Economic Commission for Europe
Inland Transport Committee
Working Party on the Transport of Dangerous Goods
Joint Meeting of Experts on the Regulations annexed to the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN) (ADN Safety Committee)
Thirty-fifth session
Geneva, 26-30 August 2019

Report of the Joint Meeting of Experts on the Regulations annexed to the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN) (ADN Safety Committee) on its thirty-fifth session*

* Distributed in German by the Central Commission for the Navigation of the Rhine under the symbol CCNR/ZKR/ADN/WP.15/AC.2/72.
Contents

I. Attendance.......................................................................................................................... 1-4 4
II. Opening of the session ....................................................................................................... 5 4
III. Adoption of the agenda (agenda item 1) ............................................................................. 6 4
IV. Matters arising from the work of United Nations bodies or other organizations
    (agenda item 2) .................................................................................................................. 7 4
V. Implementation of the European Agreement concerning the International
   Carriage of Dangerous Goods by Inland Waterways (ADN)(agenda item 3)................. 8 5
   A. Status of ADN............................................................................................................... 8 5
   B. Special authorizations, derogations and equivalents.................................................. 9 5
   C. Interpretation of the Regulations annexed to ADN.................................................... 10-27 5
      1. Degassing of tank vessels at reception facilities.................................................... 10-13 5
      2. Loading and unloading rates .................................................................................. 14-16 6
      3. Substances with 60 °C < Flash Point ≤ 100 °C and Environmentally
         Hazardous Substance (EHS) classified under UN No. 3082 or ID 9003 .......... 17 6
      4. Degassing of tank vessels....................................................................................... 18-19 6
      5. Sampling devices and ventilation ......................................................................... 20-21 7
      6. Proposal of adaption of ADN 8.3.5 “Work on board” ............................................. 22-23 7
      7. Calibration of detection systems with n-hexane and gas detectors................. 24 7
      8. Gas detection system............................................................................................. 25 8
      9. About classification of zones – Zone 1 ................................................................. 26-27 8
   D. Training of experts.......................................................................................................... 28-31 8
      1. Proposal to update the work schedule of the informal working group
         on the training of experts..................................................................................... 28-31 8
   E. Matters related to classification societies..................................................................... 32-38 9
      1. Content of vessel record ......................................................................................... 32-33 9
      2. Minutes of the seventeenth meeting of the informal working group
         of Recommended ADN Classification Societies ................................................. 34 9
      3. Actual status of approval of loading instruments ................................................. 35 9
      4. ADN 7.2.2.19.3 – Pushed convoys and side-by-side formations .................. 36 9
      5. Transitional provisions about the explosion group / subgroup .......................... 37 10
      6. Reference to compliance with ISO/IEC 17020:2012
         (ECE/TRANS/WP.15/AC.2/68)............................................................................ 38 10
   VI. Proposals for amendments to the Regulations annexed to ADN (agenda item 4).......... 39-61 10
      A. Work of the RID/ADR/ADN Joint Meeting............................................................. 39-41 10
      B. Other proposals ...................................................................................................... 42-61 11
         1. Proposal for amendment of UN 2057 (Tripropylene) in Table C............... 42 11
         2. Definition for vapour return piping (on shore) in 1.2.1 of ADN ........... 43 11
         3. Request for discussion on entries in Table C where remark 44
            is indicated......................................................................................................... 44 11
         4. Request for discussion on entries in Table C containing more
            than 10 % benzene and those identified by a star ........................................... 45 11
5. Corrections to ADN 2019 .......................................................... 46-47 11
6. 1.1.3.6 and 1.10.4 of ADN – Exemptions related to the carriage of dangerous goods of Class 7 .................................................. 48 12
7. Fire-extinguishing system on board a convoy (pusher and non-motorized barge) or on board a single barge (non-motorized) ......................... 49 12
8. 1.1.3.6 of ADN - Exemptions related to quantities carried on board vessels ................................................................................. 50 12
9. Corrections to inconsistencies in the models for certificates of approval ...................................................................................... 51-52 12
10. Update of the vessel checklists in accordance with 1.8.1.2.1 ............. 53-54 12
11. Amendment to 8.1.2.3: On board documents (tank vessels) – Transitional provisions ................................................................. 55 13
12. Hose assemblies for LNG .......................................................................................................................... 56 13
13. Amendments to 8.1.2.3: On board documents (tank vessels) .......... 57 13
14. Amendment to 8.1.2.2: Documents to be carried on board (dry cargo vessels) .......................................................... 58 13
15. Amendment to 7.1.4.1: Limitation of the quantities carried ............... 59 13
16. Corrections to 9.3.x.12.4 (b)(i) .......................................................... 60 14
17. Corrections to the transitional provision for 9.3.1.17.4 / 9.3.3.17.4 in 1.6.7.2.2.2 ................................................................................. 61 14

VII. Reports of informal working groups (agenda item 5) ......................... 62-70 14
A. Report of the fourth meeting of the informal working group on membrane tanks .............................................................................. 62-65 14
B. Report of the third meeting of the informal working group on “loading on top of barges” .......................................................... 66-67 15
C. Report of the eleventh meeting of the informal working group on “Substances” ........................................................................ 68-70 15

VIII. Programme of work and calendar of meetings (agenda item 6) ........ 71 15
IX. Any other business (agenda item 7) ......................................................... 72 16
X. Adoption of the report (agenda item 8) ....................................................... 73 16

Annexes

I. Proposed amendments to the Regulations annexed to ADN for entry into force on 1 January 2021 ............................................................ 17

II. Corrections to ECE/TRANS/276 (ADN 2019 publication) (Corrections not requiring acceptance by Contracting Parties) ......................... 25

III. Proposed corrections to the Regulations annexed to ADN (Corrections requiring acceptance by Contracting Parties) ............................... 26
I. Attendance

1. The Joint Meeting of Experts on the Regulations annexed to the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN) (ADN Safety Committee) held its thirty-fifth session in Geneva from 26 to 30 August 2019, with Mr. H. Langenberg (Netherlands) as Chair and Mr. B. Birklhuber (Austria) as Vice-Chair.

2. Representatives of the following countries took part in the work of the session: Austria, Belgium, Bulgaria, Czech Republic, France, Germany, Luxembourg, Netherlands, Romania, Russian Federation, Slovakia and Switzerland.

3. The following intergovernmental organizations were represented: the Central Commission for the Navigation of the Rhine (CCNR), the Danube Commission and the European Union.

4. The following non-governmental organizations were also represented: European Barge Union (EBU), European Bulk Oil Traders’ Association (EBOTA), European Chemical Industry Council (CEFIC), European Skippers Organisation (ESO), Federation of European Tank Storage Associations (FETSA), FuelsEurope, International Committee for the Prevention of Work Accidents in Inland Navigation (CIPA) and Recommended ADN Classification Societies.

II. Opening of the session

Changes in the secretariat

5. On behalf of the Director of the Sustainable Transport Division, Mr. Alexopoulos informed the Safety Committee that, as of 1 June 2019, Mr. Romain Hubert had been appointed as Chief of the “Road Safety Management and Dangerous Goods Section”. He thanked the dangerous goods team for the excellent work done during the interim period between the retirement of Mr. Kervella and the recruitment of Mr. Hubert, to avoid disruption of services. The Safety Committee welcomed Mr. Hubert and joined Mr. Alexopoulos in his appreciation of the excellent performance of the dangerous goods team during that period, and in particular of Ms. Garcia Couto during her time as secretary of the Safety Committee and acting chief of the section.

III. Adoption of the agenda (agenda item 1)

Documents: ECE/TRANS/WP.15/AC.2/71 and Add.1

Informal document: INF.1 (Secretariat)

6. The Safety Committee adopted the agenda prepared by the secretariat, as amended by informal document INF.1 to take account of informal documents INF.2 to INF.37.

IV. Matters arising from the work of United Nations bodies or other organizations (agenda item 2)

7. The representative of the Danube Commission informed the Safety Committee about the new structure and the new mandate of his organization since 1 July 2019 in line with the Belgrad Convention. He reported on the outcome of a seminar, held in Germany on 27 March 2019, on the implementation, within the Danube region, of harmonized inspection and control measures related to inland waterways, including codes of conduct, best practices on the implementation of controls for ADN enforcement, practical information, inspectors training and data on national experts.
V. Implementation of the European Agreement concerning the
International Carriage of Dangerous Goods by Inland
Waterways (ADN) (agenda item 3)

A. Status of ADN

8. The Safety Committee noted no new information on the status of the ADN.

B. Special authorizations, derogations and equivalents

9. As no document had been submitted under this agenda sub-item, no discussion took
place on this subject.

C. Interpretation of the Regulations annexed to the ADN

1. Degassing of tank vessels at reception facilities

Informal documents: INF.14 (Germany), 33 and 35 (EBU/ESO)
INF.26 (Recommended ADN Classification Societies)
INF.36 (Belgium)

10. The Safety Committee welcomed the proposal by Germany and noted four possible
processes of degassing tank vessels at reception facilities: two open and two closed systems.
Open systems should be equipped with appropriate flame arresters and, when necessary, with
low pressure safety valves. The representative of EBU underlined the need to amend
7.2.3.7.2.3 and to consider explosion protection systems when degassing tank vessels to an
onshore reception facility (informal document INF.35) using spring-loaded low-pressure
valves (portable or fix ones). He confirmed that such spring-loaded valves did not yet exist.
It was also noted that low-pressure valves were not yet defined in the ADN. The Safety
Committee was of the opinion that ADN should regulate the safety equipment and safety
requirements on board of vessels but could not regulate onshore facilities. There was a
preference to go forward in a first step with amendments to 7.2.3.7.2.3 and to clarify the use
of the terms “deflagration” and “detonation” (see informal document INF.26, para. 5).

11. The representative of EBU questioned the scope and priority of ADN with respect to
safety related matters versus environmentally related ones (informal document INF.33).
A number of delegates were of the opinion that ADN should focus on safety related matters
and that the environmental issues should be addressed by other bodies such as the Convention
on the collection, deposit and reception of waste produced during navigation on the Rhine
and inland waterways (CDNI). It was also noted that degassing to the atmosphere of tank
vessels in densely populated areas was already prohibited in ADN. The representative of the
Netherlands requested the Safety Committee for an official interpretation of the term
“densely populated areas” as it was causing implementation questions in practice.

12. The Safety Committee agreed to not offer an official interpretation and decided
instead to create an informal working group chaired by the representative of Belgium and
facilitated by the representatives of the Netherlands with the following terms of reference:

"The informal working group is requested:

• To review the benefits and disadvantages of amending the prohibition regarding
degassing to the atmosphere in densely populated areas in 7.2.3.7.1.2 and
7.2.3.7.1.3;

• To check the historical background of the requirements in the last paragraph of
7.2.3.7.1.2 and 7.2.3.7.1.3;

• To check whether regulations on operational emissions during the carriage of
dangerous goods on inland waterways exist, both in countries which are
Contracting Parties to the CDNI-Convention and other countries which are Contracting Parties to the ADN;

- To propose amendments, if reviewing of the requirements in 7.2.3.7.1.2 and 7.2.3.7.1.3 is needed;
- To report the results of the informal working group at the 36th session of the ADN Safety Committee in January 2020.”

13. The Safety Committee noted that the first meeting of the informal working group is scheduled to take place in Antwerpen, on 20-21 November 2019.

2. **Loading and unloading rates**

   Informal document: INF.9 (Netherlands)

14. The Safety Committee thanked the representatives of the Netherlands and EBU for the information and for bringing this topic forward for discussion. It was agreed that the issues identified in the informal document related to provisions missing in the ADN were the starting point for a future proposal aimed at harmonising loading/unloading practices. It welcomed the initiative by the Netherlands to develop a general format for loading and unloading instructions containing permissible loading and unloading flows, taking into account the barge configuration as well as the substance characteristics.

15. The Safety Committee noted a number of comments on the use in practice of the existing prescriptions in chapters 7 and 9 as well as the appropriate uniform format of the data sheet for loading/unloading operations to facilitate communication between the terminal and the barge operators. It underlined the need to clarify: (i) the determination of loading speed and vapour-density, (ii) the responsibilities for providing the data sheet and (iii) the definitions and provisions to be included in the ADN.

16. The Safety Committee welcomed the proposal by the representatives of the Netherlands and EBU to prepare a proposal for consideration at one of the next sessions, taking account the comments received.

3. **Substances with 60 °C < Flash Point ≤ 100 °C and Environmentally Hazardous Substance (EHS) classified under UN No. 3082 or ID 9003**

   Document: ECE/TRANS/WP.15/AC.2/2019/34 (CEFIC)

17. The Safety Committee noted the proposal by CEFIC regarding the appropriate classification criteria to apply for Substances with 60 °C < Flash Point ≤ 100 °C and Environmentally Hazardous Substance (EHS). It was agreed to refer the subject to the informal working group on substances. The Chair of the informal working group confirmed the need to further discuss this subject in the group and to come back with a concrete proposal at a next session.

4. **Degassing of tank vessels**

   Informal document: INF.2 (Germany)

18. After clarifying that the problem described in the informal document was of general nature, a number of delegations supported the interpretation provided by Germany in paragraph 5 of the document. It was noted that the provisions of 7.2.5.0.1 shall be supplemented with additional conditions for removing the blue lights/blue cones. The representatives of EBU underlined the importance of the compatibility of substances subsequently loaded in cargo tanks. The representative of CEFIC added that, according to a guideline of the chemical industry for loading and unloading of sulphuric acid (UN Nos. 1830 and 1831), the operations must be coordinated and documented by the loading operator, the skipper and the unloading operator. The representative of the Danube Commission informed the committee about the planned implementation of CDNI in the Danube region.
19. Following the principle that precedence of hazards should be addressed for each specific substance, it was concluded that a systematic approach should be found to include provisions in the ADN. The Safety Committee welcomed the intention of Germany to present at a further session a concept paper addressing this subject.

5. **Sampling devices and ventilation**

*Informal document:* INF.28 (Austria)

20. On sampling devices, some delegates were of the opinion that an updated list of approved devices was necessary and that, in the case a vessel is sold to another country, the approved sampling devices should be accepted by the competent authority and/or classification society of that country according to the principles of mutual recognition among the ADN contracting parties. The representative of Germany recalled his efforts in the past to clarify in this respect the responsibilities of the competent authority and the classification societies. He questioned the need to remove the provisions from the ADN. It was concluded that the requirement of a type approved by the Competent Authority should be deleted. The representative of Austria agreed to submit a proposal for the forthcoming session.

21. On the interpretation of 9.3.3.12.2, the Safety Committee, subject a final review by the Recommended ADN Classification Societies at the next session, concluded that:

- Ventilation systems did not strictly mean active systems, it was therefore not necessary to install fans;
- Yes, hatch covers can be used as an appropriate “ventilation system”; 
- Yes, a goose neck is an appropriate “ventilation system”;
- Yes, two appropriately positioned ventilation openings (e.g. ventilation hoods) per room are appropriate “ventilations systems”;
- No, it is not necessary to install flame arresters in the ventilation openings of tank vessels of type N open with flame arresters and type N closed.

6. **Proposal of adaption of ADN 8.3.5 “Work on board”**

*Informal documents:* INF.16 (EBU/ESO) and INF.30 (European Commission)

22. The representative of EBU recalled that, according to 8.3.5, it was not always clear whether repair or maintenance work might be executed on board of vessels. He proposed to amend these provisions and to list specific works that may be performed taking into account the overall work safety rules and standards as well as the ATEX-directive. Several representatives preferred not to lower the stringency of 8.3.5. and to keep the status quo. The representative of EBU announced to prepare a guideline document on different types of “work on board” for further consideration at the next session.

23. The Safety Committee welcomed the information by the European Commission on the European standard EN 60079-20 and on the EU decision 2019/1202 on the harmonised standards for equipment and protective systems intended for use in potentially explosive atmospheres drafted in support of directive 2014/34/EU.

7. **Calibration of detection systems with n-hexane and gas detectors**

*Informal document:* INF.17 (EBU/ESO)

24. The representative of EBU raised concerns about the new requirements in ADN 2019 on the calibrations of gas detection systems according to the most critical substances as no ranking list for such substances with the Lowest Explosion Level (LEL) was existing. He added that the practical use of diverse calibration gas/liquids would result in false or extra alarm cases. The Safety Committee mandated the informal working group on substances to further investigate this subject and to come up with a possible solution.
8. Gas detection system

Informal document: INF.21 (Germany)

25. The Safety Committee also mandated the informal working group on substances to consider and to clarify the text of 7.2.3.6. in the different languages, including the Russian version.

9. About classification of zones – Zone 1

Informal document: INF.25 (Recommended ADN Classification Societies)

26. The Safety Committee thanked the Recommended ADN Classification Societies for identifying discrepancies regarding the definition of Zone 1 in all language versions of ADN. It was clarified that the intention in the original proposal was to describe the area between two concentric circles, where the inner circle was the opening and the outer circle had a radius equal to the radius of the inner circle + 2.50 m (or an outer rim with a width of 2.50 m). Regarding the height of the three-dimensional shape, it was stated that it should be 2.50 m over deck and 1.50 m over piping. A proposal aimed at resolving these discrepancies will be drafted by the representatives of the Netherlands and the Recommended ADN Classification Societies for the next session of the Safety Committee.

27. In relation to the question in paragraph 11, it was clarified that bolted blind flange openings should be considered as openings in the framework of explosion protection, unless otherwise specified in the definition of Zone 1.

D. Training of experts

1. Proposal to update the work schedule of the informal working group on the training of experts

Document: ECE/TRANS/WP.15/AC.2/2019/25 (CCNR)
Informal documents: INF.29 (Germany) and INF.10 (CCNR)

28. The Safety Committee considered the report of the twentieth meeting of the informal working group on the training of experts as reflected in ECE/TRANS/WP.15/AC.2/2019/25 and adopted the amendments proposed in its Annex 1. The Safety Committee was reminded that statistics on examinations should be sent to the UNECE secretariat and, in order to harmonize the reported data, it adopted the model proposed in Annex 2 of the report.

29. The representative of CCNR volunteered to prepare in due time an official document proposing the amendments referred to in paragraphs 32 to 34 of the report. With respect to Annex 3 on the development of multiple-choice written tests it was agreed that the informal working group should resume consideration on:

(i) The proficiency level of the examination language;
(ii) The extension of the examination time; and
(iii) Simpler formulation of questions using schemes or figures if appropriate and reducing the number of answers to three, including two plausible but wrong ones.

30. The Safety Committee agreed with the informal working group’s understanding that, following the end of the transitional period for the stability training, the duration of the refresher course should become again a two-day course, instead of a three-day course.

31. The Safety Committee endorsed the updated work schedule of the informal working group as reflected in informal document INF.10. It was noted that the next meeting of the informal working group was scheduled to be held on 24-26 March 2020.
E. Matters related to classification societies

1. Content of vessel record

*Informal document:* INF.4 (Recommended ADN Classification Societies)

32. The Safety Committee welcomed the proposal by the informal working group of Recommended ADN Classification Societies and noted several comments on informal document INF.4. Opinions were divided as to whether the list would be indicative or binding as well as the core content of the vessel record. The Safety Committee agreed that the vessel record should, in principle, not be subjected to inspection and should be restructured to reflect ADN related requirements only.

33. The Safety Committee invited the informal working group to resume its consideration taking into account the comments received as it felt premature to adopt the list of content for vessel records. The Safety Committee requested the secretariat to correct in the English version of the ADN the date in 1.6.7.2.2.5 to read “1 July 2017” (see Annex II).

2. Minutes of the seventeenth meeting of the informal working group of Recommended ADN Classification Societies

*Informal documents:* INF.11 and INF.22 (Recommended ADN Classification Societies)

34. The Safety Committee took note of the report of the informal working group as reflected in informal document INF.11. and addressed items 2(e), 4(b), 4(k) and 4(u) of the report as follows:

- On the use of LNG boil off as fuel (item 2(e)): the Safety Committee expected the informal working group to resume consideration of a new proposal based on the International Gas Carrier Code (IGC Code) of the International Maritime Organisation;

- On battery powered ships (item 4(b)): the Safety Committee requested the CCNR secretariat to keep it informed about technical developments in the working group on technical requirements (CESNI-PT) in order to take them into account in future proposals of amendments;

- On the explosion group of non-electrical equipment (item 4(k)): the Safety Committee invited the informal working group to conduct a detailed study of the situation in practice of vessels in service before 1995;

- On deflagration, detonation and steady burning (item 4(u)): following the consideration of informal document INF.22, the Safety Committee invited the Recommended ADN Classification Societies to reconsider their proposal taking into account the advice of experts on explosives and to submit an official document for consideration at the next session.

3. Actual status of approval of loading instruments

*Informal document:* INF.12 (Recommended ADN Classification Societies)

35. The Safety Committee noted the progress by the informal working group of Recommended ADN Classification Societies on the approval of loading instruments and expected classification societies to conclude their task by the end of the year.

4. ADN 7.2.2.19.3 – Pushed convoys and side-by-side formations

*Informal documents:* INF. 6 (France)

INF.13 (Recommended ADN Classification Societies)
36. The Safety Committee considered informal document INF.13 and noted a number of comments mainly on the principles of inserting appropriate transitional provisions. The Recommended ADN Classification Societies were urged to prepare in due time an official document for consideration by the Committee at its forthcoming session.

5. Transitional provisions about the explosion group / subgroup

Informal document: INF.24 (Recommended ADN Classification Societies)

37. The secretariat informed the Safety Committee that the proposed correction to ECE/TRANS/WP.15/AC.2/70 had been resolved by issuing a corrigendum (ECE/TRANS/WP.15/AC.2/70/Corr.1). With respect to the application of transitional provisions to other protection systems listed in informal document INF.24, the representative of the Netherlands volunteered to prepare in due time an official document for consideration at the next session.

6. Reference to compliance with ISO/IEC 17020:2012 (ECE/TRANS/WP.15/AC.2/68)

Informal document: INF.34 (Russian Maritime Register of Shipping)

38. The Safety Committee welcomed the information in informal document INF.34 and noted that the same information was listed on the agenda of the ADN Administrative Committee.

VI. Proposals for amendments to the Regulations annexed to ADN (agenda item 4)

A. Work of the RID/ADR/ADN Joint Meeting

Documents: ECE/TRANS/WP.15/AC.1/150, annex IV
ECE/TRANS/WP.15/AC.1/152, annex II
ECE/TRANS/WP.15/AC.1/154, annex II
ECE/TRANS/WP.15/244, annex I
ECE/TRANS/WP.15/246, annex

39. The secretariat was asked to consolidate into a single document all the amendments adopted by the Joint Meeting and by WP.15 in 2018 and 2019 that should also be reflected in the Regulations annexed to ADN and had not yet been adopted, for consideration at the next session.

Informal documents: INF.15 and 27 (Secretariat)

40. The Safety Committee welcomed the consolidated proposal by the secretariat containing all the amendments to be adopted by the Joint Meeting at its 2019 autumn session that should also be reflected in the Regulations annexed to ADN. It noted the comments by the secretariat and agreed on the following actions:

- On 5.4.1, it was decided to wait for the outcome of the IMO’s Editorial and Technical Group (E&T) of the Sub-Committee on Carriage of Cargoes and Containers (CCC) at its September 2019 session and to decide at a later stage if changes to the transport document were necessary for ADN;
- On 5.5.4, it was recommended to wait for the outcome of the E&T group at its September 2019 session as the insertion of a new subparagraph 5.5.4.1 (d) might be relevant for ADN;
- On Chapter 7.1, the representatives of the contracting parties were invited to consult their national competent authorities on radioactive substances to explore which of the proposed options could be acceptable to be inserted in the ADN. The Safety Committee took note of the request from the OTIF secretariat to review the use of the
term “conveyance” throughout the ADN presented in informal document INF.15 and agreed to review the outcome of discussions at the 2019 autumn session of the Joint Meeting.

41. The Safety Committee was informed that an informal working group meeting on the improvement of accident reports was scheduled to be held in Brussels, on 3 October 2019. All delegates were invited to participate in that meeting.

B. Other proposals

1. Proposal for amendment of UN 2057 (Tripropylene) in Table C

   Document: ECE/TRANS/WP.15/AC.2/2019/27 (CEFIC)
   Informal document: INF.37 (CEFIC)

   42. Upon the request of the Netherlands, the representative of CEFIC provided the Safety Data Sheet for UN 2057 (Tripropylene) as included in informal document INF.37. He volunteered to resubmit the proposed amendment for a final review by the Safety Committee at its forthcoming session.

2. Definition for vapour return piping (on shore) in 1.2.1 of ADN

   Document: ECE/TRANS/WP.15/AC.2/2019/33 (CEFIC)

   43. The Safety Committee adopted the proposal to amend the definition in 1.2.1 of the ADN on “vapour return piping (on shore)” (see Annex I).

3. Request for discussion on entries in Table C where remark 44 is indicated

   Informal document: INF.31 (CEFIC and FuelsEurope)

   44. The Safety Committee endorsed the intention of CEFIC and FuelsEurope to simplify Table C of the ADN. The representative of FuelsEurope volunteered to prepare a detailed document for further consideration at the next session. The Safety Committee referred informal document INF.31 to the informal working group on substances for further consideration at its next meeting.

4. Request for discussion on entries in Table C containing more than 10 % benzene and those identified by a star

   Informal document: INF.32 (CEFIC and Fuels Europe)

   45. On the proposal by CEFIC and Fuels Europe to simplify Table C of the ADN with respect to substances containing more than 10 % Benzene, the Safety Committee suggested going forward in the same way as for informal document INF.31.

5. Corrections to ADN 2019

   Documents: ECE/TRANS/WP.15/AC.2/2019/18 (Austria)
               ECE/TRANS/WP.15/AC.2/2019/21 (CCNR)

   46. Upon the proposal in ECE/TRANS/WP.15/AC.2/2019/18 by the representative of Austria, the Safety Committee adopted the amendment to 8.1.2.3 (f) (see Annex I) and the correction to 7.2.3.1.6 (French version only) to indicate that these provisions apply to empty cargo tanks (see Annex III).

   47. The Safety Committee welcomed the proposal by CCNR in ECE/TRANS/WP.15/AC.2/2019/21 and adopted the correction to the table of contents (see Annex II) and the amendments to 1.6.7.2.1.3, 1.6.7.2.2.2 (except those proposed in
paragraph 5), 1.6.7.2.3.1, 2.2.61.1.4, 2.2.9.1.10.3 and 8.1.2.1 (b) (see Annex I). For the proposed correction in 3.3.1 special provision 241, the secretariat was requested to submit a correction to the Model Regulations for the consideration of the TDG Sub-Committee, including an appropriate correction to the reference of the test number N. 1 and the particle size.

6. **1.1.3.6 and 1.10.4 of ADN - Exemptions related to the carriage of dangerous goods of Class 7**

*Document:* ECE/TRANS/WP.15/AC.2/2019/19 (France and Germany)

48. The Safety Committee adopted the proposal by France and Germany in paragraphs 12 and 13 and agreed to amend 1.1.3.6 and 1.10.4 of ADN (see Annex I).

7. **Fire-extinguishing system on board a convoy (pusher and non-motorized barge) or on board a single barge (non-motorized)**

*Document:* ECE/TRANS/WP.15/AC.2/2019/20 (France)

49. The Safety Committee endorsed the proposal by France to close the discussion on this subject. The Safety Committee came however to the conclusion that further investigation was necessary regarding unmanned non-motorized barges, the sources of energy and electrical installations for the pumps on such barges and the interpretation of “not in the same space” by the different classification societies. It asked the informal meeting of classification societies to discuss these topics.

8. **1.1.3.6 of ADN - Exemptions related to quantities carried on board vessels**

*Document:* ECE/TRANS/WP.15/AC.2/2019/23 (Germany)

50. The Safety Committee adopted the amendments proposed by Germany (see Annex I).

9. **Corrections to inconsistencies in the models for certificates of approval**

*Document:* ECE/TRANS/WP.15/AC.2/2019/24 (France)

Informal documents: INF.3 (France) and INF.19 (Recommended ADN Classification Societies)

51. The Safety Committee adopted in principle the amendments proposed by France in ECE/TRANS/WP.15/AC.2/2019/24 and informal document INF.3. Regarding the proposals on informal document INF.19, for proposal A, a number of delegates preferred to keep points 8 and 13 of the model unchanged. On proposal B, the Safety Committee endorsed the proposed correction to the French version of the certificate and recommended to insert a line numbering in the whole table.

52. The representative of France volunteered to review the proposed amendments and submit in due time a new document for consideration at the next session.

10. **Update of the vessel checklists in accordance with 1.8.1.2.1**

*Document:* ECE/TRANS/WP.15/AC.2/2019/26 (France)

Informal document: INF.23 (Germany)

53. The Safety Committee welcomed the amendments by France in ECE/TRANS/WP.15/AC.2/2019/26 and adopted the proposal to add a new paragraph to 1.8.1.2 of ADN (see Annex I).

54. On the proposed update of the standardized vessel checklist in Annexes 1 and 2, the representative of Germany suggested taking into account the amendments proposed in
informal document INF.23. The Safety Committee thanked the representatives of France, Germany and Austria for the work done on the checklist. They volunteered to prepare a consolidated document for consideration at the next session. The representative of the Russian Federation offered his assistance for the Russian language.

11. Amendment to 8.1.2.3: On board documents (tank vessels) – Transitional provisions

Document: ECE/TRANS/WP.15/AC.2/2019/28 (EBU and ESO)

55. Some delegates raised concerns on the restructuring of transitional provisions proposed in paragraph 2 for the presence of the plan with classification of zones only after 31 December 2034. It was also noted that current legal requirements needed clarification and that a more comprehensive approach was required to avoid misinterpretation of the regulations. The Safety Committee agreed to resume consideration of the subject at its next session and invited the representatives of EBU/ESO to draft a new proposal for the upcoming session.

12. Hose assemblies for LNG

Document: ECE/TRANS/WP.15/AC.2/2019/29 (Netherlands)

56. The document received some general support, but some clarification was needed with respect to responsibilities of the inspections to be performed according to standard ISO 20519. The representative of the Netherlands volunteered to review the document in this respect and to prepare a revised document for consideration at the next session.

13. Amendments to 8.1.2.3: On board documents (tank vessels)

Document: ECE/TRANS/WP.15/AC.2/2019/30 (EBU and ESO)

57. On the proposal of EBU to clarify the provisions in 8.1.2.3 on the presence of certain on-board documents after the entry into force of the new concept of explosion protection, the Safety Committee confirmed that documents related to explosion protection were only necessary when the list of substances of the vessel included substances for which explosion protection was required in accordance with column (17) of Table C of Chapter 3.2.

14. Amendment to 8.1.2.2: Documents to be carried on board (dry cargo vessels)

Document: ECE/TRANS/WP.15/AC.2/2019/31 (EBU and ESO)

58. The amendments proposed in the document received a number of comments and requests for clarification on the classification of the relevant zones. The Safety Committee did not support the document and referred to its position as stipulated in paragraph 57 above (amendments to 8.1.2.3).

15. Amendment to 7.1.4.1: Limitation of the quantities carried

Document: ECE/TRANS/WP.15/AC.2/2019/32 (EBU and ESO)

59. On proposal 1, the Safety Committee confirmed that the words “No limitation” should be interpreted as meaning “1,100,000 kg”. The suggested amendments under proposal 2 raised a number of requests for clarifications. The Safety Committee agreed to resume consideration of this subject at its next session and invited the representatives of EBU and ESO to further elaborate the proposal.
16. Corrections to 9.3.x.12.4 (b)(i)

*Informal document:* INF.18 (Recommended ADN Classification Societies)

60. The Safety Committee considered and adopted the corrections proposed in informal document INF.18 (see Annex III).

17. Corrections to the transitional provision for 9.3.1.17.4 / 9.3.3.17.4 in 1.6.7.2.2

*Informal document:* INF.20 (Recommended ADN Classification Societies)

61. The Safety Committee noted the corrections proposed in informal document INF.20 and adopted them (see Annex II).

VII. Reports of informal working groups (agenda item 5)

A. Report of the fourth meeting of the informal working group on membrane tanks

*Document:* ECE/TRANS/WP.15/AC.2/2019/22 (France and the Netherlands)

62. The Safety Committee welcomed the report of the fourth meeting of the informal working group on membrane tanks (ECE/TRANS/WP.15/AC.2/2019/22) and, in particular, the information provided in paragraphs 4 to 7 of the document on the loading and unloading of refrigerated or liquefied gases and the necessary future amendments to ADN. It also took note of some corrections identified by the informal working group and that the next meeting was scheduled to be held in Brussels, on 1-2 October 2019.

63. The chair of the informal working group on “substances” (see informal document INF.7, section J) pointed out that his group addressed the 16 UN numbers that had been initially selected and verified whether the special requirements of the IGC code pose any contradictory or additional requirements for carriage by inland waterway tankers as compared with the ADN. He added that his group came to the following conclusions:

(i) Because carriage in G-vessels, some of them refrigerated, of all the relevant substances in the ADN is already regulated, in the informal “substances” working group’s opinion there are no new or amended requirements as concerns personal protection equipment;

(ii) In the opinion of the informal working group on “substances” the special requirements for UN 2187 carbon dioxide, refrigerated, liquid (both entries) contained in the IGC code indicate carriage in a pressure tank. This being so, it is recommended that the informal “membrane tanks” working group re-examine whether carriage in membrane tank should be stipulated;

(iii) The discussion in the informal working group on “substances” was unable to provide any definitive clarity on whether membrane tanks fully comply in all cases with the definition of an independent cargo tank, as required in some instances in the IGC code. The informal working group on “substances” recommends having this issue re-examined by the informal working group on “membrane tanks”. The findings should be taken into account in the ADN in the definition of the new tank type for membrane tanks;

(iv) As a precaution, the informal working group on “substances” would also like to point out that in developing the requirements for carriage in membrane tanks, the latter must be compatible and compliant with the requirements arising from the new explosion protection concept, especially with regard to autonomous protective systems.
64. The chair of the informal working group on “substances” concluded with the following recommendations:

- In conjunction with the flowchart and classification criteria for substances, substances that are earmarked for carriage in membrane tanks should initially be included as a separate list;
- In accordance with the afore-mentioned list, additional new rows should then be inserted in Table C.

65. The Safety Committee supported that approach and invited the informal working group on membrane tanks to develop, on a step by step approach, the provisions for carriage in membrane tanks.

B. Report of the third meeting of the informal working group on “loading on top of barges”

*Informal document:* INF.5 (Chair of the informal working group)

66. The chair of the informal working group recalled the group’s mandate and reported on the poor outcome of its meeting held in Strasbourg, on 15 May 2019, mainly due to the lack of concrete examples of loading on top of the same cargo. The representative of EBOTA and Fuels Europe confirmed that such evidences have been finalized in the meantime and apologized for that delay.

67. The Safety Committee agreed to extend the mandate of the informal working group and welcomed the intention by the Netherlands to tentatively host the next meeting in Den Haag on 28 October 2019.

C. Report of the eleventh meeting of the informal working group on “Substances”

*Informal document:* INF.7 (CCNR)

68. The chair of the informal working group reported on the good progress made on the development of the master table aimed to avoid inconsistencies in the names and descriptions in Tables A and C, including the various ADN language versions. The Safety Committee endorsed the group’s conclusions on heated substances handed over for carriage as reflected in paragraph 7 of informal document INF.7.

69. The Safety Committee considered and adopted the amendments proposed in paragraphs 16-21, 23, 26, 33-35, 40 and 42. It also adopted the proposal in paragraph 8 as amended. The decisions on proposals in paragraphs 30, 31 and 41 were differed to the next session of the Safety Committee.

70. The Safety Committee concluded that the existing transitional provision in 1.6.7.4.1 provided for the desired transitional period on the entries for bilge water in Table C and requested the informal working group to further discuss the issues in paragraphs 28 and 29 of the report (INF.7). It also agreed to include in the mandate of the informal working group on “substances” the tasks listed in paragraphs 48 and 49 of the report.

VIII. Programme of work and calendar of meetings (agenda item 6)

71. The Safety Committee noted that its thirty-sixth session was scheduled to be held in Geneva from 27 to 31 January 2020 and that the twenty-fourth session of the ADN Administrative Committee was scheduled to take place on 31 January 2020 (from 12:00 to 13:00). The deadline for the submission of documents for these meetings was 1 November 2019.
IX. Any other business (agenda item 7)

72. No other business was discussed.

X. Adoption of the report (agenda item 8)

73. The Safety Committee adopted the report on its thirty-fifth session and its annexes on the basis of a draft prepared by the secretariat.
Annex I

[Original: English and French]

Proposed amendments to the Regulations annexed to ADN for entry into force on 1 January 2021

Chapter 1.1

1.1.3.6.1 Amend to read as follows (replaces amendment in ECE/TRANS/WP.15/AC.2/70):

“1.1.3.6.1 In the event of the carriage of dangerous goods in packages, the provisions of ADN other than those of 1.1.3.6.2 are not applicable when the gross mass of all the dangerous goods carried does not exceed 3,000 kg and for the individual classes does not exceed the quantity that is indicated in the Table below:

<table>
<thead>
<tr>
<th>Class</th>
<th>Substances or articles in packages</th>
<th>Exempted quantities in kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>all</td>
<td>Carriage in tanks, of any Class</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>Substances and articles of Class 1</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>- Substances and articles of Class 2, groups T, TF, TC, TO, TFC or TOC, according to 2.2.2.1.3 and Aerosols of groups C, CO, FC, T, TF, TC, TO, TFC and TOC according to 2.2.2.1.6;</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>- Substances and articles of Class 2 of group F in accordance with 2.2.2.1.3 or; Aerosols of group F according to 2.2.2.1.6;</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>Any other substances of Class 2</td>
<td>3000</td>
</tr>
<tr>
<td>3</td>
<td>Substances and articles of Class 3, Packing Group I</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>Any other substances of Class 3</td>
<td>3000</td>
</tr>
<tr>
<td>4.1</td>
<td>Substances and articles of Class 4.1 for which a danger label of model No. 1 is required in column (5) of Table A of Chapter 3.2;</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Any other substances and articles of Class 4.1, Packing Group I</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>Any other substances and articles of Class 4.1</td>
<td>3000</td>
</tr>
<tr>
<td>4.2</td>
<td>Substances and articles of Class 4.2, Packing Group I</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>Any other substances and articles of Class 4.2</td>
<td>3000</td>
</tr>
<tr>
<td>4.3</td>
<td>Substances and articles of Class 4.3, Packing Group I</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>Any other substances and articles of Class 4.3</td>
<td>3000</td>
</tr>
<tr>
<td>5.1</td>
<td>Substances and articles of Class 5.1, Packing Group I</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>Any other substances and articles of Class 5.1</td>
<td>3000</td>
</tr>
<tr>
<td>5.2</td>
<td>Substances and articles of Class 5.2 for which a danger label of model No. 1 is required in column (5) of Table A of Chapter 3.2;</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Any other substances and articles of Class 5.2</td>
<td>3000</td>
</tr>
<tr>
<td>6.1</td>
<td>Substances and articles of Class 6.1, Packing Group I</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Any other substances and articles of Class 6.1</td>
<td>3000</td>
</tr>
<tr>
<td>6.2</td>
<td>Substances and articles of class 6.2, Category A</td>
<td>0</td>
</tr>
</tbody>
</table>
### Class 6.2

<table>
<thead>
<tr>
<th>Class</th>
<th>Substances or articles in packages</th>
<th>Exempted quantities in kg:</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.2</td>
<td>Any other substances and articles</td>
<td>3000</td>
</tr>
</tbody>
</table>

### Class 7

<table>
<thead>
<tr>
<th>Class</th>
<th>Substances or articles in packages</th>
<th>Exempted quantities in kg:</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Substances and articles of Class 7 under UN Nos. 2908, 2909, 2910 and 2911</td>
<td>3000</td>
</tr>
<tr>
<td></td>
<td>Any other substances and articles of Class 7</td>
<td>0</td>
</tr>
</tbody>
</table>

### Class 8

<table>
<thead>
<tr>
<th>Class</th>
<th>Substances or articles in packages</th>
<th>Exempted quantities in kg:</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Substances and articles of Class 8, Packing Group I</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>Any other substances and articles of Class 8</td>
<td>3000</td>
</tr>
</tbody>
</table>

### Class 9

<table>
<thead>
<tr>
<th>Class</th>
<th>Substances or articles in packages</th>
<th>Exempted quantities in kg:</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>All substances and articles of Class 9</td>
<td>3000</td>
</tr>
</tbody>
</table>

(Reference documents: ECE/TRANS/WP.15/AC.2/2019/23 and ECE/TRANS/WP.15/AC.2/70)

1.1.3.6.2 Amend as follows:

Insert a new subparagraph (b), to read as follows:

“(b) The requirements of sections 1.10.1, 1.10.2 and 1.10.3 apply to packages bearing UN Nos. 2910 and 2911 of Class 7 if the activity level (per package) exceeds the A2 value.”.

Renumber existing paragraphs accordingly.

In subparagraph (g) (former (f)) Replace “under (d) and (e)” by “under (e) and (f)”.

(Reference document: ECE/TRANS/WP.15/AC.2/2019/19)

### Chapter 1.2

1.2.1 In the definition for “Vapour return piping (on shore)” delete the last sentence.

(Reference document: ECE/TRANS/WP.15/AC.2/2019/33)

### Chapter 1.6

1.6.7.2.1.3 Delete and insert “1.6.7.2.1.3 (Deleted)”.

(Reference document: ECE/TRANS/WP.15/AC.2/2019/21)

1.6.7.2.2 Delete transitional provision for 7.2.3.20.1: Fitting of ballast tanks and compartments with level indicators.

(Reference document: ECE/TRANS/WP.15/AC.2/2019/21)

1.6.7.2.2 Delete transitional provision for 8.1.6.2: Hose assemblies.

(Reference document: ECE/TRANS/WP.15/AC.2/2019/21)

1.6.7.2.2 Delete transitional provision for 9.3.1.21.5 (b), 9.3.2.21.5 (b), 9.3.3.21.5 (d): Installation of on-board pump switch-off from the shore.

(Reference document: ECE/TRANS/WP.15/AC.2/2019/21)

1.6.7.2.2 Delete transitional provision for 9.3.2.21.5 (c): Device for rapid shutting off of refuelling.

(Reference document: ECE/TRANS/WP.15/AC.2/2019/21)

1.6.7.2.2 Delete transitional provision for 9.3.1.41.2, 9.3.2.41.2, 9.3.3.41.2, in conjunction with 7.2.3.41: Heating, cooking and refrigerating appliances.

(Reference document: ECE/TRANS/WP.15/AC.2/2019/21)

1.6.7.2.3.1 Delete and insert “1.6.7.2.3.1 (Deleted)”.

(Reference document: ECE/TRANS/WP.15/AC.2/2019/21)
Chapter 1.8
1.8.1.2  Add a new paragraph 1.8.1.2.4 to read as follows:

“1.8.1.2.4  Checklists used by the authorities of Contracting Parties shall be drawn up at least in the language of the issuing country and also, if that language is not French, English or German, in French, English or German1.”

1  The checklist is not included in the documents to be kept on board according to 8.1.2.1.

Chapter 1.10
1.10.4  Amend the beginning of the first sentence to read as follows: “Except for radioactive material bearing UN Nos. 2910 and 2911, if the activity level (per package) exceeds the $A_2$ value, the requirements of 1.10.1, 1.10.2 and 1.10.3 do not apply…”

Remainder unchanged.

Chapter 2.2
2.2.41.2.3  At the end, delete: “Barium azide with a water content less than 50% (mass).”.

2.2.61.1.14  Amendment to footnote 3 does not apply to the English text.

2.2.9.1.2  At the end insert: “M12  Other substances and articles presenting a danger during carriage in tank vessels, but not meeting the definitions of another Class”.

2.2.9.1.10.3  Amendment to footnote 3 does not apply to the English text.

2.2.9.3  In classification code M6, delete the entries for substance numbers 9005 and 9006.

2.2.9.3  List of entries In subdivision “M11”, add the following entries: “2216 FISH MEAL, STABILISED” and “2216 FISH SCRAP, STABILISED”.

References:
- ECE/TRANS/WP.15/AC.2/2019/26 as amended
- ECE/TRANS/WP.15/AC.2/2019/21
- ECE/TRANS/WP.15/AC.2/2019/20
- ECE/TRANS/WP.15/AC.2/2019/19
- informal document INF.7
2.2.9.3 List of entries Insert the following new entry at the end:

<table>
<thead>
<tr>
<th>Other substances and articles presenting a danger during carriage in tank vessels, but not meeting the definitions of another Class</th>
<th>M12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only substances and articles listed in Table A of Chapter 3.2 are subject to the provisions for Class 9 under this classification code, as follows:</td>
<td></td>
</tr>
<tr>
<td>9003 SUBSTANCES WITH A FLASH-POINT ABOVE 60 °C AND NOT MORE THAN 100 °C, which do not belong to another class</td>
<td></td>
</tr>
<tr>
<td>9004 DIPHENYLMETHANE-4, 4'-DIISOCYANATE</td>
<td></td>
</tr>
<tr>
<td>9005 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.; MOLTEN</td>
<td></td>
</tr>
<tr>
<td>9006 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.</td>
<td></td>
</tr>
</tbody>
</table>

(Reference document: informal document INF.7)

Chapter 3.1

3.1.2.8.1.4 Delete and insert “3.1.2.8.1.4 Deleted”.

(Reference document: informal document INF.7)

Chapter 3.2, Table A

3.2.1 For UN Nos. 2074, 3468 and 1153, packing group II, in column (8) delete “T”.

(Reference document: informal document INF.7)

3.2.1 For UN No. 2216, amend column (2) to read as follows: “FISH MEAL, STABILISED or FISH SCRAP, STABILISED”.

(Reference document: informal document INF.7)

3.2.1 For UN Nos. 2288, 2582, 2785, 2984 and 3429, in column (8) insert “T”.

(Reference document: informal document INF.7)

3.2.1 Amendment for UN No. 2785 does not apply to the English text. In the French text:

3.2.1 Pour le No ONU 2785 dans la colonne (2), supprimer «(MÉTHYLTHIO-3 PROPANAL)».

(Reference document: informal document INF.7)

3.2.1 For UN No. 3456 in column (8) delete “T3”.

(Reference document: informal document INF.7)

3.2.1 For substance number 9001, amend column (2) to read as follows: “SUBSTANCE WITH A FLASHPOINT ABOVE 60° C, HEATED within a range of 15 K below the flashpoint”.

(Reference document: informal document INF.7 as amended)

3.2.1 For substance numbers 9003, 9004, 9005 and 9006, in column 3(b) insert “M12”.

(Reference document: informal document INF.7)

Chapter 3.2, Table C

3.2.3.2 Amendment to UN No. 1177 does not apply to the English text.

(Reference document: informal document INF.7 as amended)

3.2.3.2 For UN No. 2785, in column (2) replace “(3-MÉTHYLMERCAPO-PROPIONALDÉHYDE)” by “(3-METHYLMERCAPO-PROPIONALDEHYDE)”.

(Reference document: informal document INF.7)
3.2.3.2 For substance number 9001, amend column (2) to read as follows: “SUBSTANCE WITH A FLASHPOINT ABOVE 60° C, HEATED within a range of 15 K below the flashpoint”.

(Reference document: informal document INF.7 as amended)

3.2.3.2 For substance numbers 9003, 9004, 9005 and 9006, in column 3(b) insert “M12”.

(Reference document: informal document INF.7)
3.2.3.3 Amend scheme A to read as follows:

**“Scheme A: Criteria for cargo tank equipment in vessels of type C”**

Ascertain which substance/cargo tank characteristics in the first three columns are relevant. Select the applicable row in the relevant column. The cargo tank equipment requirements for C-vessels are then described in this row in the fourth column.

<table>
<thead>
<tr>
<th>Substance/cargo tank characteristics</th>
<th>Requirements arising</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cargo tank internal pressure at liquid temperature of 30 °C and gaseous phase temperature of 37.8 °C &gt; 50 kPa</td>
<td>Cargo tank equipment</td>
</tr>
<tr>
<td>Refrigerated</td>
<td>With refrigeration (No. 1 in column (9))</td>
</tr>
<tr>
<td>Cargo tank internal pressure at liquid temperature of 30 °C and gaseous phase temperature of 37.8 °C ≤ 50 kPa</td>
<td>Cargo tank equipment</td>
</tr>
<tr>
<td>Cargo tank equipment unknown, owing to absence of certain data</td>
<td>Pressure tank (400 kPa)</td>
</tr>
<tr>
<td>Non-refrigerated</td>
<td>Cargo tank internal pressure at 50 °C &gt; 50 kPa without water spraying</td>
</tr>
<tr>
<td>Cargo tank internal pressure at 50 °C &gt; 50 kPa with water spraying</td>
<td>60 °C &lt; boiling point ≤ 85°C</td>
</tr>
<tr>
<td>85 °C &lt; boiling point ≤ 115°C</td>
<td>Pressure relief valve/high velocity vent valve opening pressure: 35 kPa</td>
</tr>
<tr>
<td>Cargo tank internal pressure at 50 °C ≤ 50 kPa</td>
<td>85 °C &lt; boiling point ≤ 115°C</td>
</tr>
<tr>
<td>Cargo tank internal pressure at 50 °C &gt; 50 kPa with water spraying</td>
<td>Pressure relief valve/high velocity vent valve opening pressure: 50 kPa</td>
</tr>
<tr>
<td>Cargo tank internal pressure at 50 °C &gt; 50 kPa without water spraying</td>
<td>60 °C &lt; boiling point ≤ 85°C</td>
</tr>
<tr>
<td>Cargo tank internal pressure at 50 °C ≤ 50 kPa</td>
<td>Pressure relief valve/high velocity vent valve opening pressure as calculated, but at least 10 kPa</td>
</tr>
</tbody>
</table>

(Reference document: informal document INF.7)

3.2.3.3 Amend scheme C to read as follows:

**“Scheme C: Criteria for equipment of vessels of type N with open cargo tanks”**

Ascertain which substance/characteristics in the first three columns are relevant. Select the applicable row in the relevant column. The cargo tank equipment requirements for N-vessels with open cargo tanks are then described in this row in the fourth column.
<table>
<thead>
<tr>
<th>Substance characteristics</th>
<th>Flammable substances</th>
<th>Corrosive substances</th>
<th>Cargo tank equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classes 3 and 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23°C ≤ flash-point ≤ 60°C</td>
<td>Flash-point &gt; 60 °C carried while heated to ≤ 15 K below flash-point or Flash-point &gt; 60 °C, at or above their flash-point</td>
<td>Acids, transported while heated or flammable substances</td>
<td>With flame-arrester</td>
</tr>
<tr>
<td>60 °C &lt; flash-point ≤ 100 °C or elevated temperature substances of Class 9</td>
<td>Non-flammable substances</td>
<td></td>
<td>Without flame-arrester</td>
</tr>
</tbody>
</table>

(Reference document: informal document INF.7)
Chapter 8.1

8.1.2.1 (b) After “for all dangerous goods” insert “carried as cargo”.

(Reference document: ECE/TRANS/WP.15/AC.2/2019/21)

8.1.2.3 Amend subparagraph (f) to read as follows:

“(f) The certificates concerning the inspection of the gas detection systems and the oxygen measuring system prescribed in 8.1.6.3;”

(Reference document: ECE/TRANS/WP.15/AC.2/2019/18)

Chapter 8.2

8.2.2.3.1 Under “Basic course on transport by tank vessels”:
Replace “Knowledge: ADN in general, except Chapter 3.2, Tables A and B, Chapters 7.1, 9.1, 9.2 and sections 9.3.1 and 9.3.2” by “Knowledge: ADN in general, except Chapter 3.2, Table A, Chapters 7.1, 9.1 and 9.2”.

(Reference document: ECE/TRANS/WP.15/AC.2/2019/25)

8.2.2.3.1 Under “Basic course – combination of transport of dry cargo and transport in tank vessels”:
Replace “Knowledge: ADN in general, except sections 9.3.1 and 9.3.2” by “Knowledge: ADN in general”.

(Reference document: ECE/TRANS/WP.15/AC.2/2019/25)

8.2.2.3.2 Under “Refresher training course on transport by tank vessels”:
Replace “Knowledge: ADN in general, except Chapter 3.2, Tables A and B, Chapters 7.1, 9.1, 9.2 and sections 9.3.1 and 9.3.2” by “Knowledge: ADN in general, except Chapter 3.2, Table A, Chapters 7.1, 9.1 and 9.2”.

(Reference document: ECE/TRANS/WP.15/AC.2/2019/25)

8.2.2.3.2 Under “Basic course – combination of transport of dry cargo and transport in tank vessels”:
Replace “Knowledge: ADN in general, including sections 9.3.1 and 9.3.2” by “Knowledge: ADN in general”.

(Reference document: ECE/TRANS/WP.15/AC.2/2019/25)
Annex II

[Original: English and French]

Corrections to ECE/TRANS/276 (ADN 2019 publication) (Corrections not requiring acceptance by Contracting Parties)

1. Volume I, Table of contents
   Insert: “7.1.7 Special provisions applicable to the carriage of self-reactive substances of Class 4.1, organic peroxides of Class 5.2 and substances stabilized by temperature control (other than self-reactive substances and organic peroxides)”.
   (Reference document: ECE/TRANS/WP.15/AC.2/2019/21)

2. Chapter 1.6, 1.6.7.2.2.2, transitional provision for 9.3.1.17.4, 9.3.3.17.4: Distance of openings from the cargo area, column: Time limit and comments
   For existing text read N.R.M Renewal of the certificate of approval after 31 December 2044
   (Reference document: informal document INF.20)

3. Part 1, Chapter 1.6, 1.6.7.2.2.5
   For 1 January July 2017 read 1 July 2017
Annex III

Proposed corrections to the Regulations annexed to ADN
(Corrections requiring acceptance by Contracting Parties)

1. Chapter 7.2, 7.2.3.1.6
   Not applicable to English

2. Chapter 9.3, 9.3.x.12.4 (b)(i)
   For protected area read cargo area
   (Reference document: informal document INF.18)