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Item 4 of the provisional agenda

Harmonization with the United Nations Recommendations on the Transport of Dangerous Goods

Report of the Ad Hoc Working Group on the Harmonization of RID/ADR/ADN with the United Nations Recommendations on the Transport of Dangerous Goods

Note by the secretariat* **

Addendum

Draft amendments to RID/ADR/ADN proposed by the Ad Hoc Working Group

* A/77/6 (Sect. 20), table 20.6.

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Chapter 1.1

1.1.3.6.3 In the table:

For transport category 2, in the second column, for Class 9, add “3551, 3552”;

For transport category 3, in the second column, for Class 8, add “3554”;

For transport category 4, in the second column, for Class 9, add “3559”.

Chapter 1.2

1.2.1 Amend the definition of “*Recycled plastics material*” to read as follows:

“*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”.

In the definition of “*Globally Harmonized System of Classification and Labelling of Chemicals*”, replace “ninth” by “tenth” and replace “(ST/SG/AC.10/30/Rev.9)” by “(ST/SG/AC.10/30/Rev.10)”.

In the definition of “*Manual of Tests and Criteria*”, replace “seventh” by “eighth” and “(ST/SG/AC.10/11/Rev.7 and Amend.1)” by “(ST/SG/AC.10/11/Rev.8)”.

In the definition of “*UN Model Regulations*”, replace “twenty-second” by “twenty-third” and replace “(ST/SG/AC.10/1/Rev.22)” by “(ST/SG/AC.10/1/Rev.23)”.

[In the definition of “*Filling ratio*”, replace “a pressure receptacle” by “the means of containment”.]

1.2.1 Add a new definition in proper alphabetical order to read as follows:

“*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 entry for “Electrical resistance”, in the last column, replace “ $1 \text{ kg} \cdot \text{m}^2 / \text{s}^3 / \text{A}^2$ ” by “ $1 \text{ kg} \cdot \text{m}^2 \cdot \text{s}^{-3} \cdot \text{A}^{-2}$ ”.

Chapter 1.4

1.4.3.3 In sub-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

- 1.6.1.43 Replace “2.2.9.1.7” by “2.2.9.1.7.1”.
- 1.6.1 Add the following new transitional measures:
- “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/ADR/ADN 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/ADR/ADN 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.”
- 1.6.2.17 Delete and replace by “1.6.2.17 (*Deleted*)”.
- 1.6.2 Add the following new transitional measures:
- “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.litre (152 bar.litre), 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 Add the following new transitional measure:
- [“1.6.3.62 Notwithstanding the information in Column (12) of Table A of Chapter 3.2 applicable from 1 January 2025, tank-wagons/fixed tanks (tank vehicles) and demountable tanks of tank code L4BN, which were used before 1 January 2025 for the carriage of UN No. 1835 may continue to be used for the carriage of UN Nos. 1835 and 3560 until 31 December 2026.”]
- [“1.6.3.63 Notwithstanding the information in Column (12) of Table A of Chapter 3.2 applicable from 1 January 2025, tank-wagons/fixed tanks (tank vehicles) and demountable tanks of tank codes SGAN or L4BN may continue to be used for the carriage of UN No. 3423 until 31 December 2026.”]
- 1.6.4 Add the following new transitional measure:
- [“1.6.4.66 Notwithstanding the information in Column (12) of Table A of Chapter 3.2 applicable from 1 January 2025, tank-containers of tank code L4BN, which were used before 1 January 2025 for the carriage of substances of UN No. 1835 may continue to be used for the carriage of UN Nos. 1835 and 3560 until 31 December 2026.”]
- [“1.6.4.67 Notwithstanding the information in Column (12) of Table A of Chapter 3.2 applicable from 1 January 2025, tank-containers of tank codes SGAN or L4BN may continue to be used for the carriage of UN No. 3423 until 31 December 2026.”]

Chapter 1.8

- 1.8.3.11 In sub-paragraph (b), 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)”.

Chapter 2.1

- 2.1.5.2 Amend to read as follows:

“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, sub-section 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 (a), 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 a new paragraph to read as follows:

“*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.”

- 2.2.1.4 Add the following new entry:

“*FIRE SUPPRESSANT DISPERSING DEVICES*”

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.”

- 2.2.2.3 Under classification code 2F, 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 “F3”, delete the entry for “3269 POLYESTER RESIN KIT, liquid base material”. For “F1”, before “3065 ALCOHOLIC BEVERAGES”, add an entry for “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 Add a new paragraph at the end to read as follows:
“*Metal powders* are powders of metals or metal alloys.”
- 2.2.41.1.5 (a) Replace “metals powders or powders of metal-alloys” by “metal powders”.
- 2.2.41.1.5 (b) Replace “Metals powders or powders of metal-alloys” by “Metal powders”.
- 2.2.41.1.8 (b) Replace “Metals powders or powders of metal-alloys” by “Metal powders”.
- 2.2.41.3 For “F4”, delete the entry for “3527 POLYESTER RESIN KIT, solid base material”. For “F1”, before the first entry, add an entry for “3527 POLYESTER RESIN KIT, solid base material”.

- 2.2.42.1.2 Amend the name of subdivision “S” to read “Substances liable to spontaneous combustion, without subsidiary hazard, and articles containing such substances”.

Amend subdivision “SW” to read as follows:

- “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 At the entry of the tree, replace “Substances liable to spontaneous combustion” by “Substances liable to spontaneous combustion and articles containing such substances”.

- 2.2.42.3 Amend the branch for “Water-reactive SW” to read as follows:

| | | | |
|-------------------|------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Water-reactive SW | substances | SW1 | 3393 ORGANOMETALLIC SUBSTANCE, SOLID, PYROPHORIC, WATER-REACTIVE 3394 ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE |
| | 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 At the entry of the tree, 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”.

- 2.2.43.3 For “W3”, for UN No. 3292, replace “SODIUM” by “METALLIC SODIUM OR SODIUM ALLOY” (twice).

- 2.2.52.4 In the table, for “ISOPROPYL sec-BUTYL PEROXYDICARBONATE+DI-sec-BUTYL PEROXYDICARBONATE+DI-ISOPROPYL PEROXYDICARBONATE”, in column “Concentration”, replace “ $\leq 32 + \leq 15 - 18 \leq 12 - 15$ ” by “ $\leq 32 + \leq 15 - 18 + \leq 12 - 15$ ”.

In the table, for “DI-2,4-DICHLOROBENZOYL PEROXIDE”, concentration “ ≤ 52 as a paste with silicon oil”, in column “Packing Method”, replace “OP7” by “OP5” and in column “Number (Generic entry)”, replace “3106” by “3104”.

In the table, add the following new entries:

| | | | | | | | | | |
|-----------------------------------------------|----------------|-----------|--|-----------|-----------|-----|--|--------|------------|
| DIBENZOYL PEROXIDE | ≤ 42 | ≥ 38 | | | ≥ 13 | OP8 | | 3109 | |
| 2,5-DIMETHYL-2,5-DI-(tert-BUTYLPEROXY) HEXANE | ≤ 22 | | | ≥ 78 | | | | Exempt | 29) |
| METHYL ETHYL KETONE PEROXIDE(S) | See remark 33) | ≥ 41 | | | ≥ 9 | OP8 | | 3105 | 33) 34) |

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 “Toxic substances without subsidiary hazard and articles containing such substances”.

Amend the name of subdivision “TF” to read “Toxic substances, flammable, and articles containing such substances”. Under “TF”, add the following new subdivision: “TF4 Articles”.

Amend the name of subdivision “TC” to read “Toxic substances, corrosive, and articles containing such substances”. Under “TC”, add the following new subdivision: “TC5 Articles”.

2.2.61.3 Amend the titles before the trees to read:

“Toxic substances without subsidiary hazard(s), and articles containing such substances”

“Toxic substances with subsidiary hazard(s), and articles containing such substances”

For “TF3”, delete the entry for “1700 TEAR GAS CANDLES”.

For “TF”, after the branch for “TF3”, add the following new branch:

| | | | |
|--|----------|-----|-----------------------|
| | articles | TF4 | 1700 TEAR GAS CANDLES |
|--|----------|-----|-----------------------|

For “TC”, after the branch for “TC4”, add 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)”.

2.2.7.1.3 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/ADR/ADN.*

2.2.9.1.2 For code M4, after “Lithium batteries” add “and sodium ion batteries”.

2.2.9.1.3 Place this paragraph number before the heading “*Definitions and classification*”.

2.2.9.1.4 Place this paragraph number before the heading “*Substances which, on inhalation as fine dust, may endanger health*”.

2.2.9.1.5 Place this paragraph number before the heading “*Substances and articles which, in the event of fire, may form dioxins*”.

2.2.9.1.6 Place this paragraph number before the heading “*Substances evolving flammable vapour*”.

2.2.9.1.7 Before 2.2.9.1.7, replace “*Lithium batteries*” by the following heading:

“2.2.9.1.7 *Lithium batteries and sodium ion batteries*”

Re-number 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 (as renumbered) In sub-paragraph (g), at the end, add a new note to read as follows:

NOTE: *The term "make available" means that manufacturers and subsequent distributors ensure that the test summary [for lithium cells or batteries or equipment with installed lithium cells or batteries] is accessible so that the consignor or other persons in the supply chain can confirm compliance.*

Add a new 2.2.9.1.7.2 to read as follows:

“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 program 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/ADR/ADN if they meet the requirements of special provisions 188 or 400 of Chapter 3.3.”

2.2.9.1.8 Place this paragraph number before the heading “Life-saving appliances”.

2.2.9.1.9 Place this paragraph number before the heading “Environmentally hazardous substances”.

2.2.9.1.10 Replace the current heading before 2.2.9.1.10 and the heading numbered 2.2.9.1.10 by:

“2.2.9.1.10 Pollutants to the aquatic environment: Environmentally hazardous substances (aquatic environment)”

2.2.9.1.11 Place this paragraph number before the heading “Genetically modified microorganisms or organisms”.

2.2.9.1.11 Add the following new note 3 and renumber current notes 3 and 4 as notes 4 and 5:

NOTE 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/ADR/ADN.”*

- 2.2.9.1.13 Place this paragraph number before the heading “Elevated temperature substances”.
- 2.2.9.1.14 Place this paragraph number before the heading “Other substances and articles presenting a danger during carriage but not meeting the definitions of another class”.
- In the introductory sentence, after “miscellaneous substances” add “and articles”.
- 2.2.9.1.15 Place this paragraph number before the heading “Assignment of the packing groups”.
- 2.2.9.3 In the list of entries, for code “M4”, amend the branch header “Lithium batteries” to read “Lithium batteries and sodium ion batteries” and 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”.
- In the list of entries, for code “M5”, add the following new entry:
- “3559 FIRE SUPPRESSANT DISPERSING DEVICES”
- In the list of entries, for code “M11”, add the following new entries:
- “3556 VEHICLE, LITHIUM ION BATTERY POWERED
- 3557 VEHICLE, LITHIUM METAL BATTERY POWERED
- 3558 VEHICLE, SODIUM ION BATTERY POWERED”.

Chapter 3.1

- 3.1.2.2 In the first sentence, delete “and” or”.

Chapter 3.2

- 3.2.1 In the descriptive text for column (4), in the second 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).”.
- In the descriptive text for column (12), in the fourth paragraph after the title, replace “maximum degree of filling” by “maximum degree of filling or filling ratio, as appropriate”.

Chapter 3.2, Table A

For UN No. 0331, in column (11), delete “TP1”.

For UN Nos. 1006, 1046 and 1066, in column (6), replace “653” by “406”.

For UN No. 1010, in column (2), replace “40 %” by “20 %” and in column (6), add “402”.

For UN No. 1013, in column (6), delete “653” and after “392”, insert “406”.

For UN Nos. 1204, 1310, 1320, 1321, 1322, 1336, 1337, 1344, 1347, 1348, 1349, 1354, 1355, 1356, 1357, 1517, 1571, 2059 (all entries), 2555, 2556, 2852, 2907, 3064, 3317, 3319, 3343, 3344, 3357, 3364, 3365, 3366, 3367, 3368, 3369, 3370 and 3376, in column (6), add “28”.

For UN Nos. 1391 and 3482, in column (10), add “T13” and in column (11), add “TP2 TP7 TP42”. [In column (12), replace “L10BN(+)” by “L10DH”.]

For UN No. 1700, in column (3b), replace “TF3” by “TF4”.

For UN No. 1774, in column (3b), replace “C11” by “C9”.

For UN No. 1835, packing group II:

In column (2), replace “SOLUTION” by “AQUEOUS SOLUTION with more than 2.5 % but less than 25 % tetramethylammonium hydroxide”;

In column (3b), replace “C7” by “CT1”;

In column (5), add “+6.1”;

In column (6) add “279 408”;

[In column (12), replace “L4BN” by “L4DH”];[Alternatively, keep “L4BN”.]

In column (18), add “CW13 CW28”/“CV13 CV28”;

In column (20), replace “80” by “86”;

For UN No. 1835, packing group III, in column (2), replace “SOLUTION” by “AQUEOUS SOLUTION with not more than 2.5 % tetramethylammonium hydroxide” and in column (6) add “408”.

For UN No. 2016, in column (3b), replace “T2” by “T10”.

For UN No. 2017, in column (3b), replace “TC2” by “TC5”.

For UN No. 2028, in column (4), delete “II”.

For UN Nos. 2210, 2870 (first entry), 3393 and 3394, in column (3b), replace “SW” by “SW1”.

For UN No. 2426, in column (6), delete “644”.

For UN No. 2795, in column (6), add “401”.

For UN No. 2803, in column (6), add “365”.

For UN No. 2870 (second entry), in column (3b), replace “SW” by “SW2” and, in column (4), delete “I”.

(RID:) For UN Nos. 2956, 3241, 3242 and 3251, in column (18), insert “CW14”.

(ADR:) For UN Nos. 3101 to 3110, in column (18), insert “CV29”.

For UN No. 3165, in column (4), delete “I”.

For UN No. 3269 (ADR/ADN: two entries / RID: three entries), in column (3b), replace “F3” by “F1”.

For UN No. 3270, in column (6), add “403”.

For UN No. 3292, in column (2), replace “SODIUM” by “METALLIC SODIUM OR SODIUM ALLOY” (twice) and in column (6), add “401”.

(ADR:) For UN No. 3423:

In column (3a), replace “8” by “6.1”;

In column (3b), replace “C8” by “TC2”;

In column (4), replace “II” by “I”;

In column (5), replace “8” by “6.1 + 8”;

In column (6), add “279”;

In column (7a), replace “1 kg” by “0”;

In column (7b), replace “E2” by “E5”;

In column (8), replace “IBC08” by “IBC99”;

In column (9a) delete “B4”;

In column (9b), replace “MP10” by “MP18”;

- In column (10), replace “T3” by “T6”;
- [In column (12), replace “SGAN L4BN” by “S10AH L10CH”];
- [In column (13), insert “TU14 TU15 TE19 TE21”];
- In column (15), replace “2 (E)” by “1 (C/E)”;
- In column (18), add “CV1 CV13 CV28”;
- In column (19), add “S9 S14”;
- In column (20), replace “80” by “668”.

(RID:) For UN No. 3423:

- In column (3a), replace “8” by “6.1”;
- In column (3b), replace “C8” by “TC2”;
- In column (4), replace “II” by “I”;
- In column (5), replace “8” by “6.1 +8”;
- In column (6), add “279”;
- In column (7a), replace “1 kg” by “0”;
- In column (7b), replace “E2” by “E5”;
- In column (8), replace “IBC08” by “IBC99”;
- In column (9a) delete “B4”;
- In column (9b), replace “MP10” by “MP18”;
- In column (10), replace “T3” by “T6”;
- [In column (12), replace “SGAN L4BN” by “S10AH L10CH”];
- [In column (13), insert “TU14 TU15 TU38 TE21 TE22”];
- In column (15), replace “2” by “1”;
- In column (18), add “CW13 CW28 CW31”;
- In column (19), delete “CE10”;
- In column (20), replace “80” by “668”.

For UN No. 3527 (both entries), in column (3b), replace “F4” by “F1”.

For UN Nos. 3537, 3538, 3540, 3541, 3546, 3547 and 3548, in column (6), after “274”, add “310”.

Add the following new entries:

(ADR:)

| (1) | (2) | (3a) | (3b) | (4) | (5) | (6) | (7a) | (7b) | (8) | (9a) | (9b) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) |
|------|---------------------------------------------------------------------------------------------------------------------|------|------|-----|-----|--------------------------------------------------------------------|------|------|--------------------------------------------------------------------------|------|------------------|------|------|------|------|------|----------|------|------|-------------------|------|------|
| 0514 | FIRE SUPPRESSANT DISPERSING DEVICES | 1 | 1.4S | | 1.4 | 407 | 0 | E0 | P135 | | [MP23] [MP24] | | | | | | 4 (E) | | | CV1 CV2 CV3 | S1 | |
| 3551 | SODIUM ION BATTERIES with organic electrolyte | 9 | M4 | | 9A | 188 230 310 348 376 377 400 401 636 | 0 | E0 | P903 P908 P909 P910 P911 LP903 LP904 LP905 LP906 | | | | | | | | 2 (E) | | | | | |
| 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 | 0 | E0 | P903 P908 P909 P910 P911 LP903 LP904 LP905 LP906 | | | | | | | | 2 (E) | | | | | |

| | | | | | | | | | | | | | | | | | | | | | |
|------|------------------------------------------------------------------------------------------------------|-----|-----|-----|---------------------------------|------------|----|------|------|------|-------------|-----------|--------------|---------|--------------------------------|------|------------|---------------------|---------------------|-----------|-----|
| 3553 | DISILANE | 2 | 2F | 2.1 | 632 662 | 0 | E0 | P200 | | MP9 | (M) | [PxBN(M)] | [TA4 TT9] | FL | 2 (B/D) | | | CV9 CV10 CV36 | S2 S20 | 23 | |
| 3554 | GALLIUM CONTAINED IN MANUFACTURED ARTICLES | 8 | C11 | 8 | 366 | 5 kg | E0 | P003 | PP90 | MP10 | | | | | 3 (E) | | | | | | |
| 3555 | TRIFLUOROMETHYLTETRAZOLE-SODIUM SALT IN ACETONE, with not less than 68 % acetone, by mass | 3 | D | II | 3 | 28 | 0 | E0 | P303 | PP26 | MP2 | | | | 2 (B) | | | CV14 CV29 | S2 S14 | | |
| 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 (E) | | | | | | |
| 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 TE19 TE21] | [AT] | 1 (C/E) | | CV1 CV13 CV28 | S9 S14 | 668 |

(RID:)

| (1) | (2) | (3a) | (3b) | (4) | (5) | (6) | (7a) | (7b) | (8) | (9a) | (9b) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | |
|------|---------------------------------------------------------------------------------------------------------------------|------|------|-----|------------|--------------------------------------------------------------------|---------|------|--------------------------------------------------------------------------|------|--------------------------|------|-----------|----------------------------------|----------------------------------------|------|------|------|------|----------------------|----------|------|----|
| 0514 | FIRE SUPPRESSANT DISPERSING DEVICES | 1 | 1.4S | | 1.4 | 407 | 0 | E0 | P135 | | [MP23] [MP23 MP24] | | | | | | 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 | 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 | 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] | FL | 2 | | | | CW9 CW10 CW36 | | 23 | |
| 3554 | GALLIUM CONTAINED IN MANUFACTURED ARTICLES | 8 | C11 | | 8 | 366 | 5 kg | E0 | P003 | PP90 | MP10 | | | | | | 3 | | | | CE 11 | 80 | |
| 3555 | TRIFLUOROMETHYLTETRAZOLE-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 | |
| 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] | [AT] | 1 | | | CW13 CW28 CW31 | | 668 | |

Chapter 3.2, Table B

For “BATTERIES, CONTAINING SODIUM”, in the column for “Name and description”, replace “SODIUM” by “METALLIC SODIUM OR SODIUM ALLOY”.

For “BUTADIENES AND HYDROCARBON MIXTURE, STABILIZED, containing more than 40 % butadienes”, replace “40 %” by “20 %”.

For “CELLS, CONTAINING SODIUM”, in the column for “Name and description”, replace “SODIUM” by “METALLIC SODIUM OR SODIUM ALLOY”.

Amend the entry for “TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION” to read as follows:

| | | |
|---------------------------------------------------|--------------|----------|
| TETRAMETHYLAMMONIUM HYDROXIDE AQUEOUS SOLUTION | 3560 1835 | 6.1 8 |
|---------------------------------------------------|--------------|----------|

For “TETRAMETHYLAMMONIUM HYDROXIDE, SOLID”, in the second column, replace “8” by “6.1”.

Add the following new entries in alphabetical order:

| | | |
|-------------------------------------------------------------------------------------------|--------------|--------|
| Batteries, sodium nickel chloride, see | 3292 | 4.3 |
| DISILANE | 3553 | 2 |
| FIRE SUPPRESSANT DISPERSING DEVICES | 0514 3559 | 1 9 |
| GALLIUM CONTAINED IN MANUFACTURED ARTICLES | 3554 | 8 |
| TRIFLUOROMETHYLTETRAZOLE-SODIUM SALT IN ACETONE, with not less than 68 % acetone, by mass | 3555 | 3 |
| SODIUM ION BATTERIES with organic electrolyte | 3551 | 9 |
| SODIUM ION BATTERIES CONTAINED IN EQUIPMENT, with organic electrolyte | 3552 | 9 |
| SODIUM ION BATTERIES PACKED WITH EQUIPMENT, with organic electrolyte | 3552 | 9 |
| VEHICLE, LITHIUM ION BATTERY POWERED | 3556 | 9 |
| VEHICLE, LITHIUM METAL BATTERY POWERED | 3557 | 9 |
| VEHICLE, SODIUM ION BATTERY POWERED | 3558 | 9 |

Chapter 3.3

SP 188 In (a), after “lithium ion”, insert “or sodium ion”.

In the note under (a), replace “2.2.9.1.7” by “2.2.9.1.7.1”.

In (b), 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 under (b), replace “2.2.9.1.7” by “2.2.9.1.7.1”.

In (c), after “Each”, insert “lithium”, replace “2.2.9.1.7” by “2.2.9.1.7.1” and 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 (f), in the first and last paragraphs, replace “lithium battery mark” by “lithium [battery] or sodium ion battery mark”.
- [In the Note, replace “lithium battery mark” by “lithium battery or sodium ion battery mark”.]
- In the antepenultimate paragraph, 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 as follows:
- “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/ADR/ADN 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, at the end, add “or to fire suppressant dispersing devices described in special provision 407 (UN Nos. 0514 and 3559)”.
- SP 296 In (d), after “lithium [batteries]”, insert “or sodium ion [batteries]”.
- SP 310 Amend the first paragraph to read as follows:
- “310 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 P910 of 4.1.4.1 or LP905 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 P006 of 4.1.4.1 or LP03 of 4.1.4.3, as applicable, are met.”
- In the current second paragraph, replace “Carriage” by “Transport”.
- SP 328 In the last paragraph, replace “lithium metal or lithium ion” by “lithium metal, lithium ion or sodium ion”, replace the “or” before “UN 3481” by a comma and, at the end of the sentence, add “or UN 3552 SODIUM ION BATTERIES CONTAINED IN EQUIPMENT”.

- SP 348 Replace “Batteries” by “Lithium batteries”. After “2011” insert “and sodium ion batteries manufactured after 31 December 2025”.
- SP 360 In the first sentence, replace “lithium metal batteries or lithium ion batteries” by “lithium metal, lithium ion or sodium ion batteries” and 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 (f), 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.”. [Add the following new third 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”, add “or gallium”. Replace “UN 3506” by “UN Nos. 3506 or 3554, as appropriate”.
- SP 366 After “mercury”, add “or gallium”.
- SP 371 In (1) (f), 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 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 paragraph after the note, replace “UN 3480 and UN 3481” by “UN 3480, UN 3481, UN 3551 and UN 3552, as appropriate”.
- SP 377 In the first paragraph, replace “Lithium ion and lithium metal” by “Lithium metal, lithium ion and sodium ion” and after “non-lithium”, insert “or non-sodium ion”.
- In the second 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 paragraph, replace “or” by “, ”SODIUM ION BATTERIES FOR DISPOSAL”,”. At the end of the sentence, add “or ”SODIUM ION BATTERIES FOR RECYCLING”, as appropriate”.
- SP 379 In (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” by “2.2.9.1.7.1”.
- SP 388 Amend paragraph 5 to read as follows:
- “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 paragraph 5, add the following new 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 paragraph 7 (old paragraph 6), combine and amend the last two sentences to read “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.”.

In paragraph 9 (old paragraph 8), 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 vehicles.”. [Add the following new third 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 vehicles.]

In the last paragraph, delete “or equipment” (twice).

SP 389 In the first paragraph, replace “2.2.9.1.7” by “2.2.9.1.7.1”.

SP636 Amend as follows:

In the first paragraph:

Replace “lithium cells and batteries” by “lithium cells and batteries 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” add “and sodium ion cells and batteries”;

In the note under sub-paragraph (b), after “lithium cells and batteries” add “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 as follows:

“644 (Deleted)”

SP 653 Amend to read as follows:

“653 (Deleted)”

SP 666 Add a new sub-paragraph (e):

“(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.”

At the end, add the following new paragraph:

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

SP 667 Amend (a) to read as follows:

“(a) (Deleted)”

In (b), replace “2.2.9.1.7” by “2.2.9.1.7.1 and 2.2.9.1.7.2” and replace “lithium cells or batteries” by “lithium cells or batteries or sodium ion cells or batteries”.

In (b)(ii), replace “the lithium cell or battery” by “the lithium cell or battery or the sodium ion cell or battery”.

- In (c), replace “lithium cells or batteries” by “lithium cells or batteries or sodium ion cells or batteries”.
- SP 669 Replace “UN numbers 3166 or 3171” by “UN Nos. 3166, 3171, 3556, 3557 or 3558 as appropriate”.
- SP 670 Amend as follows:
- In sub-paragraph (a):
- In the first paragraph, after “Lithium cells and batteries” add “and sodium ion cells and batteries” and replace “376 and 2.2.9.1.7” by “376, 2.2.9.1.7.1 and 2.2.9.1.7.2”;
- In (ii), after “other lithium cell or battery” add “or sodium ion cell or battery”;
- In sub-paragraph (b):
- In the first paragraph, after “lithium cells and batteries” add “and sodium ion cells and batteries” and replace “376 and 2.2.9.1.7” by “376, 2.2.9.1.7.1 and 2.2.9.1.7.2”;
- In (ii), after “lithium cells or batteries” add “and sodium ion cells and batteries”;
- In the note under (ii), replace “lithium cells and batteries in the equipment” by “lithium cells and batteries and sodium ion cells and batteries contained in equipment”;
- In (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 the second sentence, after “lithium cells or batteries” add “or sodium ion cells or batteries”.

Add 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/ADR/ADN 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 shall be 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 shall be marked according to 5.2.1.9;
 - (d) Except when cells or batteries are installed in equipment, each package shall be capable of withstanding a 1.2 m drop test in any orientation without damage to cells or batteries contained therein, without shifting of the contents so as to allow battery to battery (or cell to cell) contact and without release of contents;
 - (e) Cells and batteries, when installed in equipment shall be protected from damage. When batteries are installed in equipment, the equipment shall be packed in strong outer packagings constructed of suitable material of adequate strength and design in relation to the packaging’s capacity

- and its intended use unless the battery is afforded equivalent protection by the equipment in which it is contained;
- (f) Each cell, including when it is a component of a battery, shall only contain 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, WET, FILLED WITH ALKALI, electric storage~~]. [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/ADR/ADN 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 of equal 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 of equal 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/ADR/ADN, 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 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 P200 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 shall be 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 shall be packaged in a manner such that when activated, temperatures of the outside of the package shall not exceed 200 °C;
- (d) This entry shall be used only with the approval of the competent authority of the country of manufacture.*

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

Footnote * reads:

“* *If the country of manufacture is not an RID Contracting State / a Contracting Party to ADR / a Contracting Party to ADN, the approval shall be recognized by the competent authority of an RID Contracting State / a Contracting Party to ADR / a Contracting Party to ADN.*”

“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.”

Replace “399-499 (*Reserved*)” by “409-499 (*Reserved*)”.

Chapter 4.1

4.1.1.4 The amendment does not apply to the English version.

4.1.1.10 (a) The amendment does not apply to the English version.

[4.1.3.6.5 Replace “level of filling” by “degree of filling”.]

4.1.4.1, P003 In special packing provision PP90, replace “UN No. 3506” by “UN Nos. 3506 and 3554” and after “mercury”, add “or gallium, as appropriate,”.

4.1.4.1, P006 At the end, add a new (5) to read as follows:

“(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 have 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/Contracting Party to ADR, which may also recognize an approval granted by the competent authority of a country which is not an RID Contracting State/a Contracting Party to ADR, 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 trans-shipment 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.”

4.1.4.1, P200 In (7) (a), renumber the list with bullets as (i) to (v). [In (iv), replace “degree or pressure of filling” by “filling ratio or pressure of filling”.]

In (10) s, renumber the list with bullets as (a) to (b).

In (11), sixth line of the table, replace “EN ISO 13088:2011” by “EN ISO 13088:2012 + A1:2020”.

In (13) 2.4, replace “EN ISO 11114-2:2013” by “EN ISO 11114-2:2021”.

In table 2, renumber footnotes ^b to ^d as ^c to ^e.

In table 3, renumber footnote ^b (minimum ullage) as footnote ^f (entries for UN Nos. 1745, 1746 2495, as well as the footnote itself).

In table 2, in all entries with multiple test pressures, separate each row with dashed line spanning the last three columns. For UN Nos. 1010, 1012, 1060, 1078, 1965 and 2073, separate the different entries with a different “name and description” with a dashed line spanning all columns except the first one.

In table 2, for UN 1012 BUTYLENE (1-Butylene), UN 1012 BUTYLENE (cis-2-Butylene) and UN 1012 BUTYLENE (trans-2-Butylene), in the last column, insert “ra”.

In table 2, for UN 1078 REFRIGERANT GAS, N.O.S., in the rows for “Mixture F1”, “Mixture F2” and “Mixture F3”, in the last column, insert “ra, z”.

In table 2, for UN 1965 HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S., in the rows for “Mixture A”, “Mixture A01”, “Mixture A02”, “Mixture A0”, “Mixture A1”, “Mixture B1”, “Mixture B2”, “Mixture B” and “Mixture C”, in the last column, insert “ra, ta, v, z”.

In table 2, 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 ^d | 2F | | X | X | X | X | | 10 | 225 | 0.39 | q |

4.1.4.1, P203 Under “Requirements for closed cryogenic receptacles”, in (5), amend the heading to read “(5) Filling”. In the last paragraph, replace “degree of filling” by “gas filled into the receptacle”.

Under “Requirements for open cryogenic receptacles”, at the end of the first paragraph, add “For these gases, when used as a coolant, the requirements of 5.5.3 shall apply.”. In (9), renumber the list with bullets as (a) to (e).

4.1.4.1, P206 In special provision PP89, replace “ISO 11118:1999” by “clause 1 of ISO 11118:2015 + Amd 1:2019”.

4.1.4.1, P301 In the second row after the heading, first sentence, 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”.

4.1.4.1, P404 Amend the second row under the heading to read as follows:

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.

(2) Metal packagings:

Drums (1A1, 1A2, 1B1, 1B2, 1N1, 1N2);

Jerricans (3A1, 3A2, 3B1, 3B2).

Maximum gross mass: 150 kg

(3) Composite packagings:

Plastics receptacle in a steel or aluminium drum (6HA1 or 6HB1).

Maximum gross mass: 150 kg

(4) Pressure receptacles, provided that the general provisions of 4.1.3.6 are met.

4.1.4.1, P405 In (1) (a), after “Outer packagings:”, start a new line (indented) and add “Boxes”.

4.1.4.1, P410 Amend the formatting as needed to display composite packagings as a category of single packagings.

4.1.4.1, P501 Under "Combination packagings", before “Boxes”, delete “(1)” and before “Fibreboard”, delete (2).

4.1.4.1, P505 Amend rows 3 to 4 under the heading to read as follows:

| | | Maximum capacity/maximum net mass | |
|------------------------|-----|--------------------------------------|--------|
| Combination packagings | | | |
| Inner packagings | | Outer packagings | |
| glass | 5 l | Boxes | |
| plastics | 5 l | aluminium (4B) | 125 kg |
| metal | 5 l | natural wood, ordinary (4C1) | 125 kg |
| | | natural wood, sift-proof walls (4C2) | 125 kg |
| | | plywood (4D) | 125 kg |
| | | fibreboard (4G) | 125 kg |
| | | plastics, solid (4H2) | 125 kg |
| | | Drums | |
| | | aluminium, removable head (1B2) | 125 kg |
| | | fibre (1G) | 125 kg |
| | | other metal, removable head (1N2) | 125 kg |
| | | plastics, removable head (1H2) | 125 kg |
| | | plywood (1D) | 125 kg |
| | | Jerricans | |
| | | aluminium, removable head (3B2) | 125 kg |
| | | plastics, removable head (3H2) | 125 kg |

In the fifth row, delete “Maximum capacity” in the second column and place “Single packagings” in a heading row above this fifth row.

4.1.4.1, P520 Place the footnotes directly below the packing instruction, in those pages in which they appear.

4.1.4.1, P520 In (1), replace “, jerricans” by “and jerricans”.

Amend the table under (3) to read as follows:

| | | | | | | | | |
|------------------------------------------------------------------------------------|------------|------------------------|------------|------------------------|------------|------------|------------|------------------|
| ... | | | | | | | | |
| 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 |

In PP94, renumber 1. to 5. as (a) to (e). In PP95, renumber 1. to 6. as (a) to (f).

4.1.4.1, P600 Amend the second row under the heading to read as follows:

| |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:</p> <p>Drums (1A1, 1A2, 1B1, 1B2, 1N1, 1N2, 1H1, 1H2, 1D, 1G);</p> <p>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> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

4.1.4.1, P601 In (1), renumber the list with bullets as (a) to (c).

4.1.4.1, P602 In (1), renumber the list with bullets as (a) to (c).

4.1.4.1, P603 Add a new additional requirement reading “4. In the case of fissile-excepted material, limits specified in 2.2.7.2.3.5 shall be met.”. Delete the entire row for special packing provisions.

4.1.4.1, P620 In additional requirement 1, at the end, add “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, add “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, add “When liquid nitrogen is used as a coolant, the requirements of 5.5.3 shall apply.”.

4.1.4.1, P650 In the first sentence, after “This”, delete “packing”.

Amend (6) to read as follows:

“(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 (7) (d), at the end, add “and”.

Under (7) (e), add the following new note:

“**NOTE:** *Capability may be demonstrated by testing, assessment or experience.”*

In (8) (c), at the end, add “and”.

In (9) (a), at the end, replace the full stop by “; and”.

4.1.4.1, P800 In special packing provision PP41, after the first sentence, add “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.”.

4.1.4.1, P803 Amend the second row under the heading to read as follows:

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.

4.1.4.1, P804 In (1), renumber the list with bullets as (a) to (c).

4.1.4.1, P901 At the end (before the additional requirement), add a new paragraph to read:

“If dry ice is used as a coolant, the requirements of 5.5.3 shall apply.”

4.1.4.1, P902 In the first row under the heading, replace “UN No. 3268” by “UN Nos. 3268 and 3559”.

In the second row under the heading, insert “(1)” before “**Packaged articles:**” and remove the boldface, and insert “(2)” before “**Unpackaged articles:**” and remove the boldface.

Under “(2) Unpackaged articles:”, amend the beginning of the sentence to read “Except for UN 3559, the articles...”.

4.1.4.1, P903 In the first sentence, replace “3480 and 3481” by “3480, 3481, 3551 and 3552”.

In the second sentence, delete “lithium”.

4.1.4.1, P904 In the additional requirement, delete the first line reading “Ice, dry ice and liquid nitrogen”.

4.1.4.1, P905 In additional requirement 1 (c), after “lithium batteries”, insert “and sodium ion batteries”.

4.1.4.1, P908 In the first row under the heading, delete “lithium ion”, delete “and damaged or defective lithium metal cells and batteries” and replace “3480 and 3481” by “3480, 3481, 3551 and 3552”.

In the second row under the heading, before the numbered list, insert a new paragraph reading “Packagings shall also meet the following requirements:”. In the list, renumber 1. to 5. as (a) to (e). In (e) (old 5.), replace “Non-combustibility” by “The non-combustibility of the thermal insulation material and the cushioning material”.

4.1.4.1, P909 In the first sentence, replace “3480 and 3481” by “3480, 3481, 3551 and 3552”.

In (2), after “lithium ion”, insert “or sodium ion” (two times).

In additional requirement 2, renumber the list with bullets as (a) to (d).

4.1.4.1, P910 In the first sentence, replace “3480 and 3481” by “3480, 3481, 3551 and 3552”.

In (1) (e), replace “Non-combustibility” by “The non-combustibility of the thermal insulation material and the cushioning material”.

In (2) (d), replace “Non-combustibility” by “The non-combustibility of the cushioning material”.

In the additional requirement, at the end of the first sentence, replace the semicolon by a full stop and delete the paragraph break so that the first two sentences are displayed in a single paragraph. Renumber the list with bullets as (a) to (d).

4.1.4.1, P911 In the first sentence, replace “3480 and 3481” by “3480, 3481, 3551 and 3552”.

In table note a, sub-paragraph (a), replace “2.2.9.1.7” by “2.2.9.1.7.1”.

In table note a, sub-paragraph (b), first sentence, delete “lithium” and replace “(rapidly disassemble)” by “(e.g. rapidly disassemble)”.

4.1.4.1, R001 Place the footnotes directly below the packing instruction, in those pages in which they appear.

4.1.4.1 Add the following new packing instructions:

| P303 | PACKING INSTRUCTION | P303 |
|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------|
| 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-removeable head (1H1) of maximum capacity 250 l. | | |
| Special packing provision: | | |
| PP26 | For UN 3555, packagings shall be lead free. | |

| P912 | PACKING INSTRUCTION | P912 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------|
| This instruction applies to UN Nos. 3556, 3557 and 3558. | | |
| <p>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.</p> <p>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.</p> <p><i>NOTE: The packagings may exceed a net mass of 400 kg (see 4.1.3.3).</i></p> <p>Vehicles with an individual net mass of 30 kg or more:</p> <p>(a) may be loaded into crates or secured to pallets;</p> <p>(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</p> <p>[(c) where the vehicles 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.]</p> | | |

4.1.4.2, IBC02, IBC03, IBC05, IBC06, IBC07, IBC08, IBC100 Delete the numbers in front of the list in the row below the heading.

4.1.4.2, IBC520 (ADR:) For UN 3119, amend the entry for “Di-(3,5,5-trimethylhexanoyl) peroxide, not more than 52 %, stable dispersion, in water” to read as follows:

| | | | | | |
|--|----------------------------------------------------------------------------------------|-------|-------|--------|--------|
| | Di-(3,5,5-trimethylhexanoyl) peroxide, not more than 52 %, stable dispersion, in water | 31HA1 | 1 000 | +10 °C | +15 °C |
| | | 31A | 1 250 | +10 °C | +15 °C |

4.1.4.3, LP02 Place the footnotes directly below the packing instruction, in those pages in which they appear.

4.1.4.3, LP03 Add a new (4) to read as follows:

“(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 have 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.”

4.1.4.3, LP902 In the second row under the heading, insert “(1)” before “**Packaged articles:**” and remove the boldface, and insert “(2)” before “**Unpackaged articles:**” and remove the boldface.

4.1.4.3, LP903 Amend the first sentence 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 line, first 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”.

In the second line, modify the last paragraph to read as follows:

“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.”

4.1.4.3, LP904 In the first row under the heading, replace “3480 and 3481” by “3480, 3481, 3551 and 3552”.

In the second row under the heading, before the numbered list, insert a new paragraph reading “Large packagings shall also meet the following requirements:”. In the list, renumber 1. to 5. as (a) to (e). In (e) (old 5.), replace “Non-combustibility” by “The non-combustibility of the thermal insulation material and the cushioning material”.

4.1.4.3, LP905 In the first row under the heading, replace “3480 and 3481” by “3480, 3481, 3551 and 3552”.

In (1) (e), replace “Non-combustibility” by “The non-combustibility of the thermal insulation material and the cushioning material”.

In (2) (d), replace “Non-combustibility” by “The non-combustibility of the cushioning material”.

4.1.4.3, LP906 In the first row under the heading, replace “3480 and 3481” by “3480, 3481, 3551 and 3552”.

In table note a, sub-paragraph (a), replace “2.2.9.1.7” by “2.2.9.1.7.1”.

In table note a, sub-paragraph (b), first sentence, replace “lithium batteries (rapidly disassemble,” by “batteries (e.g. rapidly disassemble,”.

4.1.6.8 The amendments to (b) and (d) do not apply to the English version.

4.1.7.0.1 The amendment does not apply to the English version.

Chapter 4.2

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

4.2.1.9.2 The amendment does not apply to the English version.

4.2.1.9.3 The amendment does not apply to the English version.

4.2.1.9.5 The amendment does not apply to the English version.

4.2.1.9.5.1 The amendment does not apply to the English version.

4.2.1.9.6 The amendment does not apply to the English version.

4.2.1.13.13 The amendment does not apply to the English version.

- 4.2.1.16.2 The amendment does not apply to the English version.
- 4.2.1.19.2 The amendment does not apply to the English version.
- [4.2.2.8 In sub-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 sub-paragraph (a), replace “an ullage condition” by “a filling condition”.]
- 4.2.5.2.3 Replace “filling density” by “filling ratio”.
- 4.2.5.2.6 Amend the second sentence to read “Portable tank instructions T1 to T22 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.”.
- 4.2.5.2.6, T23 The amendment does not apply to the English version.
- 4.2.5.3, TP1 The amendment does not apply to the English version.
- 4.2.5.3, TP2 The amendment does not apply to the English version.
- 4.2.5.3, TP3 The amendment does not apply to the English version.
- 4.2.5.3, TP4 The amendment does not apply to the English version.
- 4.2.5.3, TP5 Replace “degree of filling” by “restrictions on filling”.
- 4.2.5.3 Add the following new portable tank special provision:
- “TP42 Portable tanks are not authorized for the carriage of caesium or rubidium dispersions.”

Chapter 4.3

- 4.3.2.2 The amendment does not apply to the English version.
- 4.3.2.2.1 The amendment does not apply to the English version.
- 4.3.2.2.3 The amendment does not apply to the English version.
- 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 paragraph, replace “filling ratio” by “filling condition”.
- [4.3.3.6 In sub-paragraph (a), replace “an ullage condition” by “a filling condition”.]
- 4.3.4.1.2 In the table, for “Liquids”, tank code “L21DH”, in column “Classification code”, replace “SW” by “SW1”.
- 4.3.5 The amendments to TU16, TU18 and TU21 do not apply to the English version.
- In special provisions TU23, TU24 and TU25, in the first sentence, replace “degree of filling” by “filling”.
- The amendments to TU26 and TU36 do not apply to the English version.

Chapter 5.2

- 5.2.1.9 In the heading, after “*Lithium [battery]*”, insert “*or sodium ion [battery]*”.
- 5.2.1.9.1 After “lithium [cells or batteries]”, insert “or sodium ion [cells or batteries]”.

5.2.1.9.2 In the first paragraph, first sentence, replace the “or” before “UN 3480” by a comma and at the end of the sentence, add “, or UN 3551” for sodium ion cells or batteries”. In the second sentence, delete “lithium” and replace “UN 3091” or “UN 3481” by “UN 3091”, “UN 3481” or “UN 3552”. In the third sentence, delete “lithium”.

In the heading of figure 5.2.1.9.2, after “**Lithium [battery]**”, insert “**or sodium ion [battery]**”.

In the last paragraph, third sentence, replace “UN number” by “UN number(s)” and delete “for lithium ion or lithium metal batteries or cells”.

5.2.2.1.12.1 Replace “lithium batteries” by “lithium batteries or sodium ion batteries”, and “lithium battery mark” by “lithium [battery] or sodium ion battery mark”.

Chapter 5.4

5.4.1.1.1 (c) In the third indent, delete “lithium” and replace “and 3481” by “, 3481, 3551 and 3552 as well as for battery-powered vehicles of UN Nos. 3556, 3557 and 3558”.

5.4.1.1.3.2 The amendment does not apply to the English version.

Chapter 5.5

5.5.3.3.1 Replace “P650, P800, P901 or P904” by “P650 or P800”.

Chapter 6.1

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

6.1.4.1.4 Replace the first sentence by “Drums may have rolling hoops, either expanded or separate.”.

6.1.4.2.3 Replace the first sentence by “Drums may have rolling hoops, either expanded or separate.”.

6.1.4.3.3 Replace the first sentence by “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 does not apply to the English version.

Chapter 6.2

6.2.1.5.4 The amendment does not apply to the English version.

6.2.1.6.1 In note 2, replace “ISO 16148:2016” by “ISO 16148:2016 + Amd 1:2020”.

In note 3, first sentence, after “ISO 18119:2018”, add “+ Amd 1:2021”.

6.2.2.1.1 In the table, in the row for ISO 9809-4:2014, replace “Until further notice” by “Until 31 December 2028”. Add a new row beneath this row as follows:

| | | |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| 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 | Until further notice |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|

| | | |
|--|---------------------------------------------------------------------------|--|
| | <i>NOTE: Small quantities are a batch of cylinders not exceeding 200.</i> | |
|--|---------------------------------------------------------------------------|--|

6.2.2.1.1 and 6.2.2.1.2 In the table:

- In the row for ISO 11119-1:2012, replace “Until further notice” by “Until 31 December 2028”. Add a new row beneath this row as follows:

| | | |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| 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”. Add a new row beneath this row as follows:

| | | |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| 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”. Add a new row beneath this row as follows:

| | | |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| 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 |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|

6.2.2.1.4 The amendment does not apply to the English version.

(ADR:) 6.2.2.1.9 In the table, in the row for “ISO 11118:2015 +Amd.1:2019”, replace “+Amd.1 by “+ Amd 1”.

6.2.2.2 In the table, replace “ISO 11114-1:2012 + A1:2017” by “ISO 11114-1:2020” and replace “ISO 11114-2:2013” by “ISO 11114-2:2021”.

The second amendment does not apply to the English version.

6.2.2.3 In the first table, replace “ISO 10297:2014 + A1:2017” by “ISO 10297:2014 + Amd 1:2017” and replace “ISO 14246:2014 + A1:2017” by “ISO 14246:2014 + Amd 1:2017”.

Add the following new row at the end of the first table

| | | |
|----------------|---------------------------------------------------------|----------------------|
| ISO 23826:2021 | Gas cylinders – Ball valves – Specification and testing | Until further notice |
|----------------|---------------------------------------------------------|----------------------|

6.2.2.4 In the first table, in the row for ISO 18119:2018, replace “Until further notice” by “Until 31 December 2026”. Add a new row beneath this row as follows:

| | | |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------|----------------------|
| 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 |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------|----------------------|

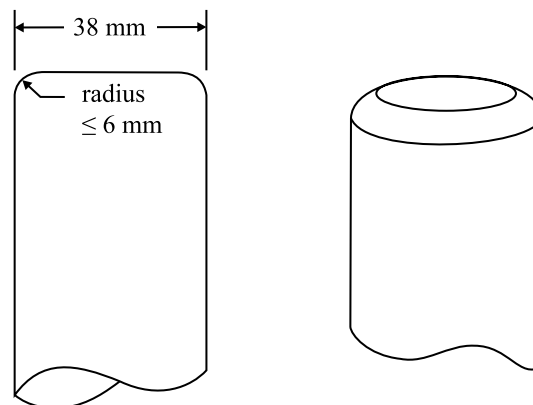
For ISO 10461:2005 + A1:2006, replace “ISO 10461:2005 + A1:2006” by “ISO 10461:2005 + Amd 1:2006”.

6.2.2.7.4 (p) Replace “ISO 11114-1:2012 + A1:2017” by “ISO 11114-1:2020”.

6.2.2.9.2 (j) Replace “ISO 11114-1:2012 + A1:2017” by “ISO 11114-1:2020”.

Chapter 6.3

6.3.5.4.2 Amend Figure 6.3.5.4.2 to read as follows:



Chapter 6.4

6.4.15.5 (a) At the end, delete “and”.

Chapter 6.5

6.5.5.1.7 The amendment does not apply to the English version.

6.5.5.4.16 In the second sentence, replace “ISO 535:1991” by “ISO 535:2014”.

6.5.5.5.3 In the second sentence, replace “ISO 535:1991” by “ISO 535:2014”.

6.5.6.8.4.2 The amendment does not apply to the English version.

Chapter 6.6

6.6.4.4.1 Replace “ISO 535:1991” by “ISO 535:2014”.

6.6.5.3.2.4 In (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”, last sentence, after “non-metallic tanks”, insert “(except FRP portable tanks, see Chapter 6.9)”.

6.7.4.15.1 In (i) (iv), replace “Degree of filling” by “Maximum allowable mass of gas filled”.

In figure 6.7.4.15.1, under “HOLDING TIMES”, last column, replace “Degree of filling” by “Maximum allowable mass of gas filled”.

6.7.5.2.4 In (a), replace “ISO 11114-1:2012 + A1:2017” by “ISO 11114-1:2020” and replace “ISO 11114-2:2013” by “ISO 11114-2:2021”.

Chapter 6.9

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

Chapter 6.13

6.13.2.5 The amendment does not apply to the English version.

[6.13.4.3.2 The amendment does not apply to the English version.]

Chapter 7.5

(ADR:) 7.5.11 Add a new CV29 to read:

“CV29 Packages should be stored upright.”

(RID:) 7.5.11 Add a new CW 14 to read:

“CW14 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.”
