or batteries when these prototypes are carried for testing, shall meet the provisions of 2.2.9.1.7.1 with the exception of (a), (e) (vii), (f) (iii) if applicable, (f) (iv) if applicable and (g).

NOTE: "Carried for testing" includes, but is not limited to, testing described in the Manual of Tests and Criteria, Part III, sub-section 38.3, integration testing and product performance testing.

These cells and batteries shall be packaged in accordance with packing instruction P 910 of 4.1.4.1 or LP 905 of 4.1.4.3, as applicable.

Articles (UN Nos. 3537, 3538, 3540, 3541, 3546, 3547 or 3548) may contain such cells or batteries provided that the applicable parts of packing instruction P 006 of 4.1.4.1 or LP 03 of 4.1.4.3, as applicable, are met."

In the current second sub-paragraph, replace "Carriage" by:

"Transport".

SP 328 In the last sub-paragraph, amend the following:

– Replace "lithium metal or lithium ion" by:

"lithium metal, lithium ion or sodium ion".

– Before "UN 3481", replace "or" by:

",".

– At the end, before the full stop, insert:

"or UN 3552 SODIUM ION BATTERIES CONTAINED IN EQUIPMENT".

SP 348 Replace "Batteries manufactured after 31 December 2011" by:

"Lithium batteries manufactured after 31 December 2011 and sodium ion batteries manufactured after 31 December 2025".

SP 360 In the first sentence, amend the following:

– Replace "lithium metal batteries or lithium ion batteries" by:

"lithium metal, lithium ion or sodium ion batteries".

– Replace "entry UN 3171 BATTERY-POWERED VEHICLE" by:

"entries UN 3556 VEHICLE, LITHIUM ION BATTERY POWERED or UN 3557 VEHICLE, LITHIUM METAL BATTERY POWERED or UN 3558 VEHICLE, SODIUM ION BATTERY POWERED, as applicable".

SP 363 In paragraph (f), amend the following:

- Amend the second sentence to read:

"However, lithium batteries shall meet the provisions of 2.2.9.1.7.1, except that (a), (e) (vii), (f) (iii) if applicable, (f) (iv) if applicable and (g) do not apply when batteries of a production run of not more than 100 cells or batteries, or pre-production prototypes of cells or batteries when these prototypes are carried for testing, are installed in machinery or engines."

- After the second sentence, insert the following sentence:

"Furthermore, sodium ion batteries shall meet the provisions of 2.2.9.1.7.2, except that (a), (e) and (f) do not apply when batteries of a production run of not more than 100 cells or batteries, or pre-production prototypes of cells or batteries when these prototypes are carried for testing, are installed in machinery or engines."

SP 365 After "mercury", insert:

"or gallium".

Replace "UN No. 3506" by:

"UN Nos. 3506 or 3554, as appropriate".

SP 366 After "mercury", insert:

"or gallium".

SP 371 In paragraph (1) (f), in the first sentence, replace "16.6.1.3.1 to 16.6.1.3.6" by:

"16.6.1.3.1 to 16.6.1.3.4, 16.6.1.3.6".

SP 376 In the first sub-paragraph, replace "Lithium ion cells or batteries and lithium metal cells or batteries" by:

"Lithium metal, lithium ion or sodium ion cells or batteries".

In the first sub-paragraph after the note, replace "UN No. 3090, UN No. 3091, UN No. 3480 and No. UN 3481" by:

"UN Nos. 3090, 3091, 3480, 3481, 3551 and 3552, as appropriate".

In the third sub-paragraph after the note, delete the last sentence ("In both cases the cells and batteries are assigned to transport category 0.").

In the fourth paragraph after the note, replace "or "DAMAGED/DEFECTIVE LITHIUM METAL BATTERIES"" by:

", "DAMAGED/DEFECTIVE LITHIUM METAL BATTERIES" or "DAMAGED/DEFECTIVE SODIUM ION BATTERIES"".

SP 377 In the first sub-paragraph, amend the following:

- "Lithium ion and lithium metal" by:
"Lithium metal, lithium ion and sodium ion".
- After "non-lithium", insert:
"or non-sodium ion".

In the second sub-paragraph, replace "2.2.9.1.7 (a) to (g)" by:

"2.2.9.1.7.1 (a) to (g) or 2.2.9.1.7.2 (a) to (f), as appropriate".

In the third sub-paragraph, amend the following:

- Replace "or" by:
", "SODIUM ION BATTERIES FOR DISPOSAL",".
- At the end, before the full stop, insert:
"or "SODIUM ION BATTERIES FOR RECYCLING", as appropriate".

SP 379 In paragraph (d) (i), replace "ISO 11114-1:2012 + A1:2017" by:

"ISO 11114-1:2020".

SP 387 In the first sentence, replace "2.2.9.1.7 (f)" by:

"2.2.9.1.7.1 (f)".

SP 388 Amend the fifth sub-paragraph to read:

"Entry UN 3171 only applies to vehicles and equipment powered by wet batteries, metallic sodium batteries or sodium alloy batteries, carried with these batteries installed."

After the fifth sub-paragraph, insert the following new sub-paragraph:

"UN 3556 VEHICLE, LITHIUM ION BATTERY POWERED, UN 3557 VEHICLE, LITHIUM METAL BATTERY POWERED and UN 3558 VEHICLE, SODIUM ION BATTERY POWERED, as applicable, apply to vehicles powered by lithium ion, lithium metal or sodium ion batteries carried with the batteries installed."

In the seventh sub-paragraph (current sixth sub-paragraph), replace the last two sentences by the following sentence:

"When vehicles are carried in a packaging, some parts of the vehicle, other than the battery, may be detached from its frame to fit into the packaging."

Amend the two last sub-paragraphs to read:

"Dangerous goods, such as batteries, airbags, fire extinguishers, compressed gas accumulators, safety devices and other integral components of the vehicle that are necessary for the operation of the vehicle or for the safety of its operator

or passengers, shall be securely installed in the vehicle and are not otherwise subject to RID. However, lithium batteries shall meet the provisions of 2.2.9.1.7.1, except that (a), (e) (vii), (f) (iii) if applicable, (f) (iv) if applicable and (g) do not apply when batteries of a production run of not more than 100 cells or batteries, or pre-production prototypes of cells or batteries when these prototypes are carried for testing, are installed in vehicles. Furthermore, sodium ion batteries shall meet the provisions of 2.2.9.1.7.2, except that (a), (e) and (f) do not apply when batteries of a production run of not more than 100 cells or batteries, or pre-production prototypes of cells or batteries when these prototypes are carried for testing, are installed in vehicles.

Where a lithium battery installed in a vehicle is damaged or defective, the vehicle shall be carried in accordance with the conditions defined in special provision 667 (c)."

SP 389 In the first sub-paragraph, replace "2.2.9.1.7" by:

"2.2.9.1.7.1".

SP 392 [The amendment in the German version does not apply to the English text.]

**"399 –
499** (Reserved)" amend to read:

**"409 –
499** (Reserved)".

SP 532 Amend to read:

"532 (Deleted)".

SP 543 Amend to read:

"543 (Deleted)".

SP 636 In the first sentence, amend the following:

– After "lithium cells and batteries", insert:

"or sodium ion cells and batteries".

– Replace "lithium ion cells" by:

"lithium ion or sodium ion cells".

– Replace "lithium ion batteries" by:

"lithium ion or sodium ion batteries".

– Replace "other non-lithium cells or batteries," by:

"other cells or batteries,".

– Replace "and 2.2.9.1.7" by:

", 2.2.9.1.7.1 and 2.2.9.1.7.2".

In sub-paragraph (b), after "lithium cells and batteries", insert:

"and sodium ion cells and batteries".

In the note after sub-paragraph (b), after "lithium cells and batteries", insert:

"and sodium ion cells and batteries".

Amend sub-paragraph (c) to read:

"(c) Packages are marked

"LITHIUM BATTERIES FOR DISPOSAL",
 "LITHIUM BATTERIES FOR RECYCLING",
 "SODIUM ION BATTERIES FOR DISPOSAL" or
 "SODIUM ION BATTERIES FOR RECYCLING", as appropriate."

SP 644 Amend to read:

"644 (Deleted)".

SP 650 Amend the following:

- In the first sentence, replace "under the conditions of packing group II" by:
 "under the conditions of UN No. 1263, packing group II, or UN No. 3082, as appropriate".
- In the second sentence, replace "provisions of UN No. 1263, packing group II" by:
 "provisions for UN No. 1263, packing group II, and UN No. 3082".
- In paragraph (a), at the end, replace ";" by:
 "."
- In paragraph (a), add the following new sentence at the end:
 "Mixed packing of waste classified as UN 1263 and waste water-based paints classified as UN 3082 is permitted;".
- In paragraph (d), after the first sentence, insert the following two new sentences:
 "Waste classified as UN 1263 may be mixed and loaded with waste water-based paints classified as UN 3082 in the same wagon or container. In the case of such mixed loading the entire contents shall be assigned to UN 1263."
- In paragraph (e), after "in accordance with 5.4.1.1.3.1", add:
 "with the appropriate UN number(s)".

- In paragraph (e), amend the text after the colon to read

""UN 1263 WASTE PAINT, 3, II";
"UN 1263 WASTE PAINT, 3, PG II";
"UN 3082 WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LI-
QUID, N.O.S. (PAINT), 9, III"; or
"UN 3082 WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LI-
QUID, N.O.S. (PAINT), 9, PG III"".

SP 653 Amend to read:

"653 (Deleted)".

SP 666 At the end of the special provision, add:

"(e) Vehicles that are fully enclosed by packagings, crates or other means that prevent ready identification are subject to the marking and labelling requirements of Chapter 5.2.

Alternatively, for sodium ion battery powered vehicles, see special provision 404."

SP 667 Amend paragraph (a) to read:

"(a) (Deleted)".

In paragraph (b), amend the following:

- Replace "2.2.9.1.7" by:

"2.2.9.1.7.1 and 2.2.9.1.7.2".

- After "lithium cells or batteries", insert:

"or sodium ion cells or batteries".

In paragraph (b) (ii), after "the lithium cell or battery", insert:

"or the sodium ion cell or battery".

In paragraph (c), after "lithium cells or batteries", insert:

"or sodium ion cells or batteries".

SP 668 Amend the introductory sentence to read:

"Substances for the purpose of applying road markings and bitumen or similar products for the purpose of repairing cracks and crevices in existing road surfaces, carried at elevated temperature, are not subject to the other requirements of RID, provided that the following conditions are met:".

SP 669 Replace "UN numbers 3166 or 3171" by:

"UN No. 3166, 3171, 3556, 3557 or 3558, as appropriate".

SP 670

In paragraph (a), amend the following:

- In the first sub-paragraph, after "Lithium cells and batteries", insert:
"and sodium ion cells and batteries".
- In the first sub-paragraph, replace "376 and 2.2.9.1.7" by:
"376, 2.2.9.1.7.1 and 2.2.9.1.7.2".
- In paragraph (ii), after "other lithium cell or battery", insert:
"or sodium ion cell or battery".

In paragraph (b), amend the following:

- In the first sub-paragraph, after "lithium cells and batteries", insert:
"and sodium ion cells and batteries".
- In the first sub-paragraph, replace "376 and 2.2.9.1.7" by:
"376, 2.2.9.1.7.1 and 2.2.9.1.7.2".
- In paragraph (ii), after "lithium cells or batteries", insert:
"and sodium ion cells and batteries".
- In the note after paragraph (ii), replace "lithium cells and batteries in the equipment" by:
"lithium cells and batteries and sodium ion cells and batteries contained in equipment".
- In paragraph (iii), amend the first sentence to read:
"Packages are marked

"LITHIUM BATTERIES FOR DISPOSAL",
"LITHIUM BATTERIES FOR RECYCLING",
"SODIUM ION BATTERIES FOR DISPOSAL" or
"SODIUM ION BATTERIES FOR RECYCLING", as appropriate."
- In paragraph (iii), in the second sentence, after "lithium cells or batteries", insert:
"or sodium ion cells or batteries".

Insert the following new special provisions:

"28

This substance may be carried under the provisions of Class 3 or Class 4.1 only if it is so packed that the percentage of diluent will not fall below that stated, at any time during carriage (see 2.2.3.1.1 and 2.2.41.1.18). In cases where the diluent is not stated, the substance shall be packed so that the amount of explosive substance does not exceed the stated value."

- "399** (Reserved)
- 400** Sodium ion cells and batteries and sodium ion cells and batteries contained in or packed with equipment, prepared and offered for carriage, are not subject to other provisions of RID if they meet the following:
- (a) The cell or battery is short-circuited, in a way that the cell or battery does not contain electrical energy. The short-circuiting of the cell or battery is easily verifiable (e.g. busbar between terminals);
 - (b) Each cell or battery meets the provisions of 2.2.9.1.7.2 (a), (b), (d), (e) and (f);
 - (c) Each package is marked according to 5.2.1.9;
 - (d) Except when cells or batteries are installed in equipment, each package is capable of withstanding a 1.2 m drop test in any orientation without damage to cells or batteries contained therein, without shifting of the contents so as to allow battery to battery (or cell to cell) contact and without release of contents;
 - (e) Cells and batteries, when installed in equipment are protected from damage. When batteries are installed in equipment, the equipment is packed in strong outer packagings constructed of suitable material of adequate strength and design in relation to the packaging's capacity and its intended use unless the battery is afforded equivalent protection by the equipment in which it is contained;
 - (f) Each cell, including when it is a component of a battery, only contains dangerous goods that are authorized to be carried in accordance with the provisions of Chapter 3.4 and in a quantity not exceeding the quantity specified in column (7a) of Table A of Chapter 3.2.
- 401** Sodium ion cells and batteries with organic electrolyte shall be carried as UN No. 3551 or 3552, as appropriate. Sodium ion cells and batteries with aqueous alkali electrolyte shall be carried as UN No. 2795. Batteries containing metallic sodium or sodium alloy shall be carried as UN No. 3292."
- 402** Substances carried under this entry shall have a vapour pressure at 70 °C not exceeding 1.1 MPa (11 bar) and a density at 50 °C not lower than 0.525 kg/l.
- 403** Nitrocellulose membrane filters covered by this entry with nitrocellulose content not exceeding 53 g/m² and a nitrocellulose net mass not exceeding 300 g per inner packaging, are not subject to the requirements of RID if they meet the following conditions:
- (a) They are packed with paper separators of minimum 80 g/m² placed between each layer of nitrocellulose membrane filters;
 - (b) They are packed to maintain the alignment of the nitrocellulose membrane filters and the paper separators in any of the following configurations:
 - (i) Rolls tightly wound and packed in plastic foil of minimum 80 g/m² or aluminium pouches with an oxygen permeability equal to or less than 0.1% in accordance with standard ISO 15105-1:2007;

- (ii) Sheets packed in cardboard of minimum 250 g/m² or aluminium pouches with an oxygen permeability equal to or less than 0.1% in accordance with standard ISO 15105-1:2007;
- (iii) Round filters packed in disc holders or cardboard packaging of minimum 250 g/m² or single packed in pouches of paper and plastic material of total minimum 100 g/m².

404 Vehicles powered by sodium ion batteries, containing no other dangerous goods, are not subject to other provisions of RID if the battery is short-circuited in a way that the battery does not contain electrical energy. The short-circuiting of the battery shall be easily verifiable (e.g. busbar between terminals).

405 (Reserved)

406 Substances under this entry may be carried in accordance with the limited quantity provisions of Chapter 3.4 when carried in pressure receptacles containing not more than 1 000 ml. The pressure receptacles shall meet the requirements of packing instruction P 200 of 4.1.4.1 and have a test pressure capacity product not exceeding 15.2 MPa·l (152 bar·l). The pressure receptacles shall not be packed together with other dangerous goods.

407 Fire suppressant dispersing devices are articles which contain a pyrotechnic substance, which are intended to disperse a fire extinguishing agent (or aerosol) when activated, and which do not contain any other dangerous goods. These articles, as packaged for carriage, shall fulfil the criteria for Division 1.4, Compatibility Group S, when tested in accordance with test series 6 (c) of Section 16 of Part I of the Manual of Tests and Criteria. The device shall be carried with either the means of activation removed or equipped with at least two independent means to prevent accidental activation.

Fire suppressant dispersing devices shall only be assigned to Class 9, UN No. 3559 if the following additional conditions are met:

- (a) The device meets the exclusion criteria in 2.2.1.1.8.2 (b), (c) and (d);
- (b) The suppressant is deemed safe for normally occupied spaces in compliance with international or regional standards (e.g. the United States of America National Fire Protection Association standard for fixed aerosol fire-extinguishing systems NFPA 2010);
- (c) The article is packaged in a manner such that when activated, temperatures of the outside of the package do not exceed 200 °C;
- (d) This entry is used only with the approval of the competent authority of the country of manufacture³.

This entry does not apply to "SAFETY DEVICES, electrically initiated" described in special provision 280 (UN No. 3268).

³ If the country of manufacture is not an RID Contracting State, the approval shall be recognized by the competent authority of an RID Contracting State.

408 This entry applies only to aqueous solutions comprised of water, tetramethylammonium hydroxide (TMAH), and no more than 1% of other constituents. Other formulations containing tetramethylammonium hydroxide shall be assigned to an appropriate generic or n.o.s. entry (e.g. UN 2927 TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.), except as follows:

- (a) Other formulations containing a surfactant in a concentration > 1% and with not less than 8.75% tetramethylammonium hydroxide shall be assigned to UN 2927 TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S., PG I; and
- (b) Other formulations containing a surfactant in a concentration > 1% and with more than 2.38% but less than 8.75% tetramethylammonium hydroxide shall be assigned to UN 2927 TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S., PG II."

Renumber existing footnotes 3 to 5 as footnotes 4 to 6.

"677 Cells and batteries which, in accordance with special provision 376, are identified as damaged or defective and liable to rapidly disassemble, dangerously react, produce a flame or a dangerous evolution of heat or a dangerous emission of toxic, corrosive or flammable gases or vapours under normal conditions of carriage, shall be assigned to transport category 0. In the transport document, the words "CARRIAGE IN ACCORDANCE WITH SPECIAL PROVISION 376" shall be supplemented by the words "TRANSPORT CATEGORY 0".

678 Waste consisting of objects and materials contaminated with free asbestos (UN Nos. 2212 and 2590), which is not fixed or immersed in a binder in such a way that no emission of hazardous quantities of respirable asbestos can occur, may be carried under the provisions of Chapter 7.3 provided the following provisions are complied with:

- (a) The waste is carried only from the site where it is generated to a final disposal facility. Between these two types of sites, only intermediate storage operations, without unloading or transferring the container-bag, are authorized;
- (b) The waste belongs to one of these categories:
 - (i) Solid waste from roadworks, including asphalt milling waste contaminated with free asbestos and its sweeping residues;
 - (ii) Soil contaminated with free asbestos;
 - (iii) Objects (for example furniture) contaminated with free asbestos from damaged structures or buildings;
 - (iv) Materials from damaged structures or buildings contaminated with free asbestos which, because of their volume or mass, cannot be packed in accordance with the packing instruction applicable to the UN number used (UN No. 2212 or 2590, as appropriate); or
 - (v) Construction site waste contaminated with free asbestos from demolished or rehabilitated structures or buildings which, because of their size or mass, cannot be packed in accordance with the packing instruction applicable to the UN number used (UN No. 2212 or 2590, as appropriate);

- (c) Waste covered by these provisions shall not be mixed or loaded with other asbestos-containing waste or any other hazardous or non-hazardous waste;
- (d) Each shipment shall be considered a full load as defined in 1.2.1; and
- (e) The transport document shall be in conformity with 5.4.1.1.4."

Chapter 3.4

"3.4.5 (Reserved)
3.4.6 (Reserved)" amend to read:

"3.4.5 and
3.4.6 (Reserved)".

PART 4

Chapter 4.1

4.1.1.4 [The amendment in the French version does not apply to the English text.]

4.1.1.5 Add the following new 4.1.1.5.3:

"4.1.1.5.3 For the carriage of waste, other than articles, inner packagings of different sizes and shapes, containing liquids or solids, may be packed together in one outer packaging, provided that the following conditions are met:

- (a) The waste carried in each inner packaging is not classified as class 1, 2, 6.2 or 7;
- (b) By derogation from 4.1.1.5, 4.1.1.5.1, 4.1.1.5.2, 4.1.1.21, 4.1.3.1 to 4.1.3.5, 4.1.3.7, 4.1.4, 6.1.5.2.1, 6.5.6.1.2 and 6.6.5.2.1:
 - (i) The outer packaging is one of the following types:
 - 1H2, 1A2, 3A2, 3H1, 3H2, 4A or 4H2;
 - 11A, 11H1 or 11H2;
 - 50A or 50H;
 - (ii) The outer packaging is tested for packing group I;
 - (iii) The outer packaging does not need to be tested according to the tests required for packagings intended to contain liquids, but it shall be capable of retaining liquids under normal conditions of carriage;
 - (iv) Sufficient cushioning material is used to prevent significant movement of the inner packagings under normal conditions of carriage;
 - (v) If the outer packaging contains inner packagings that are liable to break easily, such as those made of glass, porcelain or stoneware, or non-leakproof inner packagings, the outer packaging has a means of retaining any free liquid that might escape from the inner packagings

during carriage, e.g. absorbent material or other equally efficient means of retention;

(vi) For polyethylene outer packaging, proof of sufficient chemical compatibility is deemed to have been provided if the chemical compatibility of the material of the outer packaging with all the standard liquids described in 6.1.6.1 has been verified as part of a design type test and approval for packaging of the same material with code 1H1 or 3H1;

(c) Depending on the waste identified in each inner packaging, inner packagings are packed together in an appropriate outer packaging only by trained and competent personnel in accordance with 1.3.2.2, with the use of instructions or procedures ensuring compliance with 4.1.1.6 and the provisions of mixed packing of 4.1.10.4;

(d) The waste contained in one outer packaging is assigned to the most appropriate entry. More than one entry may be used, if needed. By derogation from 5.1.4, the only marking and labelling on the outer packaging corresponds to the entry or entries assigned to the outer packaging."

4.1.1.10 [The amendment to paragraph (a) in the French version does not apply to the English text.]

4.1.1.21.6 In table 4.1.1.21.6, for UN No. 1779, in column (3b), replace "C3" by:
"CF1".

4.1.1.21 Insert the following new paragraph **4.1.1.21.7**:

"4.1.1.21.7 By derogation from 4.1.1.21.1, liquid waste classified under 2.1.3.5.5 may be filled into polyethylene packaging provided that the packagings have passed the tests with all standard liquids described in 6.1.6.1. Packagings shall conform to the packing group performance level as assigned in accordance with 2.1.3.5.5.

By derogation from 4.1.1.15, on the basis of the knowledge of the composition of the liquid waste, in case of presence of substances that could weaken the polyethylene packaging (e.g. some chlorinated compounds), the period of use permitted for this packaging shall be two and a half years from the date of its manufacture."

4.1.3.6.5 Replace "level of filling" by:
"degree of filling".

4.1.4.1

P 001 [The amendment in the German version does not apply to the English text.]

P 002 Move the explanations of table notes (a) to (e) directly below the packing instruction outside the frame on those pages on which they appear.

P 003 In special packing provision **PP 90**, amend the following:

- Replace "UN No. 3506" by:
"UN Nos. 3506 and 3554".
- After "mercury", add:
"or gallium, as appropriate,".

P 006 At the end, add the following new paragraph (5):

"(5) Articles containing pre-production prototype lithium cells or batteries or sodium ion cells or batteries when these prototypes are carried for testing or production runs of not more than 100 lithium cells or batteries or sodium ion cells or batteries that are of a type that has not met the testing requirements of the Manual of Tests and Criteria, Part III, sub-section 38.3 shall in addition meet the following:

- (a) Packagings shall conform to the requirements in paragraph (1) of this packing instruction;
- (b) Appropriate measures shall be taken to minimize the effects of vibration and shocks and prevent movement of the article within the package that may lead to damage and a dangerous condition during carriage. When cushioning material is used to meet this requirement it shall be non-combustible and electrically non-conductive;
- (c) Non-combustibility of the cushioning material shall be assessed according to a standard recognized in the country where the packaging is designed or manufactured;
- (d) The article may be carried unpackaged under conditions specified by the competent authority of any RID Contracting State, which may also recognize an approval granted by the competent authority of a country which is not an RID Contracting State, provided that this approval has been granted in accordance with the procedures applicable according to RID, ADR, ADN, the IMDG Code or the ICAO Technical Instructions. Additional conditions that may be considered in the approval process include, but are not limited to:
 - (i) The article shall be strong enough to withstand the shocks and loadings normally encountered during carriage, including transshipment between cargo transport units and between cargo transport units and warehouses as well as any removal from a pallet for subsequent manual or mechanical handling; and
 - (ii) The article shall be fixed in cradles or crates or other handling devices in such a way that it will not become loose during normal conditions of carriage."

P 200 Throughout the packing instruction, including tables 1 to 3, place the footnotes directly below the packing instruction, on those pages on which they appear. Footnotes (a) and (b) to table 1 become footnotes d and e. Footnotes (a), (b), (c) and (d) to table 2 becomes footnotes d, g, h and f. Footnotes (a) and (b) to table 2 become footnotes d and i.

[The amendment to paragraph (3) (f) in the German version does not apply to the English text.]

[The amendment to paragraph (4) in the German version does not apply to the English text.]

[The amendments to "filling ratio" in paragraph (5) (b) of the German version do not apply to the English text.]

In paragraph (5) (b), under the first and second formulas, replace "where" by:

"where:".

[The amendment to "filling ratio" in paragraph (5) (c) of the German version does not apply to the English text.]

In paragraph (5) (c), under the formula, replace "where" by:

"where:".

[The amendment to paragraph (6) in the German version does not apply to the English text.]

In paragraph (7) (a), renumber the indents as "(i)", "(ii)", "(iii)", "(iv)" and "(v)".

In paragraph (7) (a) (iv) (current fourth indent), replace "degree or pressure of filling" by:

"filling ratio or pressure of filling".

In paragraph (10), amend the following:

- [The amendment to special packing provision o in the German version does not apply to the English text.]
- In special packing provision p, in the second sub-paragraph, delete:
"fitted with pressure relief devices or".
- In special packing provision p, delete the last sub-paragraph.
- [The amendment to special packing provision r in the German version does not apply to the English text.]
- In special packing provision s, renumber the indents as "(a)" and "(b)".
- [The amendment to "filling ratio" in special packing provision z in the German version does not apply to the English text.]
- In special packing provision "z", under the first formula, replace "in which" by:
"where:".

- In special packing provision "z", under the second formula, replace "where" by:

"where:".

- In special packing provision "ab", renumber "(i)", "(ii)" and "(iii)" as "(a)", "(b)" and "(c)".
- In special packing provision "ad", renumber "(i)" and "(ii)" as "(a)" and "(b)". In the new paragraph (b), renumber the list with dashes as "(i)" and "(ii)".

In paragraph (11), in the table, amend the following:

- In the sixth row, replace "EN ISO 13088:2011" by:

"EN ISO 13088:2012 + A1:2020".

- At the end of the table, delete the row for standard "EN 14794:2005".

In paragraph (13) 2.2, renumber the list with bullets as "(a)", "(b)", "(c)", "(d)" and "(e)".

In paragraph (13) 2.3, renumber the list with bullets as "(a)", "(b)", "(c)", "(d)" and "(e)". In the new paragraph (e), renumber the list with dashes as "(i)" and "(ii)".

In paragraph (13) 2.4, amend the following:

- Replace "EN ISO 11114-1:2020" by:

"EN ISO 11114-1:2020 + A1:2023".

- Replace "EN ISO 11114-2:2013" by:

"EN ISO 11114-2:2021".

In table 2, amend the following:

- [The amendment to the heading of the eleventh column in the German version does not apply to the English text.]
- In all entries with multiple test pressures, separate each row with a dashed line spanning the last three columns.
- For UN No. 1010, separate the different entries with a different "name and description" with a dashed line spanning all columns except the first one.
- For UN No. 1012, separate the different entries with a different "name and description" with a dashed line spanning all columns except the first one.
- For UN No. 1012, in the rows for "BUTYLENE (1-Butylene)", "BUTYLENE (cis-2-Butylene)" and "BUTYLENE (trans-2-Butylene)", in the last column, insert:

"ra".

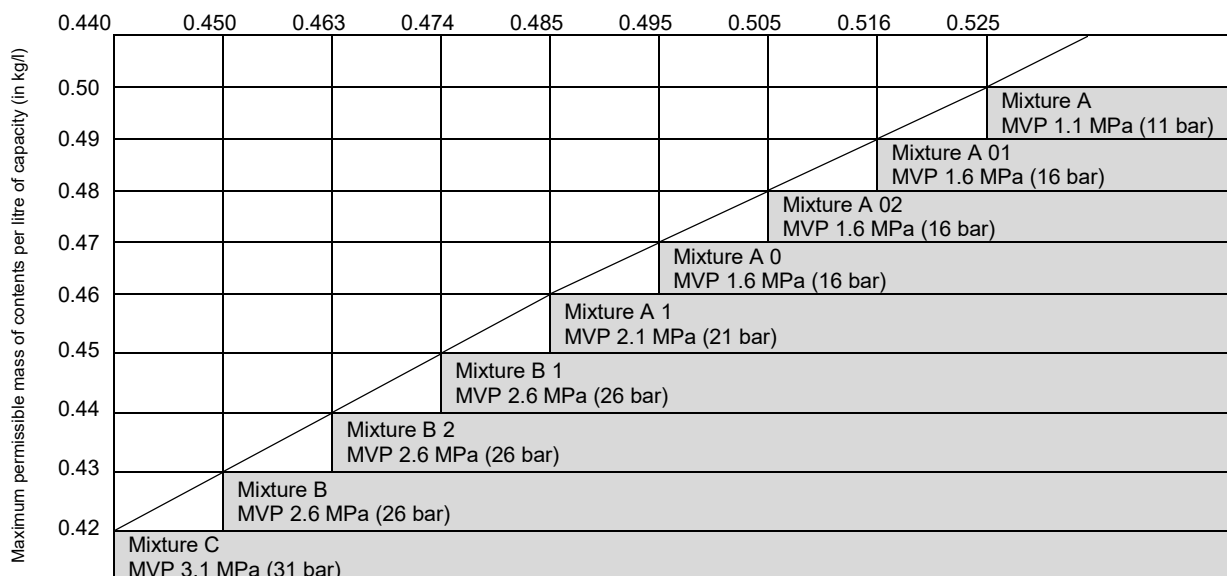
- For UN No. 1060, separate the different entries with a different "name and description" with a dashed line spanning all columns except the first one.
- For UN No. 1078, separate the different entries with a different "name and description" with a dashed line spanning all columns except the first one.
- For UN No. 1078, in the rows for "Mixture F 1", "Mixture F 2" and "Mixture F 3", in the last column, insert:
"ra, z".
- For UN No. 1965, separate the different entries with a different "name and description" with a dashed line spanning all columns except the first one.
- For UN No. 1965, in the rows for "Mixture A", "Mixture A 01", "Mixture A 02", "Mixture A 0", "Mixture A 1", "Mixture B 1", "Mixture B 2", "Mixture B" and "Mixture C", in the last column, insert:
"ra, v, z".
- For UN No. 2073, separate the different entries with a different "name and description" with a dashed line spanning all columns except the first one.
- In the second row for UN No. 2073, in column "Classification code", repeat "4A".

– Add the following new row:

UN No.	Name and description	Classification code	LC ₅₀ ml/m ³	Cylinders	Tubes	Pressure drums	Bundles of cylinders	Test period, years ^(a)	Test pressure, bar	Filling ratio	Special packing provisions
3553	DISILANE ^b	2F		X	X	X	X	10	225	039	q

Replace the figure in footnote g (current footnote (b)) as follows:

Density at 50 °C in kg/l



MVP = Maximum vapour pressure at 70 °C.

Note: The graph above can be used to determine the correct filling ratios for the mixtures listed in 2.2.2.3."

In table 3, amend the following:

- [The amendment to the heading of the twelfth column in the German version does not apply to the English text.]

P 203 Under "Requirements for closed cryogenic receptacles", amend the following:

- In paragraph (5), amend the heading to read:
"Filling".
- In paragraph (5), in the last sub-paragraph, replace "degree of filling" by:
"gas filled into the receptacle".

Under "Requirements for open cryogenic receptacles", at the end of the first sub-paragraph, add:

"For these gases, when used as a coolant, the requirements of 5.5.3 shall apply."

In paragraph (9), renumber the indents as "(a)", "(b)", "(c)", "(d)" and "(e)".

P 206 In special provision **PP 89**, replace "ISO 11118:1999" by:

"clause 1 of ISO 11118:2015 + Amd 1:2019".

P 301 In the introductory sentence before paragraphs (1) and (2), replace "4.1.1" by:

"4.1.1.1, 4.1.1.2, 4.1.1.4, 4.1.1.5, 4.1.1.6".

P 404 Amend the second row under the heading to read:

"

The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:

(1) Combination packagings

Outer packagings:

Drums (1A1, 1A2, 1B1, 1B2, 1N1, 1N2, 1H1, 1H2, 1D, 1G);

Boxes (4A, 4B, 4N, 4C1, 4C2, 4D, 4F, 4G, 4H2)

Inner packagings:

Metal receptacles with a maximum net mass of 15 kg each. Inner packagings shall be hermetically sealed;

Glass receptacles, with a maximum net mass of 1 kg each, having closures with gaskets, cushioned on all sides and contained in hermetically sealed metal cans.

Outer packagings shall have a maximum net mass of 125 kg.

Inner packagings shall have threaded closures or closures physically held in place by any means capable of preventing back-off or loosening of the closure by impact or vibration during carriage.

<p>(2) Metal packagings: Drums (1A1, 1A2, 1B1, 1B2, 1N1, 1N2); Jerricans (3A1, 3A2, 3B1, 3B2) Maximum gross mass: 150 kg</p> <p>(3) Composite packagings: Plastics receptacle in a steel or aluminium drum (6HA1 or 6HB1) Maximum gross mass: 150 kg</p> <p>(4) Pressure receptacles, provided that the general provisions of 4.1.3.6 are met.</p>

P 405 In paragraph (1) (a), replace "Outer packagings: (4A, 4B, 4N, 4C1, 4C2, 4D or 4F)" by:

"Outer packagings:

Boxes (4A, 4B, 4N, 4C1, 4C2, 4D or 4F)".

P 410 Move the explanations of table notes (a) to (d) directly below the packing instruction outside the frame on those pages on which they appear.

P 501 Under "Combination packagings", amend the following:

– Before "Boxes", delete:

"(1)".

– Before "Fibreboard", delete:

"(2)".

P 505 Amend the third, fourth and fifth row under the heading to read:

		Maximum capacity/maximum net mass
Combination packagings		
Inner packagings	Outer packagings	
glass 5 l	Boxes aluminium (4B) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) fibreboard (4G) plastics, solid (4H2)	125 kg
plastics 5 l		125 kg
metal 5 l		125 kg
		125 kg
		125 kg

	Drums aluminium, removable head (1B2) fibre (1G) other metal, removable head (1N2) plastics, removable head (1H2) plywood (1D) Jerricans aluminium, removable head (3B2) plastics, removable head (3H2)	125 kg 125 kg 125 kg 125 kg 125 kg 125 kg 125 kg
Single packagings		

P 520

In paragraph (1), replace ", jerricans" by:

"and jerricans".

Amend the table under paragraph (3) to read:

The maximum quantities per packaging/package for packing methods OP1 to OP8 are:

	OP1	OP2 ^{a)}	OP3	OP4 ^{a)}	OP5	OP6	OP7	OP8
Maximum net mass (kg) for solids and for combination packagings (liquid and solid)	0.5	0.5 / 10	5	5 / 25	25	50	50	400 ^(b)
Maximum contents in litres for liquids ^(c)	0.5	–	5	–	30	60	60	225 ^(d)

Move the explanations of table notes (a) to (d) directly below the packing instruction outside the frame on those pages on which they appear.

In special packing provision **PP 94**, renumber "1.", "2.", "3.", "4." and "5." as:

"(a)", "(b)", "(c)", "(d)" and "(e)". In PP95, renumber 1. to 6. as (a) to (f).

In special packing provision **PP 95**, renumber "1.", "2.", "3.", "4.", "5." and "6." as:

"(a)", "(b)", "(c)", "(d)", "(e)" and "(f)".

P 600

Amend the second row under the heading to read:

<p>The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:</p> <p style="padding-left: 40px;">Drums (1A1, 1A2, 1B1, 1B2, 1N1, 1N2, 1H1, 1H2, 1D, 1G) Boxes (4A, 4B, 4N, 4C1, 4C2, 4D, 4F, 4G, 4H2)</p> <p>Outer packagings shall meet the packing group II performance level.</p> <p>Articles shall be individually packaged and separated from each other using partitions, dividers, inner packagings or cushioning material to prevent inadvertent discharge during normal conditions of carriage.</p> <p>Maximum net mass: 75 kg</p>
--

P 601

In paragraph (1), renumber the three indents as "(a)", "(b)" and "(c)".

P 602 In paragraph (1), renumber the three indents as "(a)", "(b)" and "(c)".

P 603 Add a new additional requirement to read:

"4. In the case of fissile-excepted material, the limits specified in 2.2.7.2.3.5 shall be met."

Delete the entire row for "Special packing provision".

P 620 In additional requirement 1, at the end, insert:

"When dry ice or other refrigerants presenting a risk of asphyxiation are used as a coolant, the requirements of 5.5.3 shall apply."

In additional requirement 2 (b), after the third sentence (ending with "dry ice has dissipated"), insert:

"When dry ice or other refrigerants presenting a risk of asphyxiation are used as a coolant, the requirements of 5.5.3 shall apply."

In additional requirement 2 (c), after the first sentence (ending with "refrigerated or frozen:"), insert:

"When liquid nitrogen is used as a coolant, the requirements of 5.5.3 shall apply."

P 650 In the first sentence, after "This", delete:

"packing".

Amend paragraph (6) to read:

"(6) The completed package shall be capable of withstanding a 1.2 m drop in any orientation without leakage from the primary receptacle(s), which shall remain protected by absorbent material, when required, in the secondary packaging.

NOTE: Capability may be demonstrated by testing, assessment or experience."

In paragraph (7) amend the following:

– [The amendment to paragraph (a) in the German version does not apply to the English text.]

– [The amendment to paragraph (b) in the German version does not apply to the English text.]

– [The amendment to paragraph (c) in the German version does not apply to the English text.]

– In paragraph (d), at the end, add:

"and".

- [The first amendment to paragraph (e) in the German version does not apply to the English text.]
- In paragraph (e), insert the following new note:

"NOTE: Capability may be demonstrated by testing, assessment or experience."

In paragraph (8), amend the following:

- [The amendment to paragraph (a) in the German version does not apply to the English text.]
- [The amendment to paragraph (b) in the German version does not apply to the English text.]
- In paragraph (c), at the end, add:

"and".
- [The amendment to paragraph (d) in the German version does not apply to the English text.]

In paragraph (9) (a), at the end, replace the full stop by;

"; and".

[The amendment to paragraph (9) (b) in the German version does not apply to the English text.]

P 800

In special packing provision **PP 41**, amend the following:

- After the first sentence, insert:

"When dry ice or other means of refrigeration presenting a risk of asphyxiation are used as a coolant, the requirements of 5.5.3 shall apply."
- At the end, add the following new sentence:

"Interior supports shall be provided to prevent movement after the dissipation of the refrigerant."

P 803

Amend the second row under the heading to read:

"

The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:

Drums (1A2, 1B2, 1N2, 1H2, 1D, 1G);

Boxes (4A, 4B, 4N, 4C1, 4C2, 4D, 4F, 4G, 4H2).

Packagings shall conform to the packing group II performance level.

Articles shall be individually packaged and separated from each other using partitions, dividers, inner packagings or cushioning material to prevent inadvertent discharge during normal conditions of carriage.

Maximum net mass: 75 kg.

- "
- P 804** In paragraph (1), renumber the indents as "(a)", "(b)" and "(c)".
- P 901** At the end, before the additional requirement, add a new sub-paragraph to read:
"If dry ice is used as a coolant, the requirements of 5.5.3 shall apply."
- P 902** In the first row under the heading, replace "UN No. 3268" by:
"UN Nos. 3268 and 3559".
- In the second row under the heading, amend the following:
- Before "Packaged articles:", insert "(1)" and remove the underline.
 - Before "Unpackaged articles:", insert "(2)" and remove the underline.
 - In the new paragraph "(2) Unpackaged articles:", amend the beginning of the sentence to read:
"Except for UN 3559, the articles ...".
- P 903** In the first sentence, replace "3480 and 3481" by:
"3480, 3481, 3551 and 3552".
- In the second sentence, delete "lithium".
- P 904** In the additional requirement, delete the heading reading "Ice, dry ice and liquid nitrogen".
- P 905** In additional requirement 1 (c), after "lithium batteries", insert:
"and sodium ion batteries".
- P 907** [The amendment in the German version does not apply to the English text.]
- P 908** Amend the first sentence after the heading to read:
"This instruction applies to damaged or defective cells and batteries, including those contained in equipment, of UN Nos. 3090, 3091, 3480, 3481, 3551 and 3552."
- In the second row under the heading, amend the following:
- Before the numbered list, insert a new paragraph to read:
"Packagings shall also meet the following requirements:".
 - In the list, renumber "1.", "2.", "3.", "4." and "5." as:
"(a)", "(b)", "(c)", "(d)" and "(e)".
 - [The amendment to paragraph (d) (current paragraph 4.) in the German version does not apply to the English text.]

– In paragraph (e) (current paragraph 5.), replace "Non-combustibility" by:

"The non-combustibility of the thermal insulation material and the cushioning material".

P 909 In the first sentence, replace "3480 and 3481" by:

"3480, 3481, 3551 and 3552".

In paragraph (2), after "lithium ion", insert:

"or sodium ion" (twice).

In the additional requirement 2, renumber the indents as:

"(a)", "(b)", "(c)" and "(d)".

P 910 In the first sentence, replace "3480 and 3481" by:

"3480, 3481, 3551 and 3552".

In paragraph (1) (e), replace "Non-combustibility" by:

"The non-combustibility of the thermal insulation material and the cushioning material".

In paragraph (2) (d), replace "Non-combustibility" by:

"The non-combustibility of the cushioning material".

In the additional requirements, amend the following:

– At the end of the first sentence, replace the semicolon by a full stop and delete the paragraph break.

– Renumber the indents as:

"(a)", "(b)", "(c)" and "(d)".

P 911 In the first sentence, replace "3480 and 3481" by:

"3480, 3481, 3551 and 3552".

In table note a, amend the following:

– Move the explanation of table note a directly below the packing instruction outside the frame on those pages on which they appear.

– In paragraph (a), replace "2.2.9.1.7 (e)" by:

"2.2.9.1.7.1 (e)".

– In paragraph (b), amend "lithium cells or batteries (rapidly disassemble)" by:

"cells or batteries (e.g. rapidly disassemble)".

Add the following new packing instructions:

"

P 303	PACKING INSTRUCTION	P 303
This instruction applies to UN 3555.		
The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 as well as 4.1.5.12 are met: Plastics drum non-removable head (1H1) of maximum capacity 250 l.		
Special packing provision		
PP 26	For UN 3555, packagings shall be lead free.	

"

"

P 912	PACKING INSTRUCTION	P 912
This instruction applies to UN Nos. 3556, 3557 and 3558.		
The vehicle shall be secured in a strong, rigid outer packaging constructed of suitable material, and of adequate strength and design in relation to the packaging capacity and its intended use. It shall be constructed in such a manner as to prevent accidental operation during carriage. Packagings need not meet the requirements of 4.1.1.3. The vehicle shall be secured by means capable of restraining the vehicle in the outer packaging to prevent any movement during carriage which would change the orientation or cause the battery in the vehicle to be damaged.		
Vehicles carried in a packaging may have some parts of the vehicle, other than the battery, detached from its frame to fit into the packaging.		
NOTE: The packagings may exceed a net mass of 400 kg (see 4.1.3.3).		
Vehicles with an individual net mass of 30 kg or more:		
(a) may be loaded into crates or secured to pallets;		
(b) may be carried unpackaged providing that the vehicle is capable of remaining upright during carriage without additional support and the vehicle provides adequate protection to the battery so that no damage to the battery can occur; or		
(c) where they have the potential to topple over during carriage (e.g. motor cycles), may be carried unpackaged in a cargo transport unit fitted out with the means to prevent toppling in carriage, such as by the use of bracing, frames or racking.		

"

R 001 Move the explanation of table note (a) directly below the packing instruction outside the frame.

4.1.4.2

IBC 02 Delete the paragraph numbers "(1)", "(2)" and "(3)".

IBC 03 Delete the paragraph numbers "(1)", "(2)" and "(3)".

IBC 05 Delete the paragraph numbers "(1)", "(2)" and "(3)".

IBC 06 Delete the paragraph numbers "(1)", "(2)" and "(3)".

IBC 07 Delete the paragraph numbers "(1)", "(2)", "(3)" and "(4)".

- IBC 08** Delete the paragraph numbers "(1)", "(2)", "(3)", "(4)", "(5)" and "(6)".
- IBC 100** Delete the paragraph numbers "(1)", "(2)", "(3)" and "(4)".
- 4.1.4.3**
- LP 02** Move the explanations of footnotes (a) to (c) directly below the packing instruction outside the frame on those pages on which they appear.
- LP 03** At the end, add a new paragraph (4) to read:
- (4) Articles containing pre-production prototype lithium cells or batteries or sodium ion cells or batteries when these prototypes are carried for testing or production runs of not more than 100 lithium cells or batteries or sodium ion cells or batteries that are of a type that has not met the testing requirements of the Manual of Tests and Criteria, Part III, sub-section 38.3 shall in addition meet the following:
- (a) Packagings shall conform to the requirements in paragraph (1) of this packing instruction;
- (b) Appropriate measures shall be taken to minimize the effects of vibration and shocks and prevent movement of the article within the package that may lead to damage and a dangerous condition during carriage. When cushioning material is used to meet this requirement it shall be non-combustible and electrically non-conductive;
- (c) Non-combustibility of the cushioning material shall be assessed according to a standard recognized in the country where the packaging is designed or manufactured."
- LP 902** In the second row under the heading, amend the following:
- Before "Packaged articles:", insert "(1)" and remove the underlining.
 - Before "Unpackaged articles:", insert "(2)" and remove the underlining.
- LP 903** Amend the first row under the heading to read:
- "This instruction applies to large cells with a gross mass of more than 500 g, large batteries with a gross mass of more than 12 kg, and equipment containing large cells or large batteries of UN Nos. 3090, 3091, 3480, 3481, 3551 and 3552."
- In the second row under the heading, amend the following:
- In the first sub-paragraph, replace "for a single battery and for a single item of equipment containing batteries" by:
- "for cells, batteries and equipment containing cells or batteries".

- Amend the last sub-paragraph to read:

"Cells, batteries or equipment shall be placed in inner packagings or separated by other suitable means, such as placement in trays or by dividers, to ensure protection against damage that may be caused under normal conditions of carriage by:

- (a) its movement or placement within the large packaging;
- (b) contact with other cells, batteries or equipment within the large packaging; and
- (c) any loads arising from the superimposed weight of cells, batteries, equipment and packaging components above the cell, battery or equipment within the large packaging.

When multiple cells, batteries or items of equipment are packed in the large packaging, bags (e.g. plastics) alone shall not be used to satisfy these requirements."

LP 904

In the first row under the heading, replace "3480 and 3481" by:

"3480, 3481, 3551 and 3552".

In the second row under the heading, amend the following:

- Before the numbered list, insert a new introductory sentence reading:

"Large packagings shall also meet the following requirements:".

- Renumber "1.", "2.", "3.", "4." and "5." as:

"(a)", "(b)", "(c)", "(d)" and "(e)".

- [The amendment to paragraph (d) (current paragraph 4.) in the German version does not apply to the English text.]

- In paragraph (e) (current paragraph 5.), replace "Non-combustibility" by:

"The non-combustibility of the thermal insulation material and the cushioning material".

LP 905

In the first row under the heading, replace "3480 and 3481" by:

"3480, 3481, 3551 and 3552".

[The amendment to paragraph (1) (d) in the German version does not apply to the English text.]

In paragraph (1) (e), replace "Non-combustibility" by:

"The non-combustibility of the thermal insulation material and the cushioning material".

[The amendment to paragraph (2) (c) in the German version does not apply to the English text.]

In paragraph (2) (d), replace "Non-combustibility" by:

"The non-combustibility of the cushioning material".

LP 906

In the first row under the heading, replace "3480 and 3481" by:

"3480, 3481, 3551 and 3552".

In table note a, amend the following:

– Move the explanation of table note a directly below the packing instruction outside the frame on those pages on which they appear.

– In paragraph (a), replace "2.2.9.1.7 (e)" by:

"2.2.9.1.7.1 (e)".

– In paragraph (b), in the first sentence, replace "lithium batteries (rapidly disassemble," by:

"batteries (e.g. rapidly disassemble,".

4.1.6.6

[The amendment in the German version does not apply to the English text.]

4.1.6.8

[The amendments to paragraph (b) and (d) in the French version do not apply to the English text.]

[The amendment to paragraph (c) in the German version does not apply to the English text.]

4.1.6.15

In Table 4.1.6.15.1, amend the following:

– In the row for "4.1.6.2", replace "EN ISO 11114-1:2020" by:

"EN ISO 11114-1:2020 + A1:2023".

– In the row for "4.1.6.2", in the second column, replace "EN ISO 11114-2:2013" by:

"EN ISO 11114-2:2021".

– In the row for "4.1.6.8 Valves with inherent protection", in the second column for standard "EN ISO 10297:2014 + A1:2017", add at the end:

"or clause 5.4.2 of EN ISO 10297:2024".

– [The amendment to the row for "4.1.6.8 (c)" in the German version does not apply to the English text.]

4.1.7.0.1

[The amendment in the French version does not apply to the English text.]

Chapter 4.2

After the heading of Chapter 4.2, in Note 2 after "which is not an RID Contracting State", insert:

"or approved in accordance with Chapter 6.7 of the IMDG Code".

4.2.1.9 [The amendment in the French version does not apply to the English text.]

4.2.1.9.2 [The amendments in the French version do not apply to the English text.]

4.2.1.9.3 [The amendments in the French version do not apply to the English text.]

4.2.1.9.5 [The amendment in the French version does not apply to the English text.]

4.2.1.9.5.1 [The amendments in the French version do not apply to the English text.]

4.2.1.9.6 [The amendment in the French version does not apply to the English text.]

4.2.1.13.13 [The amendment in the French version does not apply to the English text.]

4.2.1.16.2 [The amendment in the French version does not apply to the English text.]

4.2.1.19.2 [The amendment in the French version does not apply to the English text.]

4.2.2.8 In paragraph (a), replace "an ullage condition" by:

"a filling condition".

4.2.3.6.2 In the first sentence, replace "degree of filling" by:

"quantity of gas filled into the shell".

In the second sentence, replace "degree of filling of the shell" by:

"quantity of gas filled into the shell".

4.2.3.6.4 Replace "degree of filling" by:

"quantity of gas filled into the shell".

4.2.3.8 In paragraph (a), replace "an ullage condition" by:

"a filling condition".

4.2.4.5.2 [The amendment in the German version does not apply to the English text.]

4.2.5.2.3 In the second sentence, replace "filling density" by:

"filling ratio".

4.2.5.2.6 Amend the second sentence to read:

"Portable tank instructions T 1 to T 22 specify the applicable minimum test pressure, the minimum shell thickness (in mm reference steel) or the minimum shell thickness for fibre reinforced plastics (FRP) portable tanks, and the pressure-relief and bottom-opening requirements."

[The amendment to T 23 in the French version does not apply to the English text.]

[The amendments to T 50 in the German version do not apply to the English text.]

4.2.5.3

TP 1 [The amendment in the French version does not apply to the English text.]

TP 2 [The amendment in the French version does not apply to the English text.]

TP 3 [The amendment in the French version does not apply to the English text.]

TP 4 [The amendment in the French version does not apply to the English text.]

TP 5 Replace "degree of filling" by:

"restrictions on filling".

Insert the following new portable tank special provision **TP 42**:

"TP 42 Portable tanks are not authorized for the carriage of caesium or rubidium dispersions."

Chapter 4.3

4.3.2.1.7 At the end, add the following new note:

"NOTE: The tank record may alternatively be maintained in electronic form."

4.3.2.2 [The amendment in the French version does not apply to the English text.]

4.3.2.2.1 [The amendments in the French version do not apply to the English text.]

4.3.2.2.3 Amend to read:

"4.3.2.2.3 The provisions of 4.3.2.2.1 (a) to (d) above shall not apply to tanks carrying liquids at a temperature above 50 °C.

The degree of filling of:

(a) liquid substances carried at a temperature above 50 °C;

(b) liquid substances filled below 50 °C but intended to be heated above 50 °C during the carriage operation, and

(c) solid substances carried above their melting point,

shall at the outset be such that the tank is not more than 95% full at any time during carriage.

The maximum degree of filling shall be determined by the following formula:

$$\text{Degree of filling} = 95 \frac{d_r}{d_f} \% \text{ of capacity}$$

in which d_f and d_r are the densities of the substance at the mean temperature during filling and the maximum mean bulk temperature during carriage respectively.

Tanks with a heating device shall have the temperature so regulated that the maximum degree of filling of 95% of capacity is not exceeded at any time during carriage."

4.3.3.2.2 [The amendment in the German version does not apply to the English text.]

4.3.3.2.3 [The amendments in the German version do not apply to the English text.]

4.3.3.2.4 Delete:

"allowable" (twice).

4.3.3.2.5 At the end of the title, delete:

"indicating the minimum test pressure for tanks and as far as applicable the filling ratio".

In the first sub-paragraph, replace "filling ratio" by:

"filling condition".

4.3.3.5 At the end, add the following new sentence:

"The requirements of 4.3.3.5 need not be complied with for empty, uncleaned tanks."

4.3.3.6 In paragraph (a), replace "an ullage condition" by:

"a filling condition".

Between paragraphs (d) and (e), insert the following sub-heading:

"and for refrigerated liquefied gases:".

In paragraph (e), delete;

"refrigerated liquefied".

[The amendment to paragraph (f) in the German version does not apply to the English text.]

In paragraph (g), at the end, replace the full stop by a semicolon.

At the end, add the following new paragraph (h):

"(h) When empty, uncleaned, unless the pressure has been reduced to a level that ensures that the pressure relief devices will not activate during carriage⁴."

4.3.4.1.2 In the table, amend the following:

- For tank code "LGBV", after the row for "5.1 | O1 | III", insert the following new row:

"5.1 | OT1 | III".

- For tank code "L1.5BN", delete the second row ("3 | F1 | III, flashpoint < 23 °C, viscous, vapour pressure at 50 °C > 1.1 bar, boiling point > 35°C").
- For tank code "L4BN", delete the second row for ("(3) | (F1) | III, boiling point ≤ 35 °C").

- For tank code "L4BN", in the row "5.1 | O1", in the "Packing group" column, delete:

"I,".

- For tank code "L4BN", in the row "5.1 | OT1", in the "Packing group" column, replace "I" by:

"II".

- For tank code "L4BN", in the row "8 | CT1 | II, III", in the "Class" column, after "8", insert a reference to table note a.

The table note a reads:

"^a Substances except hydrofluoric acid and hydrogen difluoride solutions shall be assigned to this tank code."

- For tank code "L4DH", in the row "8 | CT1 | II, III", in the "Class" column, after "8", insert a reference to table note b.

The table note b reads:

"^b Hydrofluoric acid and hydrogen difluoride solutions shall be assigned to this tank code."

- For tank code "L10BH", in the row "8 | CT1 | I", in the "Class" column, after "8", insert a reference to table note c.

The table note c reads:

"^c Substances except those containing hydrofluoric acid shall be assigned to this tank code."

- For tank code "L10DH", in the row "8 | CT1 | I", in the "Class" column, after "8", insert a reference to table note e.

The table note e reads:

"^e Substances containing hydrofluoric acid shall be assigned to this tank code, with the exception of hydrofluoric acid with more than 85% hydrogen fluoride."

- For tank code "L21DH", in the row "4.2 | SW | I", in the "Classification code" column, replace "SW" by:

"SW1".

- Renumber current table notes a and b as table notes d and f. Move the explanations of table notes a, b, c, d, e and f directly below the table on those pages on which they appear.

4.3.4.2.1 Replace "tank" by:

"shell, excluding openings and their closures,".

4.3.5

TU 16 [The amendment in the French version does not apply to the English text.]

TU 18 [The amendment in the French version does not apply to the English text.]

TU 21 [The amendment in the French version does not apply to the English text.]

TU 23 In the first sentence, replace "degree of filling" by:

"filling".

[The amendment to the second sentence in the French version does not apply to the English text.]

TU 24 In the first sentence, replace "degree of filling" by:

"filling".

[The amendment to the second sentence in the French version does not apply to the English text.]

TU 25 In the first sentence, replace "degree of filling" by:

"filling".

[The amendment to the second sentence in the French version does not apply to the English text.]

TU 26 [The amendment in the French version does not apply to the English text.]

PART 5

Chapter 5.1

5.1.5.2 [The amendment in the German version does not apply to the English text.]

5.1.5.2.1 [The amendment in the German version does not apply to the English text.]

Chapter 5.2

5.2.1.9 Amend the heading to read:

"Battery mark".

5.2.1.9.1 After "lithium cells or batteries", insert:

"or sodium ion cells or batteries".

Replace "special provision 188" by:

"special provisions 188 or 400".

5.2.1.9.2 In the first sub-paragraph, amend the following:

– In the first sentence, replace "or "UN 3480" for lithium ion cells or batteries" by:

", "UN 3480" for lithium ion cells or batteries or "UN 3551" for sodium ion cells or batteries".

– In the second sentence, delete:

"lithium".

– In the second sentence, replace ""UN 3091" or "UN 3481"" by:

""UN 3091", "UN 3481" or "UN 3552"".

– In the third sentence, delete:

"lithium".

Amend the heading of figure 5.2.1.9.2 to read:

"Battery mark".

In the last sub-paragraph, in the third sentence, replace "UN number for lithium ion or lithium metal batteries or cells" by:

"UN number(s)".

5.2.2.1.12.1 Replace "lithium batteries" by:

"lithium batteries or sodium ion batteries".

Replace "lithium battery mark" by:

"battery mark".

Chapter 5.3

Under the chapter title, add a new note to read:

"3: Removable skips not conforming to Chapter 6.11 are considered as containers under this chapter."

5.3.1.4 In the heading, replace "**Placarding of wagons for carriage in bulk**" by:

"Placarding of wagons when used for carriage in bulk".

5.3.2.3.2 Delete the lines "78 Radioactive material, corrosive" and "87 Corrosive substance, radioactive".

5.3.4.2 In the description under shunting label conforming to Model 13, delete:

"on white background".

Chapter 5.4

5.4.0.1 Add the following sub-paragraphs:

"The information prescribed in this Chapter related to the dangerous goods carried shall be available during carriage in such a way that the goods per wagon and the wagon can be identified in the documentation.

Furthermore, where dangerous goods are carried in large containers, tank-containers, portable tanks or road vehicles, these shall also be identified in the transport document and the information related to the goods shall be provided per large container, tank-container, portable tank or road vehicle, as appropriate."

5.4.1.1.1 In paragraph (c), amend the third indent to read:

"– for batteries of UN numbers 3090, 3091, 3480, 3481, 3551 and 3552 as well as for battery-powered vehicles of UN Nos. 3556, 3557 and 3558: the Class number "9";"

5.4.1.1.3.1 Amend the last sub-paragraph to read:

"If the provision for waste as set out in 2.1.3.5.5 is applied, the technical name, as prescribed in Chapter 3.3, special provision 274, need not be added."

5.4.1.1.3.2 [The amendment to paragraph (b) in the French version does not apply to the English text.]

In the second indent, after "2.1.3.5.3", insert:

"(with the exception of UN 3291 clinical waste, unspecified, n.o.s. or (bio)medical waste, n.o.s. or regulated medical waste, n.o.s. in packaging conforming to packing instruction P 621)".

5.4.1.1.3 Add the following new **5.4.1.1.3.3**:

"5.4.1.1.3.3 Special provisions for the carriage of waste in inner packagings packed together in an outer packaging

For carriage in accordance with 4.1.1.5.3, a statement shall be included in the transport document, as follows:

"CARRIAGE IN ACCORDANCE WITH 4.1.1.5.3".

The additional statement prescribed in 5.4.1.1.3.2 is not necessary.

For example:

"UN 1993 WASTE FLAMMABLE LIQUID, N.O.S., 3, III; CARRIAGE IN ACCORDANCE WITH 4.1.1.5.3".

Information in the transport document in accordance with 5.4.1.1, shall be based on the entry or entries assigned to the outer packaging in accordance with 4.1.1.5.3 (d). The technical name, as prescribed in Chapter 3.3, special provision 274, need not be added."

5.4.1.1.4 Amend to read:

"5.4.1.1.4 **Special provisions for wastes contaminated with free asbestos (UN Nos. 2212 and 2590)**

When special provision 678 of Chapter 3.3 is applied, the following statement shall be included in the transport document:

"CARRIAGE UNDER SPECIAL PROVISION 678".

The description of wastes carried in accordance with special provision 678 (b) of Chapter 3.3 shall be added to the description of dangerous goods required in 5.4.1.1.1 (a) to (d) and (j). The transport document shall also be accompanied by the following documents:

- (a) A copy of the technical data sheet for the type of container-bag used, on the manufacturer's or distributor's letterhead, giving the dimensions of the packaging and its maximum mass;
- (b) A copy of the unloading procedure in accordance with special provision CW 38 of 7.5.11, if applicable."

5.4.1.1.12 Amend "1 JANUARY 2023" to read:

"1 JANUARY 2025".

5.4.1.1.21 Amend to read:

"5.4.1.1.21 **Information required in specific cases defined in other parts of RID**

Where in accordance with provisions in chapters 3.3, 3.5, 4.1, 4.2, 4.3 and 5.5 information is necessary, this information shall be included in the transport information."

5.4.2 [The amendment to the footnote in the German version does not apply to the English text.]

Chapter 5.5

5.5.3.3.1 Replace "P 650, P 800, P 901 or P 904" by:
"P 650 or P 800".

5.5.4 [The amendment in the French version does not apply to the English text.]

5.5.4.1 [The amendment in the French version does not apply to the English text.]

PART 6

Chapter 6.1

6.1.3.1 In the first sentence, after "marks", insert:
"on a non-removable component".

6.1.4.1.4 Amend the first sentence to read:
"Drums may have rolling hoops, either expanded or separate."

6.1.4.2.3 Amend the first sentence to read:
"Drums may have rolling hoops, either expanded or separate."

6.1.4.3.3 Amend the first sentence to read:
"Drums may have rolling hoops, either expanded or separate."

6.1.4.12 Amend the heading to read:

"6.1.4.12 Fibreboard boxes (including corrugated fibreboard boxes)".

6.1.4.12.1 In the second sentence, replace "ISO 535:1991" by:
"ISO 535:2014".

6.1.5.5.4 [The amendment in the French version does not apply to the English text.]

Chapter 6.2

6.2.1.6.1 In Note 2, replace "ISO 16148:2016" by:
"ISO 16148:2016 + Amd 1:2020".

In Note 3, in the first sentence, after "ISO 18119:2018", insert:
"+ Amd 1:2021".

6.2.2.1.1 In the table, amend the following:

- In the row for "ISO 9809-4:2014", replace "Until further notice" by:
"Until 31 December 2028".

- After the row for "ISO 9809-4:2014", insert the following new row:

Reference	Title	Applicable for manufacture
ISO 9809-4:2021	Gas cylinders – Design, construction and testing of refillable seamless steel gas cylinders and tubes – Part 4: Stainless steel cylinders with an Rm value of less than 1 100 MPa NOTE: Small quantities are a batch of cylinders not exceeding 200.	Until further notice

- In the row for "ISO 11119-1:2012", replace "Until further notice" by:
"Until 31 December 2028".

- After the row for "ISO 11119-1:2012", insert the following new row:

Reference	Title	Applicable for manufacture
ISO 11119-1:2020	Gas cylinders – Design, construction and testing of refillable composite gas cylinders and tubes – Part 1: Hoop wrapped fibre reinforced composite gas cylinders and tubes up to 450 l	Until further notice

- In the row for "ISO 11119-2:2012 + Amd 1:2014", replace "Until further notice" by:
"Until 31 December 2028".

- After the row for "ISO 11119-2:2012 + Amd 1:2014", insert the following new row:

Reference	Title	Applicable for manufacture
ISO 11119-2:2020	Gas cylinders – Design, construction and testing of refillable composite gas cylinders and tubes – Part 2: Fully wrapped fibre reinforced composite gas cylinders and tubes up to 450 l with load-sharing metal liners	Until further notice

- In the row for "ISO 11119-3:2013", replace "Until further notice" by:
"Until 31 December 2028".

- After the row for "ISO 11119-3:2013", insert the following new row:
"

Reference	Title	Applicable for manufacture
ISO 11119-3:2020	Gas cylinders – Design, construction and testing of refillable composite gas cylinders and tubes – Part 3: Fully wrapped fibre reinforced composite gas cylinders and tubes up to 450 l with non-load-sharing metallic or non-metallic liners or without liners	Until further notice

6.2.2.1.2

In the table, amend the following:

- In the row for "ISO 11119-1:2012", replace "Until further notice" by:
"Until 31 December 2028".

- After the row for "ISO 11119-1:2012", insert the following new row:
"

Reference	Title	Applicable for manufacture
ISO 11119-1:2020	Gas cylinders – Design, construction and testing of refillable composite gas cylinders and tubes – Part 1: Hoop wrapped fibre reinforced composite gas cylinders and tubes up to 450 l	Until further notice

- In the row for "ISO 11119-2:2012 + Amd 1:2014", replace "Until further notice" by:

"Until 31 December 2028".

- After the row for "ISO 11119-2:2012 + Amd 1:2014", insert the following new row:
"

Reference	Title	Applicable for manufacture
ISO 11119-2:2020	Gas cylinders – Design, construction and testing of refillable composite gas cylinders and tubes – Part 2: Fully wrapped fibre reinforced composite gas cylinders and tubes up to 450 l with load-sharing metal liners	Until further notice

- In the row for "ISO 11119-3:2013", replace "Until further notice" by:

"Until 31 December 2028".

- After the row for "ISO 11119-3:2013", insert the following new row:

Reference	Title	Applicable for manufacture
ISO 11119-3:2020	Gas cylinders – Design, construction and testing of refillable composite gas cylinders and tubes – Part 3: Fully wrapped fibre reinforced composite gas cylinders and tubes up to 450 l with non-load-sharing metallic or non-metallic liners or without liners	Until further notice

6.2.2.2

In the table, amend the following:

- In the first row after the table heading, replace "ISO 11114-1:2012 + A1:2017" by:

"ISO 11114-1:2020".

- [The amendment to the title of standard "ISO 11114-1:2020" in the German version does not apply to the English text.]

- In the second row after the table heading, replace "ISO 11114-2:2013" by:

"ISO 11114-2:2021".

- [The amendment to the title of standard "ISO 11114-2:2021" in the French and German versions does not apply to the English text.]

6.2.2.3

In the first table, amend the following:

- Replace "ISO 10297:2014 + A1:2017" by:

"ISO 10297:2014 + Amd 1:2017".

- Replace "ISO 14246:2014 + A1:2017" by:

"ISO 14246:2014 + Amd 1:2017".

- At the end, add the following new row:

Reference	Title	Applicable for manufacture
ISO 23826:2021	Gas cylinders – Ball valves – Specification and testing	Until further notice

6.2.2.4

In the first table, amend the following:

- In the row for "ISO 18119:2018", replace "Until further notice" by:

"Until 31 December 2026".

- After the row for "ISO 18119:2018", insert the following new row:

Reference	Title	Applicable
ISO 18119:2018 + Amd 1:2021	Gas cylinders – Seamless steel and seamless aluminium-alloy gas cylinders and tubes – Periodic inspection and testing	Until further notice

- Replace "ISO 10461:2005 + A1:2006" by:

"ISO 10461:2005 + Amd 1:2006".

- 6.2.2.7.4** In paragraph (p), replace "(see ISO 11114-1:2012 + A1:2017)" by:

"(see ISO 11114-1:2020)".

- 6.2.2.9.2** In paragraph (j), replace "(see ISO 11114-1:2012 + A1:2017)" by:

"(see ISO 11114-1:2020)".

- 6.2.4.1** In the table, under "**for design and construction of pressure receptacles or pressure receptacle shells**", amend the following:

- In the row for "EN 1964-3:2000", in column (4), replace "Until further notice" by:

"Until 31 December 2026".

- After the row for "EN ISO 9809-3:2019", insert the following new row:

(1)	(2)	(3)	(4)	(5)
EN ISO 9809-4:2022	Gas cylinders – Design, construction and testing of refillable seamless steel gas cylinders and tubes – Part 4: Stainless steel cylinders with an Rm value of less than 1 100 MPa NOTE: Small quantities are a batch of cylinders not exceeding 200.	6.2.3.1 and 6.2.3.4	Until further notice	

- In the row for "EN 13322-1:2003 + A1:2006", in column (4), replace "Until further notice" by:

"Between 1 January 2007 and 31 December 2026".

- After the row for standard "EN 13322-1:2003 + A1:2006", insert the following new row:

(1)	(2)	(3)	(4)	(5)
EN 13322-1:2024	Transportable gas cylinders – Refillable welded steel gas cylinders – Design and construction – Part 1: Welded steel	6.2.3.1 and 6.2.3.4	Until further notice	

- In the row for "EN 13110:2012", in column (4), replace "Until further notice" by:

"Between 1 January 2013 and 31 December 2026".

- After the row for "EN 13110:2012", insert the following new row:

(1)	(2)	(3)	(4)	(5)
EN 13110:2022	LPG equipment and accessories – Transportable refillable welded aluminium cylinders for liquefied petroleum gas (LPG) – Design and construction	6.2.3.1 and 6.2.3.4	Until further notice	

In the table, under "**for design and construction of closures**", amend the following:

- In the row for "EN ISO 10297:2014 + A1:2017", in column (4), replace "Until further notice" by:

"Between 1 January 2019 and 31 December 2026".

- After the row for "EN ISO 10297:2014 +A1:2017", insert the following new row:

(1)	(2)	(3)	(4)	(5)
EN ISO 10297:2024	Gas cylinders – Cylinder valves – Specification and type testing	6.2.3.1 and 6.2.3.3	Until further notice	

- At the end, insert the following new row:

(1)	(2)	(3)	(4)	(5)
EN 13799:2022	LPG equipment and accessories – Contents gauges for Liquefied Petroleum Gas (LPG) pressure vessels	6.2.3.1 and 6.2.3.3	Until further notice	

6.2.4.2

In the table, amend the following:

- In the row for "EN ISO 11623:2015", in column (3), replace "Until further notice" by:

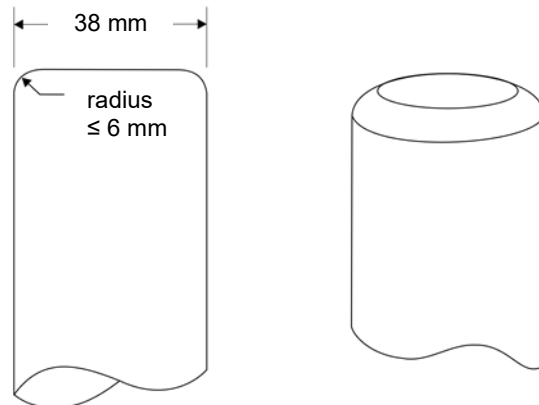
"Until 31 December 2026".

- After the row for "EN ISO 11623:2015", insert the following new row:

(1)	(2)	(3)
EN ISO 11623:2023	Gas cylinders – Composite cylinders and tubes – Periodic inspection and testing	Until further notice

Chapter 6.3

6.3.5.4.2 Amend Figure 6.3.5.4.2 to read:



Chapter 6.4

6.4.15.5 In paragraph (a), at the end, delete:

"and".

Chapter 6.5

6.5.5.1.7 [The amendment in the French version does not apply to the English text.]

6.5.5.4.16 In the second sentence, replace "(see 535:1991)" by:

"(see ISO 535:2014)".

6.5.5.5.3 In the second sentence, replace "(see 535:1991)" by:

"(see ISO 535:2014)".

6.5.6.8.4.2 [The amendment in the French version does not apply to the English text.]

Chapter 6.6

6.6.4.4.1 In the second sentence, replace "see 535:1991" by:

"see ISO 535:2014".

6.6.5.3.2.4 In paragraph (a), replace "Metal and rigid plastics" by:

"All types of large packagings other than flexible".

Chapter 6.7

6.7.2.1 In the definition of "*Portable tank*", in the last sentence, after "non-metallic tanks", insert:

"(except FRP portable tanks, see Chapter 6.9)".

6.7.4.15.1 In paragraph (i) (iv), replace "Degree of filling" by:

"Maximum allowable mass of gas filled".

In figure 6.7.4.15.1, under "**HOLDING TIMES**", in the last column, replace "Degree of filling" by:

"Maximum allowable mass of gas filled".

6.7.5.2.4 In paragraph (a), replace "(see ISO 11114-1:2012 + A1:2017 and ISO 11114-2:2013)" by:

"(see ISO 11114-1:2020 and ISO 11114-2:2021)".

Chapter 6.8

6.8.2.1.17 At the end of the definition for "P_C", add:

"or in the table of 4.3.3.1.1".

6.8.2.1.23 After the first sub-paragraph, insert the following Note:

NOTE: When 6.8.5 is applicable, the impact-strength tests carried out for the qualifications of the welding processes shall comply with the requirements of 6.8.5.3."

6.8.2.2.11 Amend to read:

"6.8.2.2.11 Level-gauges shall neither be part of, nor fitted to shells, if they incorporate transparent material which can, at any time, come into direct contact with the substance carried in the shell."

6.8.2.3.2 In the Note, replace "Annex B of EN 12972:2018" by:

"Annex B of EN 12972:2018 + A1:2024.

6.8.2.5.1 In the last sentence, amend the following:

– After "maximum working pressure" delete:

"allowed".

– At the end, insert:

"(for Class 2, see 6.8.3.5)".

6.8.2.5.2 Replace "plates" by:

"panels" (once in each column).

6.8.2.6.1 In the table, under "**For design and construction of tanks**", amend the following:

- In the row for EN 14025:2018 + AC:2020, in column (4), replace "Until further notice" by:

"Between 1 January 2021 and 31 December 2026".

- After the row for "EN 14025:2018 + AC:2020", insert the following new row:

(1)	(2)	(3)	(4)	(5)
EN 14025:2023	Tanks for the transport of dangerous goods – Metallic pressure tanks – Design and construction NOTE: Materials of shells shall at least be attested by a type 3.1 certificate issued in accordance with standard EN 10204.	6.8.2.1 and 6.8.3.1	Until further notice	

- Delete the row for "EN 12972:2018".

In the table, under "**For equipment**", amend the following:

- In the row for "EN 14432:2014", in column (3), replace "6.8.2.3.2" by:

"6.8.2.3.1".

- In the row for "EN 14432:2014", in column (4), replace "Until further notice" by:

"Between 1 January 2019 and 31 December 2026".

- After the row for "EN 14432:2014", insert the following new row:

(1)	(2)	(3)	(4)	(5)
EN 14432:2023	Tanks for the transport of dangerous goods – Tank equipment for the transport of liquid chemicals and liquefied gases – Product discharge and air inlet valves NOTE: This standard may also be used for gravity discharge tanks.	6.8.2.2.1, 6.8.2.2.2 and 6.8.2.3.1	Until further notice	

- In the row for "EN 14433:2014", in column (3), replace "6.8.2.3.2" by:

"6.8.2.3.1".

- In the row for "EN 14433:2014", in column (4), replace "Until further notice" by:

"Between 1 January 2019 and 31 December 2026".

- After the row for "EN 14433:2014", insert the following new row:

(1)	(2)	(3)	(4)	(5)
EN 14433:2023	Tanks for the transport of dangerous goods – Tank equipment for the transport of liquid chemicals and liquefied gases – Foot valves NOTE: This standard may also be used for gravity discharge tanks.	6.8.2.2.1, 6.8.2.2.2 and 6.8.2.3.1	Until further notice	

- At the end, add the following row:

(1)	(2)	(3)	(4)	(5)
EN 13799:2022	LPG equipment and accessories – Contents gauges for Liquefied Petroleum Gas (LPG) pressure vessels	6.8.2.2.1 and 6.8.2.2.11	Until further notice	

6.8.2.6.2 In the table, amend the following:

- In the row for "EN 12972:2018", in column (3), after "6.8.2.1.23", insert:

"6.8.2.3,".

- In the row for "EN 12972:2018", in column (4), replace "Until further notice" by:

"Until 31 December 2026".

- After the row for "EN 12972:2018", insert the following new row:

(1)	(2)	(3)	(4)	(5)
EN 12972:2018 + A1:2024	Tanks for transport of dangerous goods – Testing, inspection and marking of metallic tanks	6.8.2.1.23, 6.8.2.3, 6.8.2.4 and 6.8.3.4	Until further notice	

6.8.3.2.9.4 Amend the first sentence to read:

"Each safety valve inlet shall be situated on top of the shell as close as practicable to the top generating line."

6.8.3.5.4 In the first indent, after "maximum working pressure", delete:

"allowed".

6.8.3.5.6 Replace "plates" by:

"panels" (once in each column).

6.8.4 (b)

TE 16 Amend to read:

"TE 16 (Deleted)".

6.8.4 (d)

TT 8 Amend the last sub-paragraph to read:

"Such magnetic particle inspections shall be performed in accordance with EN 12972:2018 + A1:2024."

Chapter 6.9

6.9.2.6.4.2 [The amendment in the French version does not apply to the English text.]

Chapter 6.11

6.11.4.1 [The amendment to the first sub-paragraph in the French version does not apply to the English text.]

Amend footnote 3 to read:

"³ Third edition of IRS (International Railway Solution) applicable as from 1 December 2023."

PART 7

Chapter 7.1

7.1.3 Amend footnote 2 to read:

"² Third edition of IRS (International Railway Solution) applicable as from 1 December 2023."

Chapter 7.2

7.2.4

W 14 After "Aerosols", insert:

"and gas cartridges".

Chapter 7.3

7.3.1.1 Amend the sub-paragraph before the note to read:

"Nevertheless, empty packagings, uncleaned, may be carried in bulk if the dangerous goods they have contained are allowed for this mode of carriage. The instructions for carriage in bulk mentioned in columns (10) or (17) of Table A of Chapter 3.2 for these goods shall be applied."

7.3.3.2.6 [The amendments to additional provision AP 8 in the German and French version do not apply to the English text.]

7.3.3.2.7 Add the following new additional provisions **AP 11** and **AP 12**:

"AP 11 In accordance with VC 3 in 7.3.3.1, for the purpose of carriage in bulk of molten aluminium, "standards specified by the competent authority of the country of origin" means that the following requirements shall be met.

1. General requirements

1.1 *Vat* means a containment intended for the carriage of molten aluminium of UN No. 3257, including its shell, refractory lining and service and structural equipment.

1.2 Vats shall be insulated so as not to exceed a surface temperature of 130 °C during carriage and shall be so positioned that the means of containment cannot be touched by other persons under normal conditions of carriage. The surface temperature shall in no case have a detrimental effect on the functioning of the wagon.

1.3 The vats shall be secured on the wagon in accordance with the load securing principles of 7.5.7.1.

1.4 Vats need not be affixed with placards and markings in accordance with Chapter 5.3 if these placards and markings have been affixed to the wagon.

2. Fire and explosion protection

The risk of fire by the thermal influence of the molten aluminium on the vat, the wagon or load securing aids, and the risk of explosion resulting from escaping vapours or chemical reaction of gases that have evolved, shall be prevented (e.g. by using inert gases).

3. Construction of vats

Vats shall be made of steel. Vats shall be designed and manufactured for a test pressure of 4 bar in accordance with EN 13445-3:2014. In the course of construction, the manufacturer shall specify the weld seams that are subject to the highest stresses. The hydrostatic pressure and surge effect of the molten aluminium shall be taken into account when deciding the dimensions of the vats and their attachment to the wagon. The forces in 6.8.2.1.2 shall be taken into account.

The vat closures shall be designed in accordance with EN 13445-3:2014 and shall remain leakproof if a vat with contents (lateral position and top of the vat) overturns.

The filling and discharge openings shall be protected by the construction of the vat, e.g. by collars, deflectors, cages or equivalent constructions.

The protective device on the top of the vat shall be designed so as to withstand, without permanent deformation, a static load, applied vertically on the filling cover, equal to twice the maximum permissible mass of the vat (2g).

The refractory lining shall be suitable to withstand the contents and it shall be suitable as insulation material.

The refractory lining shall be so designed that its leakproofness remains intact, whatever the deformation liable to occur in normal conditions of carriage (see 6.8.2.1.2).

The inspection body performing inspections in accordance with 6.8.2.4.1 or 6.8.2.4.4, shall verify and confirm the ability of the manufacturer or the maintenance or repair shop to perform welding operations and the operation of a weld quality assurance system. Welding work on the sheet metal jacket, in particular on load-bearing parts, may only be carried out by approved welding companies.

Seals on vat covers and closures shall be selected and applied so that they prevent molten aluminium from flowing out if a full vat overturns.

4. Inspection and tests of vats

The inspections and tests described in 4.1 to 4.5 shall be carried out by an inspection body approved by the competent authority. The inspections and tests shall be carried out in accordance with the applicable requirements of EN 12972:2018 + A1:2024. Test reports on the results of the tests performed shall be issued.

4.1 Type examination of vats

The construction design and workmanship shall be tested as part of a type examination procedure to ensure that the vats comply with the construction requirements of EN 13445-3:2014. The weld seams subject to the highest stresses shall be identified in the type examination report.

4.2 Initial inspection

Vats shall be tested and inspected before they are placed in service.

The test shall at least include:

- (a) A check to ensure that the vat is in line with the type examination documents;
- (b) A check of conformity to the type;
- (c) An examination of the external condition;
- (d) A hydraulic pressure test at a test pressure of 4 bar; at this stage, the vats shall not have a refractory lining;
- (e) An examination of the internal condition (visual inspection of the internal metal surface of the vat before the refractory lining is fitted and visual inspection of the refractory lining);
- (f) A check of satisfactory operation of the equipment.

The hydraulic pressure test can also be carried out with an alternative seal.

4.3 Intermediate inspection

Vats shall undergo an intermediate inspection no later than six years after the initial inspection and each periodic inspection.

The intermediate inspection shall at least include:

- (a) An examination of the documents;
- (b) An examination of the external condition, including the integrity of the flange and cover connections;
- (c) Measurement of the wall thickness to check the required minimum wall thickness;
- (d) Non-destructive testing of weld seams that are subject to the highest stresses by magnetic particle testing, penetration testing, ultrasonic testing or radiographic testing;
- (e) An examination of the internal condition (visual inspection of the refractory lining) by an expert under the responsibility of the operator;
- (f) A check of satisfactory operation of the equipment.

These intermediate inspections may be performed within three months before the specified date, without any influence on the time frame of other inspections according to 4.3 and 4.4.

4.4 Periodic inspection

Each time the refractory lining is renewed, or no later than twelve years after the initial or most recent periodic inspection, a periodic inspection shall be carried out.

The periodic inspection shall at least include:

- (a) An examination of the documents;
- (b) An examination of the external condition, including the integrity of the flange and cover connections;
- (c) An examination of the internal condition (visual inspection of the internal metal surface of the vat before the refractory lining is fitted and visual inspection of the refractory lining);
- (d) Non-destructive testing of all weld seams that are subject to the highest stresses shall be carried out by magnetic particle testing, penetration testing, ultrasonic testing or radiographic testing;
- (e) Measurement of the wall thickness to check the required minimum wall thickness;
- (f) Hydraulic pressure test at a test pressure of 4 bar, at this stage, the vats shall not have a refractory lining;
- (g) A check of satisfactory operation of the equipment.

The hydraulic pressure test can also be carried out with an alternative seal.

4.5 Exceptional inspection of vats

When the safety of the vat or of its equipment may have been impaired as a result of repairs, alterations or accident, an exceptional inspection shall be carried out on the parts affected by the repairs or alterations. If the exceptional inspection fulfilling the requirements of 4.4 has been performed, then the exceptional inspection may be considered to be a periodic inspection. If an exceptional inspection fulfilling the requirements of 4.3 has been performed, then the exceptional inspection may be considered to be an intermediate inspection. The inspection body shall decide the detailed scope of the exceptional inspection, taking into account EN 12972:2018 + A1:2024, Table A1.

5. Marking of vats

Vats shall be marked with a plate by analogy with 6.8.2.5.1, except the approval number and external design pressure. For the tests and inspections in accordance with 4.2 and 4.4, the marking shall be followed by "P". For the tests and inspections in accordance with 4.3, the marking shall be followed by "L".

6. Requirements for operation

The owner or the operator shall keep a copy of the type examination report, the results of the initial tests and inspections and all subsequent tests and inspections in the vat file.

Every renewal and repair of the refractory lining shall be recorded by the operator or manufacturer.

Seals shall be checked with each filling and renewed if necessary.

Vats shall be positioned on the wagons in such a way that the discharge openings face or are opposite to the direction of travel.

AP 12

The waste may be carried in bulk provided that it is contained in a bag of the size of the load compartment, referred to as a "container-bag".

The container-bag is intended to be loaded only when placed inside a bulk load compartment with rigid walls. It is not intended for handling or to be used alone outside of this compartment.

For the purposes of this provision, container-bags shall have at least two components.

The inner component shall be dust-tight to prevent the release of dangerous quantities of asbestos fibres during carriage. The inner component shall be a polyethylene or polypropylene film.

The outer component shall be polypropylene and shall be fitted with a zipper system. It shall ensure the mechanical resistance of a container-bag loaded with waste to the shocks and stresses in normal conditions of carriage, in particular

when a load compartment loaded with container-bags is transferred between wagons and storage facilities.

Container-bags shall:

- (a) Be designed to resist perforation or tearing by contaminated waste or objects due to their angles or roughness;
- (b) Have a zipper system that is sufficiently tight to prevent the release of dangerous quantities of asbestos fibres during carriage. Laced or flapped fasteners are not authorized.

The load compartment shall have rigid metal walls of sufficient strength for its intended use. The walls shall be sufficiently high to completely contain the container-bag. Provided the container-bag offers similar protection, the sheeting of the wagon can be omitted when using the VC 1 provision.

Objects contaminated with free asbestos from damaged structures or buildings, as well as construction site waste contaminated with free asbestos from demolished or rehabilitated structures or buildings as mentioned in special provision 678 (b) (iii), (iv) and (v), shall be carried in a container-bag placed inside a second container-bag of the same type. The total mass of the contained waste shall not exceed 7 tonnes.

In all cases, the maximum mass of the waste shall not exceed the capacity specified by the container-bag manufacturer."

Chapter 7.5

7.5.11

CW 14

Amend to read:

"CW 14

Goods shall be shielded from direct sunlight and heat during carriage.

Packages shall be stored only in cool, well-ventilated places away from heat sources."

Insert the following new special provision **CW 38**:

"CW 38

The load compartments shall have no sharp internal edges (internal steps, etc.) capable of tearing container-bags during unloading. They shall be inspected before any loading operation.

The container-bags shall be placed in the load compartments for carriage prior to any filling. The outer component of the container-bags shall be positioned so that the slider of the zipper is placed on the front side of the load compartment when closed. After filling, the container-bags shall be closed in accordance with the manufacturer's instructions.

Once loaded, the container-bags shall not be lifted or transferred from one load compartment to another. Multiple filled container-bags shall not be loaded into the same load compartment.

After any filling operation and after closing, the outer surfaces of the container-bags shall be decontaminated.

Container-bags carried in removable load compartments shall be unloaded with the latter placed on the ground.

The unloading of container-bags filled with roadworks waste or with soil contaminated with free asbestos by tipping the load compartment is authorized, provided that an unloading protocol agreed jointly between the carrier and the consignee is respected to prevent the container-bags from tearing during unloading. The protocol shall ensure that the container-bags do not fall or tear during the unloading operation."

Unofficial Part of RID

[The amendments in the French version do not apply to the English text.]
