



Economic and Social Council

Distr.: General
11 November 2022

Original: English

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)

Forty-first session

Geneva, 23-27 January 2023

Item 5 (b) of the provisional agenda

**Proposals for amendments to the Regulations annexed to ADN:
other proposals**

Proposal for a new entry in Table C for UN No. 1977, NITROGEN, REFRIGERATED, LIQUID

Transmitted by the governments of Belgium and the Netherlands* **

Introduction

1. The Belgian government presented during the fortieth meeting of the ADN Safety Committee a special authorization concerning the transport of UN No. 1977, NITROGEN, REFRIGERATED, LIQUID in tank vessels. The special authorization has been accepted by the Administrative Committee during its twenty-eighth session.
2. According to 1.5.2.1.2 of the regulation annexed to the ADN, the special authorization shall be valid for not more than two years and may be renewed with the approval of the competent authorities for a period of not more than one year. This means that in the Regulations annexed to the ADN in force from 1 January 2025, an entry for the substance UN No. 1977, NITROGEN, REFRIGERATED, LIQUID should be added to Table C in Chapter 3.2.
3. The Belgian and the Dutch delegations took into account the remarks made during the session of the ADN Safety Committee and well noted in the report. Since the fortieth session an informal exchange of opinions took place between the Dutch, German and Belgian delegations. Finally, the Dutch and Belgian delegations came to the conclusion that possible additions to Chapter 7.2 are already covered by other prescriptions (e.g. stability and use of materials in the construction of the vessel) within the regulations annexed to the ADN.

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** A/76/6 (Sect.20), para. 20.76.



I. Proposal

4. The Belgian and the Dutch government propose to amend the entry for UN No. 1977 in Table A of Chapter 3.2, to add an entry to Table C of Chapter 3.2, and to amend subsections 3.2.3.1, 3.2.3.3 and 3.2.4.3 as a consequence as follows (new text in bold and underlined, deleted text in strikethrough):

3.2.1 Table A:

UN No. or ID No.	Name and description	Class	Classification Code	Packing group	Labels	Special provisions	Limited and excepted quantities		Carriage permitted	Equipment required	Ventilation	Provisions concerning loading, unloading and carriage			Number of blue cones/lights	Remarks
							3.4	3.5.1.2								
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9)	(10)	(11)		(12)	(13)	
1977	NITROGEN, REFRIGERATED LIQUID	2	3A		2,2	345 346 593	120 ml	E1	T	PP					0	

3.2.3.2 Table C:

UN No. or substance identification No.	Name and description	Class	Classification code	Packing group	Dangers	Type of tank vessel	Cargo tank design	Cargo tank type	Cargo tank equipment	Opening pressure of the pressure relief valve/high velocity vent valve, in kPa	Maximum degree of filling in %	Relative density at 20 °C	Type of sampling device	Pump room below deck permitted	Temperature class	Explosion group	Anti-explosion protection required	Equipment required	Number of cones/blue lights	Additional requirements/Remarks
	3.1.2	2.2	2.2	2.1.1.3	5.2.2 / 3.2.3.1	1.2.1 / 7.2.2.0.1	3.2.3.1 / 1.2.1	3.2.3.1 / 1.2.1	3.2.3.1 / 1.2.1	3.2.3.1 / 1.2.1	7.2.4.2.1	3.2.3.1	3.2.3.1 / 1.2.1	3.2.3.1 / 1.2.1	1.2.1	1.2.1 / 3.2.3.3	1.2.1 / 3.2.3.3	8.1.5	7.2.5	3.2.3.1
1977	<u>NITROGEN, REFRIGERATED, LIQUID</u>	<u>2</u>	<u>3A</u>		<u>2.2</u>	<u>G</u>	<u>1</u>	<u>1</u>	<u>1</u>		<u>95</u>		<u>1</u>	<u>No</u>			<u>No</u>	<u>PP</u>	<u>0</u>	<u>31, 39, 42, XX</u>

In subsection 3.2.3.1 Explanations concerning Table C, Column (20) "Additional requirements/Remarks", amend remark 39 to read as follows:

- "39. (a) The joints, outlets, closing devices and other technical equipment shall be of such a sort that there cannot be any leakage of ~~carbon dioxide~~ **refrigerated liquefied gases** during normal transport operations (cold, fracturing of materials, freezing of fixtures, run-off outlets etc.).
- (b) The loading temperature (at the loading station) shall be mentioned in the transport document.
- (c) An oxygen meter shall be kept on board, together with instructions on its use which can be read by everyone on board. The oxygen meter shall be used as a testing device when entering holds, pump rooms, areas situated at depth and when work is being carried out on board.
- (d) At the entry of accommodation and in other places where the crew may spend time there shall be a measuring device which lets off an alarm when the oxygen level is too low ~~or when the CO₂ level is too high~~.
- (e) The loading temperature (established after loading) and the maximum duration of the journey shall be mentioned in the transport document."

In subsection 3.2.3.1 Explanations concerning Table C, Column (20) "Additional requirements/Remarks", add a new remark xx to read as follows:

"xx. Materials of construction and ancillary equipment such as insulation shall be resistant to the effects of high oxygen concentrations caused by condensation and enrichment at the low temperatures attained in parts of the cargo system. Due consideration shall be given to ventilation in areas where condensation might occur, to avoid the stratification of oxygen-enriched atmosphere."

In subsection 3.2.3.3, Column (20): Determination of additional requirements and remarks, amend remark 39 to read as follows:

"Remark 39: Reference shall be made in column (20) to remark 39 for the carriage of UN Nos. **1977 NITROGEN, REFRIGERATED, LIQUID and** 2187 CARBON DIOXIDE, REFRIGERATED LIQUID of Class 2."

And add a new remark xx to read as follows:

"Remark xx: Reference shall be made in column (20) to remark xx for the carriage of UN No. 1977 NITROGEN, REFRIGERATED, LIQUID of Class 2."

In subsection 3.2.4.3, Column (20): Determination of additional requirements and remarks, amend remark 39 to read as follows:

"Remark 39: Reference shall be made in column (20) to remark 39 for the carriage of UN Nos. **1977 NITROGEN, REFRIGERATED, LIQUID and** 2187 CARBON DIOXIDE, REFRIGERATED LIQUID of Class 2."

And add a new remark xx to read as follows:

"Remark xx: Reference shall be made in column (20) to remark xx for the carriage of UN No. 1977 NITROGEN, REFRIGERATED, LIQUID of Class 2."

II. Remark

5. The Belgian and the Dutch governments noted that in subsections 3.2.3.3 and 3.2.4.3 remarks 44 and 45 may be missing.

III. Justification and interlinkage to sustainable development goals

6. The transport of liquefied nitrogen with inland waterway barges can be considered as a greening in the context of tackling climate change. Therefore, we refer to Sustainable Development Goal 13: Take urgent action to combat climate change and its impacts.

Other goals that may be taken into account are Goal 7 (Ensure access to affordable, reliable, sustainable and modern energy) and Goal 9 (Build resilient infrastructure, promote sustainable industrialization and foster innovation).

IV. Action to be taken

7. The Safety Committee is invited to consider the proposed amendments in paragraph 4 above, and to take action as it deems appropriate.

8. The Informal Working Group on Substances is invited to consider the remark in paragraph 5 above, and to take action as it deems appropriate.
