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Working Party on the Transport of Dangerous Goods

113th session

Geneva, 15–17 May 2023

Report of the Working Party on its 113th session

Held in Geneva from 15 to 17 May 2023

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I. Attendance

1. The Working Party on the Transport of Dangerous Goods held its 113th session from 15–17 May 2023, with Ms. A. Roumier (France) as Chair and Mr. A. Simoni (Italy) as Vice-Chair.
2. Representatives from the following countries took part in the session: Austria, Belarus, Belgium, Bosnia and Herzegovina, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Luxembourg, the Netherlands, Poland, Romania, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.
3. Representatives of Zimbabwe also took part in the session, as provided for in paragraph 11 of the terms of reference of the Economic Commission for Europe.
4. The following intergovernmental organization was represented: Intergovernmental Organization for International Carriage by Rail (OTIF).
5. The following non-governmental organizations were represented: European Chemical Industry Council (Cefic), European Confederation of Fuel Distributors (ECFD), International Association of Dangerous Goods Safety Advisers (IASA), International Organization of Motor Vehicle Manufacturers (OICA) and International Road Transport Union (IRU).

II. Adoption of the agenda (agenda item 1)

Documents: ECE/TRANS/WP.15/261 and ECE/TRANS/WP.15/261/Add.1 (Secretariat)

Informal documents: INF.1, INF.2 and INF.3 (Secretariat)

6. The Working Party adopted the provisional agenda prepared by the secretariat, as amended by informal document INF.2 to take account of informal documents INF.1 to INF.27.

III. Eighty-fifth session of the Inland Transport Committee (ITC) (agenda item 2)

Documents: ECE/TRANS/328 and ECE/TRANS/328/Add.1 (Report of the Inland Transport Committee on its eighty-fifth session)
ECE/TRANS/2023/21 (ITC secretariat)
ECE/TRANS/2023/4/Rev.1 (ITC secretariat)

Informal document: INF.19 (Secretariat)

7. The Working Party took note of the relevant outcomes of the last session of the ITC (21–24 February 2023). The Working Group noted with satisfaction that the Committee had approved the results of its work for 2022 and adopted its programme of work and programme of meetings for 2023. The Working Party also welcomed the approval of the publication, in 2024, of the consolidated texts of ADR and ADN, as amended on 1 January 2025.
8. The Working Party noted with interest the continued work on the implementation of the Committee's strategy until 2030. It noted that the Committee had encouraged all working groups to review their terms of reference and, where appropriate, to harmonize them with those of the Committee. The secretariat indicated that it would prepare a draft amendment to the terms of reference for the next session on the basis of the current terms of reference (ECE/TRANS/WP.15/190/Add.1) and the appraisal of the terms and model contained in Committee document ECE/TRANS/2023/4/Rev.1.
9. The Working Party noted the Committee's decision to review the terms of reference and the extension of its working parties during 2023 (see ECE/TRANS/328, para. 18) in accordance with the decisions taken during the 2005 reform of ECE and the guidelines for the establishment and functioning of working parties within ECE (ECE/EX/1). The Working Party also noted that this review would be conducted on the basis of input to be provided by

the Chairs of the working parties and would include identifying possible ways to improve efficiency and methods of work.

10. In this context, the Working Party welcomed the reminder in informal document INF.19 of the rules on methods of work that it had adopted in the past. It wished to resume discussions on its calendar of sessions and its rules for documentation at the next session on the basis of informal document INF.19, which would be submitted as an official document.

11. The Working Party has already confirmed that the agenda for the last sessions of the biennial periods (November sessions of odd-numbered years) could be extended to new proposals for amendments, as has been done in previous years. In particular, this made it possible to take advantage of the time freed up by the fact that the documents adopted by the Joint Meeting concerning the provisions common to the three inland transport modes were, in general, no longer discussed again within the Working Party in order to focus on new provisions specific to road transport.

12. The Working Party noted with satisfaction the actions of the ITC on climate change adaptation and mitigation and confirmed its support for the development of the ITC strategy on the reduction of greenhouse gas emissions in inland transport on the basis of the draft presented at the session by a member of the Committee's secretariat. Noting that the deadline for contributions and comments on the draft was Friday, 29 September 2023, the Working Party invited delegations wishing to do so to send their contributions to the Chair before the beginning of September on the basis of the preliminary work contained in document ECE/TRANS/2023/21.

IV. Status of the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) and related issues (agenda item 3)

A. Status of the Agreement

13. There have been no changes to the status of ADR (54 contracting parties) nor to that of the Protocol of amendment of 1993 (40 contracting parties) since the last session.

B. Protocol of amendment of 1993

14. The Working Party encouraged the countries that had not yet deposited the required legal instruments for the Protocol of 1993 to enter into force (Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Croatia, Iceland, Kazakhstan, Montenegro, Morocco, North Macedonia, Nigeria, San Marino, Tajikistan and Uganda) to take the necessary measures to ratify or accede to it so that it could come into effect.

15. It was noted that when the Protocol would enter into force the restriction of at least four wheels in the scope of ADR would apply (see paragraphs 40 to 45).

V. Work of the RID/ADR/ADN Joint Meeting (agenda item 4)

Documents: ECE/TRANS/WP.15/AC.1/168 (Report of the Joint Meeting on its spring 2023 session)
ECE/TRANS/WP.15/AC.1/2023/14 (Germany)

Informal documents: INF.7 (Secretariat), INF.8 (France), INF.18 (Finland), INF.24 (Germany)

16. The Working Party endorsed the amendments adopted by the Joint Meeting at its spring 2023 session, as contained in informal document INF.7 in English, French and Russian with some editorial changes (see annex). The amendments to 6.8.2.2.11 and related transitional measures, in square brackets, will be confirmed at the 114th session after further discussion at the next session of the Joint Meeting.

17. The Working Party agreed to maintain the reference to Chapter 3.5 in the text of 5.4.1.1.21, as amended, although 3.5.6 refers to documents other than the transport document provided for in Chapter 5.4 of ADR.

18. The text of document ECE/TRANS/WP.15/AC.1/2023/14 was adopted with the editorial changes adopted by the Joint Meeting and with additional editorial changes (see annex).

19. The Working Party considered the different options contained in informal document INF.18 to take account of the possible consequences for the wording of 5.4.1.4.2 of the amendment adopted in 5.4.0.1. Most of the delegations that expressed their views came down in favour of the consequential amendment proposed in option 2. The Working Party noted, however, that the wording of this paragraph may need to be further revised to refer to the identification of goods carried by vehicle rather than by transport unit. The current text has been maintained.

VI. Proposals for amendments to annexes A and B of ADR (agenda item 5)

A. Construction and approval of vehicles

1. Rear protection of vehicles

Document: ECE/TRANS/WP.15/2023/1 (United Kingdom)

Informal document: INF.9 (Netherlands)

20. Several delegations were in favour of the proposal of the United Kingdom. Several delegations supported the comments of the Netherlands contained in informal document INF.9 and preferred to continue the discussion at the next session on the basis of a revised proposal to take account of those comments. The Working Party invited delegations who so wished to send their comments to the representatives of the United Kingdom and the Netherlands, who would prepare a revised proposal for the next session.

2. Informal working group on electrified vehicles

Document: ECE/TRANS/WP.15/2023/4 (Netherlands)

Informal document: INF.5 (Chair of the informal working group on electrified vehicles), INF.27 (Netherlands)

21. The representative of the Netherlands, as chair of the informal working group on electrified vehicles, reported on the progress of the work of the group and the proposed amendments to document ECE/TRANS/WP.15/2023/4 aimed at amending the provisions concerning the energizing of power systems for their application to electric vehicles.

22. The Working Party noted that the secretariat post was still vacant and requested OICA to appoint a new secretary from among its members as soon as possible so as not to delay the work of the informal group.

23. The Working Party adopted the proposed amendments to document ECE/TRANS/WP.15/2023/4 with some editorial changes and additional consequential amendments (see annex). It considered that the wording of the note under 9.2.2.8 could be improved. The note was kept in square brackets to be reviewed in the following session. The Working Party noted with satisfaction that the adoption of these new provisions was a first step to allow the adoption of provisions for the use of battery electrified vehicles for category FL.

3. Supplement 18 to the 11 series of amendments to UN Regulation No. 13 (Heavy vehicle braking)

Informal documents: INF.6 (Netherlands), INF.16 (OICA)

24. The Working Party noted that the World Forum for Harmonization of Vehicle Regulations had adopted Supplement 18 to the 11 series of amendments to UN Regulation No. 13 at its March 2021 session to cover electric regenerative braking systems.

25. On the basis of the explanations given in informal document INF.16, the Working Party agreed that the current provisions of ADR concerning braking remained unchanged for the moment and that it might be necessary to come back to this subject in the future.

4. Certificate of approval

Informal document: INF.22 (United Kingdom)

26. Most of the delegations that spoke were of the opinion that the ADR in force on 1 January 2023 only allowed for paper versions of the certificate of approval. Some delegations indicated that the approval bodies in their countries could already issue certificates in electronic form, but that a printed version in accordance with the format in 9.1.3 had to be carried on board the vehicle.

27. The delegations that spoke were in favour of introducing provisions to allow for the dematerialization of certificates of approval. These provisions should include arrangements for access to and authentication of such certificates and appropriate security arrangements for the storage and processing of electronic data.

28. The Working Party invited the United Kingdom to continue work on this topic.

5. Tyre pressure monitoring system

Informal document: INF.26 (Netherlands)

29. The delegations which spoke were of the opinion that 1.1.3.7 did not exempt tyre pressure sensors from the requirements of 9.2.2.9 for EX/III and FL vehicles and that sensors on these vehicles inside the pressure chamber were not required to comply with the requirements of 9.2.2.9.

B. Miscellaneous proposals

1. Earth symbol in 6.8.2.1.27

Document: ECE/TRANS/WP.15/2023/2 (Germany)

30. The proposal to amend the earth symbol in 6.8.2.1.27 was adopted (see annex).

31. Several delegations indicated that the symbol, as amended, was already used to identify earths on tank vehicles and that this amendment would not require transitional measures. The Working Party invited delegations to check this point before the next session.

32. Some delegations considered that it might be useful to provide a more complete description of the required marking or to refer to a standard such as IEC 60417. That could be considered at a future session.

2. New section 1.2.3, consequential amendment

Document: ECE/TRANS/WP.15/2023/3 (Secretariat)

33. The proposed amendment to 1.1.2.2 was adopted (see annex).

3. Training of drivers: maximum number of teaching units per day

Informal document: INF.13 (Switzerland)

34. The delegations that spoke were of the opinion that the use of the word “normally” in 8.2.2.3.7 meant that courses should be planned on the basis of a maximum of 8 daily teaching

units, but that that number could be exceeded in exceptional circumstances when holding the courses (e.g. in the event of delays).

35. Most were not in favour of the proposal of Switzerland to increase the number of planned daily teaching unit to 10.

4. Discrepancy between 6.8.1.5 of RID and ADR

Informal document: INF.25 (Belgium)

36. The Working Party noted that the notes in 6.8.1.5.1 (a) and 6.8.1.5.4 (a) applied to tank vehicles and tank containers in ADR, whereas they did not apply in RID.

37. The Working Party invited the representative of Belgium to submit his document to the Joint Meeting for consideration by the Working Group on Tanks.

5. Reference to 8.2.3 in Chapter 3.4

Informal document: INF.12 (IASA)

38. Several delegations were in favour of IASA's proposal to refer to 8.2.3 in the list of provisions remaining applicable in 3.4.1. Others thought the reference to 1.3 was sufficient.

39. The Working Party invited the representative of IASA to present an official document at the 114th session.

VII. Interpretation of ADR (agenda item 6)

A. Scope of ADR

Document: ECE/TRANS/WP.15/2023/5 (Secretariat)

Informal documents: INF.17 (Denmark), INF.21 (France), INF.23 (Switzerland)

40. The Working Party noted that the title of III B and the text of paragraph 13 of document ECE/TRANS/WP.15/2023/5 should be corrected to refer to cycles with an auxiliary engine with a maximum cylinder capacity of 50 cm³. With this modification, the Working Party agreed that the document prepared by the secretariat gave a clear picture of the current status of the application of ADR to two- and three-wheeled vehicles and of possible developments (see also paragraph 15).

41. Several delegations presented how cycles and other cargo transport units not covered by ADR were regulated in their countries and in what way. The Working Party invited delegations that had not yet done so to transmit this information in writing to the secretariat with a reference to the applicable national laws, where appropriate.

42. The Working Party noted that similar discussions had been held in ICAO with respect to deliveries by remote-controlled aircraft (drones).

43. Several delegations were in favour of continuing the discussion at future sessions in order to study the possibilities of revising the scope of ADR and adapting the technical provisions of annexes A and B accordingly in order to allow the safe and secure transport of dangerous goods by micromobility vehicles and by cycles.

44. Document ECE/TRANS/WP.15/2023/5, as revised to take into account the modification detailed above, will remain on the agenda for the next session.

45. The Working Group noted that the clarification of current provisions and the development of new provisions to allow the safe and secure transport of dangerous goods by micromobility vehicles and by cycles would contribute to the achievement of Sustainable Development Goals 3, 11 and 13.

B. Transport document – goods carried per transport unit and per vehicle

Document: ECE/TRANS/WP.15/2023/6 (Finland)

46. The Working Party confirmed that the adopted amendment to 5.4.0.1 (see para. 19) addressed the concerns of Finland.

47. The Working Party also agreed that the development of the use of electronic data processing (EDP) or electronic data interchange (EDI) techniques to replace transport documents, as provided for in 5.4.0.2, would facilitate the identification and tracking of goods unloaded or transferred from one vehicle to another during a delivery operation.

C. Transport of dangerous goods as part of duties to protect the public

Document: ECE/TRANS/WP.15/AC.1/168, paras. 35 and 36 (Report of the Joint Meeting on its spring 2023 session)

Informal document: INF.4 (Netherlands)

48. The Working Party confirmed the interpretation of the Joint Meeting that the provisions in 1.1.3.1 (d) and (e) allowed public services (e.g. police, enforcement, customs) to carry dangerous goods as part of their duties to protect the public. That interpretation would be published on the relevant page of the ECE website.

49. However, the Working Party was of the opinion that it might be useful to specify in more detail the cases covered by 1.1.3.1 and invited the representative of the Netherlands to reconsider this question, for road transport, on the basis of informal document INF.14, which had been presented to the Joint Meeting at its spring 2023 session, and in the light of the comments received.

D. Examination for the renewal of the safety adviser certificate

Informal document: INF.14 (Ireland)

50. Most of the delegations that expressed their views indicated that, by decision of the competent authority, the examination for the renewal of the safety adviser certificate organized in their country did not include a case study, as mentioned in 1.8.3.12.4 (b). Other countries, such as Ireland, had chosen to maintain the case study for examinations for renewal.

51. The Working Party noted that the different language versions of the text of 1.8.3.16.2 were not completely aligned and that this could, therefore, lead to different interpretations. As this text is common to RID, ADR and ADN, any proposed amendments should be discussed by the Joint Meeting.

E. Reference to machinery and equipment in relation to 1.1.3.6.3, first indent

Informal document: INF.15 (IASA)

52. Most of the delegations which spoke considered that it was the net mass of the dangerous substance contained which should be taken into consideration in the case of UN No. 2990.

53. The Working Party invited the representative of IASA to contact the delegation of Spain, which had already prepared proposals on the classification of articles and of dangerous goods in machinery and equipment in RID, ADR and ADN and, possibly, to submit an official document to the Joint Meeting.

VIII. Circular economy, sustainable use of natural resources and Sustainable Development Goals (agenda item 7)

Document: ECE/TRANS/WP.15/AC.1/168, para. 60 (Report of the Joint Meeting on its spring 2023 session)

54. At its 112th session, the Working Party had invited delegations, when submitting proposals, to note in the justification part any interlinkage there might be with these topics.

55. In this context, the secretariat presented the Joint Meeting with a draft table identifying the Sustainable Development Goals most closely aligned with RID, ADR and ADN and the work of the RID/ADR/ADN Joint Meeting, the Working Party on the Transport of Dangerous Goods and the ADN Safety Committee (informal document INF.23, which is available on the web page of the spring 2023 session of the Joint Meeting <https://unece.org/info/Transport/Dangerous-Goods/events/373808>).

56. The Working Party invited those delegations that wished to do so to send their comments on this draft to the secretariat before the end of May 2023.

IX. Programme of work (agenda item 8)

57. The 114th session of the Working Party would be held from 6 to 10 November 2023. The agenda items for that session would be the same as for the 113th session, with the addition of an item for the election of officers.

58. The deadline for submission of formal documents for that session was 11 August 2023.

X. Any other business (agenda item 9)

A. Competent authority approval in accordance with ADR 2.1.2.8 and proposed amendment to the Dangerous Goods List of the Model Regulations

Informal document: INF.10 (Ireland)

59. The Working Party advised the representative of Ireland to submit her document to the informal working group on the transport of hazardous waste of the Joint Meeting for advice before making a proposal to the Subcommittee of Experts on the Transport of Dangerous Goods for the amendment of the Dangerous Goods List in the Model Regulations.

B. Dimensions and masses of vehicles – modular system used in Finland

Informal document: INF.20 and Add.1 (Finland)

60. The representative of Finland organized a presentation on the combinations of vehicles and transport units used in Finland and having larger dimensions and masses than the traditional European combinations of vehicles and transport units.

C. Carriage of empty uncleaned packaging waste

Informal document: INF.11 (Ireland)

61. The Working Party advised the representative of Ireland to submit her document to the informal working group on the transport of hazardous waste of the Joint Meeting for advice.

D. Tribute to Mr. Adrian-Teodor Raduta

62. Learning that Mr. Adrian-Teodor Raduta was retiring and would no longer participate in its sessions, the Working Party thanked him for his participation, particularly in the work on the construction and approval of vehicles, and wished him a happy retirement.

XI. Adoption of the report (agenda item 10)

63. The Working Party adopted the report of its 113th session and its annex on the basis of a draft prepared by the secretariat.

Annex

Draft amendments to annexes A and B of ADR for entry into force on 1 January 2025

Chapter 1.1

- 1.1.2.2 Amend the title for Chapter 1.2 to read “Definitions, units of measurement and abbreviations”.

(Reference document: ECE/TRANS/WP.15/2023/3)

- 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 carriage conditions;”.

(Reference document: ECE/TRANS/WP.15/AC.1/168)

Chapter 1.4

- 1.4.2.1.1 In (e), replace “bulk containers” by “containers for carriage in bulk”.

(Reference document: ECE/TRANS/WP.15/AC.1/168)

Chapter 1.6

- 1.6.1 Add the following transitional measure:

- “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 AP11 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.”

(Reference document: ECE/TRANS/WP.15/AC.1/2023/14, as amended)

- 1.6.3 Add the following transitional measure:

- [“1.6.3.61 Fixed tanks (tank-vehicles) and demountable tanks 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.”]

(Reference document: ECE/TRANS/WP.15/AC.1/168)

- 1.6.4 Add the following transitional measure:

- [“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.”]

(Reference document: ECE/TRANS/WP.15/AC.1/168)

Chapter 3.2, Table A

For all entries of UN No. 2037, in column (16), insert “V14”.

(Reference document: ECE/TRANS/WP.15/AC.1/168)

For UN No. 2073, in column (6), delete “532”.

(Reference document: ECE/TRANS/WP.15/AC.1/168)

For UN No. 2672, in column (6), delete “543”.

(Reference document: ECE/TRANS/WP.15/AC.1/168)

For UN No. 3257, first entry, in column (17), add “AP11”.

(Reference document: ECE/TRANS/WP.15/AC.1/2023/14)

For UN No. 3550, in column (9b), insert “MP18”.

(Reference document: ECE/TRANS/WP.15/AC.1/168)

Chapter 3.3

SP 532 Delete and add “532 (Deleted)”.

(Reference document: ECE/TRANS/WP.15/AC.1/168)

SP 543 Delete and add “543 (Deleted)”.

(Reference document: ECE/TRANS/WP.15/AC.1/168)

SP 668 Amend the introductory sentence to read as follows:

“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 ADR, provided that the following conditions are met:”.

(Reference document: ECE/TRANS/WP.15/AC.1/168)

Chapter 4.1

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

(Reference document: ECE/TRANS/WP.15/AC.1/168)

4.1.4.1, P200 In paragraph (10), in special packing provision p, amend as follows:

- In the second paragraph, delete “fitted with pressure relief devices or”.
- Delete the last paragraph.

(Reference document: ECE/TRANS/WP.15/AC.1/168)

Chapter 4.3

4.3.4.1.2 Amend the table as follows:

- 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”, in the row for “(3) | (F1)”, in the “Packing group” column, delete “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”.

(Reference document: ECE/TRANS/WP.15/AC.1/168)

Chapter 5.4

5.4.0.1 After the first sentence, add the following second sentence:

“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 vehicle and the vehicle which is carrying them can be identified in the documentation.”

(Reference document: ECE/TRANS/WP.15/AC.1/168, as amended)

5.4.1.1.1 The amendment to paragraph (g) in the French version does not apply to the English text.

(Reference document: ECE/TRANS/WP.15/AC.1/168)

5.4.1.1.21 Amend to read as follows:

“5.4.1.1.21 *Information required in specific cases defined in other parts of ADR*

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.”

(Reference document: ECE/TRANS/WP.15/AC.1/168, as amended)

Chapter 6.2

6.2.4.1 Amend the table, under “for design and construction of pressure receptacles or pressure receptacle shells” as follows:

- After the row for standard 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 <i>NOTE: Small quantities are a batch of cylinders not exceeding 200.</i>	6.2.3.1 and 6.2.3.4	Until further notice	

- In the row for standard EN 13110:2012, in column (4), replace “Until further notice” by “Between 1 January 2013 and 31 December 2026”. Add a new row beneath this row as follows:

(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	

Amend the table, under “for design and construction of closures” as follows:

- In the row for standard EN 14129:2014, in column (4), replace “Until further notice” by “Between 1 January 2021 and 31 December 2026”. Add a new row beneath this row as follows:

(1)	(2)	(3)	(4)	(5)
EN 14129:[2023]	LPG Equipment and accessories – Pressure relief valves for LPG pressure vessels <i>NOTE: This standard is applicable to pressure drums.</i>	6.2.3.1, 6.2.3.3 and 6.2.3.4	Until further notice	

(Reference document: ECE/TRANS/WP.15/AC.1/168)

Chapter 6.8

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 process shall comply with the requirements of 6.8.5.3.”

(Reference document: ECE/TRANS/WP.15/AC.1/168)

6.8.2.1.27 In the left column, last sentence, replace the earth ground symbol by \perp .

(Reference document: ECE/TRANS/WP.15/2023/2)

[6.8.2.2.11 Amend to read as follows:

“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.”]

(Reference document: ECE/TRANS/WP.15/AC.1/168)

6.8.2.6.1 In the table, under “For equipment”, in the row for standard EN 14129:2014, in column (4), replace “Until further notice” by “Between 1 January 2015 and 31 December 2026”. Add a new row beneath this row as follows:

(1)	(2)	(3)	(4)	(5)
EN 14129:[2023]	LPG Equipment and accessories – Pressure relief valves for LPG pressure vessels	6.8.2.1.1 and 6.8.3.2.9	Until further notice	

(Reference document: ECE/TRANS/WP.15/AC.1/168)

Chapter 7.2

7.2.4, V14 After “Aerosols”, add “and gas cartridges”.

(Reference document: ECE/TRANS/WP.15/AC.1/168)

Chapter 7.3

7.3.3.2.7 Add the following new AP11:

“AP11 In accordance with VC3 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 road users under normal conditions of carriage. The surface temperature shall in no case have a detrimental effect on the functioning of the vehicle, particularly the brake pipes and electric cables.

1.3 The vats shall be secured on the vehicle in accordance with the load security 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 vehicle.

2. Fire and explosion protection

The risk of fire by the thermal influence of the molten aluminium on the vat, the vehicle or load security 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 vehicle. 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 resist against 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 vats 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 test shall be carried out in accordance with the applicable requirements of EN 12972:2018. 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, respecting the EN 12972:2018, 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 the 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.

7. Vehicles

The following additional requirements apply to vehicles for carriage by road:

- (a) Vehicles used for carriage shall be fitted with a vehicle stability function approved in accordance with UN Regulation No. 13¹.

- (b) Vats shall be positioned on the vehicles in such a way that the discharge openings face or are opposite to the direction of travel.

8. Training of driver

In addition to the basic course in accordance with 8.2.1.2, drivers shall receive supplementary instruction from a competent person about the detailed risk of the carriage of molten aluminium in vats.

These shall include the following main points:

- (a) The particular handling behaviour of vehicles carrying vats,
- (b) General driving physics (driving stability/overturning behaviour, particularly centre of gravity height, surge effects),
- (c) Limits of electronic stability control and
- (d) Special measures to be taken in the event of an accident.

The carrier shall document this instruction in writing or electronically, giving the date, duration and main topics covered.”

Insert a footnote ¹ to read “UN Regulation No. 13 (Uniform provisions concerning the approval of vehicles of categories M, N and O with regards to braking).”.

(Reference document: ECE/TRANS/WP.15/AC.1/2023/14, as amended)

Chapter 9.2

- 9.2.1.1 In the table, for 9.2.2.8, in the second column, replace “Battery master switch” by “De-energizing electrical circuits”.

(Reference document: informal document INF.27)

- 9.2.2.8 Amend to read as follows (including a reference to existing footnote 1):

“9.2.2.8 De-energizing electrical circuits

[NOTE: The feature shall only be used when the vehicle is in standstill.]

- 9.2.2.8.1 Features to enable the de-energization of the electrical circuits for all voltage levels shall be placed as close to the energy sources as practicable. In the case the feature interrupts only one lead from the energy source, it shall interrupt the supply lead.
- 9.2.2.8.2 A control device to facilitate the de-energizing shall be installed in the driver's cab. It shall be readily accessible to the driver and be distinctively marked. It shall be protected against inadvertent operation either by adding a protective cover, by using a dual movement control device or by other suitable means. Additional control devices may be installed provided they are distinctively marked and protected against inadvertent operation. If the control devices are electrically operated, the circuits of the control devices are subject to the requirements of 9.2.2.9.
- 9.2.2.8.3 The de-energization shall be completed within 30 seconds after the activation of the control device.
- 9.2.2.8.4 The feature shall be installed in such a way that protection IP65 in accordance with IEC 60529 is complied with.
- 9.2.2.8.5 *Cable connections on the feature*
- Systems with a voltage that exceed 25 V AC or 60 V DC and systems under the scope of UN Regulation No. 100¹, shall comply with the requirements of the said regulation.

Systems with a voltage up to 25 V AC or 60 V DC shall have a protection degree IP 54 in accordance with IEC 60529. However, this does not apply if these connections are contained in a housing which may be the battery box. In this case, it is sufficient to insulate the connections against short circuits, for example by a rubber cap.”

(Reference document: ECE/TRANS/WP.15/2023/4, as amended)

9.2.2.9.1 In (a), first sentence, replace “when the battery master switch is open” by “when the feature to de-energize the electrical circuits is activated”.

(Reference document: informal document INF.27)

9.2.2.9.2 Replace “connections to the battery master switch” by “connections to the feature to de-energize the electrical circuits”, replace “must” by “shall” and replace “when the battery master switch is open” by “when the feature is activated”.

(Reference document: informal document INF.27)
