



**Economic and Social
Council**

Distr.
GENERAL

TRANS/WP.15/AC.2/19/Add.1
26 April 2005

ENGLISH
Original: ENGLISH AND FRENCH

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)

**REPORT OF THE JOINT MEETING OF EXPERTS ON ITS NINTH SESSION*
(24-26 January 2005)**

**Consolidated text of the amendments to the 2005 version of the Regulations annexed to ADN
adopted by the Joint Meeting of Experts at its ninth session**

The secretariat reproduces below the consolidated text of the amendments to the 2005 version of the Regulations annexed to ADN adopted by the Joint Meeting of Experts at its ninth session.

* Distributed in German by the Central Commission for the Navigation of the Rhine under the symbol CCNR/ZKR/ADN/WP.15/AC.2/19/Add.1.

Chapter 1.6

1.6.7.2.3.1 Correct and add to 1.6.7.2.3.1 as follows:

1.6.7.2.3.1 Table of general transitional provisions - Tank vessels		
Paragraphs	Subject	Time limit and comments
8.1.6.2	Compliance of hoses and hose assemblies with standards EN 12115:1999, EN 13765:2003, EN ISO 10380:2003	Hoses and hose assemblies on board at 1 January 2007 which do not comply with the applicable standards may be used up to 31 December 2009 at the latest
9.3.1.10.3 9.3.2.10.3 9.3.3.10.3	Height of sills of hatches and openings above the deck	N.R.M.
9.3.3.11.4	Distance of piping in relation to the bottom	N.R.M.
9.3.1.17.6 9.3.3.17.6	Pump-room below deck	N.R.M. The following requirements apply on board vessels in service: Pump-rooms below deck shall - meet the requirements for service spaces: for type G vessels: 9.3.1.12.3; for type N vessels: 9.3.3.12.3; - be equipped with a gas detection system referred to in 9.3.1.17.6 or 9.3.3.17.6.
9.3.3.21.1 (b)	Liquid level gauge for type N open with flame-arrester and type N open	N.R.M. On board vessels in service fitted with gauging openings, such openings shall: - be arranged so that the degree of filling can be measured using a sounding rod; - be fitted with an automatically-closing cover.
9.3.1.22.1 (b)	Distance of cargo tank openings above the deck	N.R.M.

Chapter 1.8

1.8.1.1.1 End, read: "... Chapter, and including the requirements of 1.10.1.5."

Chapter 1.10

1.10.1.3 Read: "Holding areas in trans-shipment zones for dangerous goods shall be secured, well lit and, where possible and appropriate, not accessible to the general public."

1.10.1.3 Bring the Russian version of the proposed amendment into line with the other versions.

Add:

"1.10.1.4 For each crew member of a vessel carrying dangerous goods, means of identification, which includes a photograph, shall be on board during carriage."

- 1.10.1.5 Insert: “Safety checks in accordance with 1.8.1 shall also concern the implementation of security measures.”
- 1.10.1.6 Replace “... training certificates for experts stipulated in 8.2.1 ...” by “... certificates for experts stipulated in 8.2.1 ...”.
- 1.10.3.1 The definition of “high consequence dangerous goods” is put in a Note to precede 1.10.3.1.
- 1.10.3.2.2 (d) Last indent, delete “security”.
- 1.10.3.3 Replace the first sentence by:

“Operational or technical measures shall be taken on vessels carrying high consequence dangerous goods referred to in 1.10.5 in order to prevent the improper use of the vessel and of the dangerous goods.”
- 1.10.5, Table: Third column, second entry for Class 2, replace “including letters T,” by “including letter(s) T,”;
- Fourth column, second line, replace “**Tank (I)**” by “**Tank or cargo tank (litres)**”;
- Fifth column, second line, add a footnote for “Bulk” to read:

“* *Bulk means bulk in the vessel, or bulk in a vehicle or a container*”;
- Sixth column, second line, replace “**Packages (kg)**” by “**Goods in packages (kg)**”.
- Bring the Russian version of the proposed amendment into line with the other versions (column identification).

PART 3

Chapter 3.1

- 3.1.2.1 Replace the last two sentences with the following:

“An alternative proper shipping name may be shown in brackets following the main proper shipping name. In Table A, it is shown in upper case characters (e.g., ETHANOL (ETHYL ALCOHOL)). In Table C, it is shown in lower case characters (e.g. ACETONITRILE (methyl cyanide)). Portions of an entry appearing in lower case need not be considered as part of the proper shipping name unless otherwise stated above.”

Chapter 3.2

- 3.2.3** Amend as follows:

Column (9)

Amend as follows:

- “1. (no change)
2. Possibility of heating the cargo

3. (no change)
4. Cargo heating system on board”

Column (20)

Remark 6:

Replace the first two paragraphs by the following:

- “6. When external temperatures are below or equal to that indicated in column (20), the substance may only be carried in tank vessels equipped with a possibility of heating the cargo.” *(remainder unchanged)*

Remark 34:

Beginning, amend to read:

- “34. For type N carriage, the flanges ...” *(remainder unchanged)*

Add the following new remarks:

35. A direct system for the cargo refrigerating system is not permitted for this substance.
36. Only an indirect system for the cargo refrigerating system is permitted for this substance.
37. For this substance, the cargo tank system shall be capable of resisting the vapour pressure of the cargo at higher ambient temperatures whatever the system adopted for the boil-off gas.
38. When the initial melting point of these mixtures in accordance with standard ASTM D86-01 is above 60° C, the transport requirements for packing group II are applicable.”

Table C

Amend the entries of table C as follows:

UN number	Column	Amendment
1005	5	Add: “+2.1”
1010 3rd position *	2	Read: BUTADIENE, STABILIZED or MIXTURES OF BUTADIENE AND HYDROCARBONS, STABILIZED, having a vapour pressure at 70° C not exceeding 1.1 MPa (11 bar) and a density at 50° C not lower than 0.525 kg/l
1038	12	Delete: “- 0.57”
1170 1st position	12	Delete: “- 0.87”
1202 1st position	2 12	Add: “(flash-point not more than 61° C)” Insert: “< 0.85”

* *The description in lower case has to be deleted in the first two positions.*

UN number	Column	Amendment
1307 1st position	4	Replace "II" by "III"
	19	Replace "1" by "0"
1307 3rd position	9	Insert "2"
1578 1st position	2	Read: "CHLORONITROBENZENES, SOLID, MOLTEN (p-chloronitrobenzene)"
1578 2nd position	2	Read: "CHLORONITROBENZENES, SOLID, MOLTEN (p-chloronitrobenzene)"
	9	Replace "2" by "4"
1662 1st position	20	Insert: "6:+10° C"
1662 2nd position		Delete
1663 2nd position	9	Replace "2" by "4"
1750 2nd position	8	Replace "2" by "1"
	9	Replace "2" by "4"
	20	Add: "26"
1805 1st position	2	Read: "PHOSPHORIC ACID, SOLUTION, WITH MORE THAN 80% (VOLUME) ACID"
	12	Insert: "> 1.6"
1805 2nd position	2	Read: "PHOSPHORIC ACID, SOLUTION, WITH 80% (VOLUME) ACID, OR LESS"
1823	9	Replace "2" by "4"
1987 6th and 7th positions	2	End, add: "(cyclohexanol)"
1987 7th position	9	Replace "2" by "4"
2045	20	Delete: "7" Insert: "15; 23"
2078 2nd position	8	Replace "2" by "1"
	9	Replace "2" by "4"
	20	Add: "26"
2206	9	Replace "2" by "4"
2215 2nd position	9	Replace "2" by "4"
2218	9	Insert: "4"
2280 2nd position	9	Replace "2" by "4"
2288	20	Insert "23;"
2303	20	Delete: "16"
2312 both positions	9	Replace "2" by "4"
2321 2 nd position	9	Replace "2" by "4"

UN number	Column	Amendment
2383	20	Delete: "23"
2430	8	Replace "3" by "1"
2 nd position	9	Replace "2" by "4"
2448	9	Replace "2" by "4"
	20	Insert: "28; " before "32"
2491	20	Add: "; 34"
2531	9	Replace "2" by "4"
2811	9	Replace "2" by "4"
2 nd and 4 th positions		
2850	18	Delete: ", EX, A "
2924		Delete 6 th , 7 th , 8 th and 9 th entries
3175	9	Replace "2" by "4"
3257	9	Replace "2" by "4"
both positions		
3295 (last entry)	2	Replace ">" by "≤"
3446	9	Replace "2" by "4"
2 nd position		
3451	9	Replace "2" by "4"
2 nd position		
3455	9	Replace "2" by "4"
2 nd position		
9000	2	Read: " AMMONIA, ANHYDROUS, HEAVILY REFRIGERATED "
9001	2	Read: "SUBSTANCES WITH A FLASH-POINT ABOVE 61° C handed over for carriage or carried at a TEMPERATURE WITHIN A RANGE OF 15 K BELOW THEIR FLASH-POINT or SUBSTANCES WITH A FLASH-POINT > 61° C, HEATED TO LESS THAN 15 K FROM THE FLASH-POINT"
9003	2	After "100° C", insert "or SUBSTANCES WHERE 61° C < flash-point ≤ 100° C"
all positions		
9004	9	Replace "2" by "4"

Insert as appropriate:

UN No. or substance identification No.	Name and description	Class	Classification code	Packing group	Labels	Type of tank vessel	Cargo tank design	Cargo tank type	Cargo tank equipment	Opening pressure of the 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
(1)	(2)	3 (a)	3 (b)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1202	DIESEL FUEL in accordance with standard EN 590:1993 or GAS OIL or HEATING OIL (LIGHT) with a flash-point defined in standard EN 590:1993	3	F1	III	3	N	4	2			97	0.82-0.85	3	yes			no	PP	0	
1202	DIESEL FUEL or GAS OIL or HEATING OIL (LIGHT) (flash-point between 61° C and 100° C)	3	F1	III	3	N	4	2			97	< 1.1	3	yes			No	PP	0	
1267	PETROLEUM CRUDE OIL vp 50 ≤ 110 kPa	3	F1	I	3	N	2	2		10	97		3	yes	T4 ³	II B ⁴	yes	PP, EX, A	1	14; 29
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE vp 50 ≤ 110 kPa BOILING POINT ≤ 60° C	3	F1	I	3	C	1	1			95		1	yes	T4 ³	II B ⁴	yes	PP, EX, A	1	29
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE vp 50 ≤ 110 kPa BOILING POINT ≤ 60° C	3	F1	I	3	C	2	2	3	50	95		1	yes	T4 ³	II B ⁴	yes	PP, EX, A	1	23; 29
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE vp 50 ≤ 110 kPa BOILING POINT ≤ 60° C	3	F1	II	3	C	2	2	3	50	95		1	yes	T4 ³	II B ⁴	yes	PP, EX, A	1	23; 29; 38
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. 110 kPa < vp 50 ≤ 175 kPa	3	F1	I	3	N	2	2		50	97		3	yes	T4 ³	II B ⁴	yes	PP, EX, A	1	14; 27; 29

UN No. or substance identification No.	Name and description	Class	Classification code	Packing group	Labels	Type of tank vessel	Cargo tank design	Cargo tank type	Cargo tank equipment	Opening pressure of the 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
(1)	(2)	3 (a)	3 (b)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1268	PETROLEUM DISTILLATES, N.O.S. OR PETROLEUM PRODUCTS, N.O.S. 110 kPa < vp 50 ≤ 150 kPa	3	F1	I	3	N	2	2	3	10	97		3	yes	T4 ³	II B ⁴	yes	PP, EX, A	1	14; 27; 29
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. vp 50 ≤ 110 kPa	3	F1	I	3	N	2	2		10	97		3	yes	T4 ³	II B ⁴	yes	PP, EX, A	1	14; 27; 29
1268	PETROLEUM DISTILLATES, WITH MORE THAN 10% BENZENE or PETROLEUM PRODUCTS, N.O.S. WITH MORE THAN 10% BENZENE vp 50 ≤ 110 kPa BOILING POINT ≤ 60° C	3	F1	I	3	C	1	1			95		1	yes	T4 ³	II B ⁴	yes	PP, EX, A	1	27; 29
1268	PETROLEUM DISTILLATES, N.O.S. WITH MORE THAN 10% BENZENE or PETROLEUM PRODUCTS, N.O.S. WITH MORE THAN 10% BENZENE vp 50 ≤ 110 kPa BOILING POINT ≤ 60° C	3	F1	I	3	C	2	2	3	50	95		1	yes	T4 ³	II B ⁴	yes	PP, EX, A	1	23; 27; 29
1268	PETROLEUM DISTILLATES, N.O.S. WITH MORE THAN 10% BENZENE or PETROLEUM PRODUCTS, N.O.S. WITH MORE THAN 10 % BENZENE vp 50 ≤ 110 kPa BOILING POINT ≤ 60° C	3	F1	II	3	C	2	2	3	50	95		1	yes	T4 ³	II B ⁴	yes	PP, EX, A	1	23; 27; 29; 38
1307	XYLENES (mixture with melting point ≤ 0° C)	3	F1	II	3	N	3	2			97		3	yes	T1	II A	yes	PP, EX, A	1	

UN No. or substance identification No.	Name and description	Class	Classification code	Packing group	Labels	Type of tank vessel	Cargo tank design	Cargo tank type	Cargo tank equipment	Cargo tank equipment	Opening pressure of the 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
(1)	(2)	3 (a)	3 (b)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
1307	XYLENES (mixture with melting point ≤ 0° C)	3	F1	III	3	N	3	2			97			3	yes	T1	II A	yes	PP, EX, A	0	
1307	XYLENES (mixture with melting point > 0° C < 13° C)	3	F1	III	3	N	3	2	2		97			3	yes	T1	II A	yes	PP, EX, A	0	6: +17° C; 17
2381	DIMETHYL DISULPHIDE	3	F1	II	3	C	2	2		40	95	1.063		2	yes	T2	II B	yes	PP, EX, A	1	
2582	FERRIC CHLORIDE SOLUTION	8	C1	III	8	N	4	3			97	1.45		3	yes			no	PP, EP	0	22; 30; 34
2785	4-THIAPENTANAL (3-methyl mercapto-propionaldehyde)	6.1	T1	III	6.1	C	2	2		25	95	1.04		2	no			no	PP, EP, TOX, A	0	
2924	FLAMMABLE LIQUID, CORROSIVE, N.O.S.	3	FC	III	3+8	N	3	2			97			3	yes	T4 ³⁾	II B ⁴⁾	yes	PP, EP, EX, A	0	27; 34
2984	HYDROGEN PEROXIDE AQUEOUS SOLUTION with not less than 8%, but less than 20% hydrogen peroxide (stabilized as necessary)	5.1	O1	III	5.1+unst.	C	2	2		35	95	1.06		2	yes			no	PP	0	3; 33
3295	HYDROCARBONS, LIQUID, N.O.S. vp 50 ≤ 110 kPa	3	F1	I	3	N	2	2		10	97			3	yes	T4 ³⁾	II B ⁴⁾	yes	PP, EX, A	1	14; 27; 29
3295	HYDROCARBONS, LIQUID, N.O.S. (... WITH MORE THAN 10% BENZENE) vp 50 ≤ 110 kPa BOILING POINT ≤ 60° C	3	F1	I	3	C	1	1			95			1	yes	T4 ³⁾	II B ⁴⁾	yes	PP, EX, A	1	27; 29
3295	HYDROCARBONS, LIQUID, N.O.S. (... WITH MORE THAN 10% BENZENE) vp 50 ≤ 110 kPa BOILING POINT ≤ 60° C	3	F1	I	3	C	2	2	3	50	95			1	yes	T4 ³⁾	II B ⁴⁾	yes	PP, EX, A	1	23; 27; 29

Additional requirements/remarks	(20)
Number of cones/blue lights	(19)
Equipment required	(18)
Anti-explosion protection required	(17)
Explosion group	(16)
Temperature class	(15)
Pump room below deck permitted	(14)
Type of sampling device	(13)
Relative density at 20° C	(12)
Maximum degree of filling in %	(11)
Opening pressure of the high-velocity vent valve in kPa	(10)
Cargo tank equipment	(9)
Cargo tank type	(8)
Cargo tank design	(7)
Type of tank vessel	(6)
Labels	(5)
Packing group	(4)
Classification code	(3 (b))
Class	(3 (a))
Name and description	(2)
UN No. or substance identification No.	(1)
23; 27; 29; 38 1 PP, EX, A yes II B ⁴ T4 ³ yes 2 95 50 3 2 2 C 3 II F1 3	3295 HYDROCARBONS, LIQUID, N.O.S. (... WITH MORE THAN 10% BENZENE) vp 50 ≤ 110 kPa BOILING POINT ≤ 60° C

PART 5

Chapter 5.4

5.4.1.1.2 Amend as follows:

(b) Delete: “(see 3.1.2.8.1.1)”.

(c) Read:

“(c) the data contained in column (5) of Table C of Chapter 3.2. If several data are given, those following the first bracket should be included;”

(d) “where assigned, the packing group for the substance which may be preceded by the letters ‘PG’ (e.g. ‘PG II’), or the initials corresponding to the words ‘Packing Group’ in the languages used according to 5.4.1.4.1”;

Paragraphs (f) to (h) become (e) to (g).

Insert the following text after (g):

“The location and order in which the elements of information required appear in the transport document is left optional, except that (a), (b), (c) and (d) shall be shown either in the sequence (a), (b), (c), (d) or in the sequence (b), (c), (a), (d) with no information interspersed, except as provided in ADN.

Examples of such permitted dangerous goods descriptions are:

**“UN 1230 METHANOL, 3 (6.1), II” or
“METHANOL, 3 (6.1), UN 1230, II”.**

[5.4.1.1.2 (g) This paragraph will require to be amended again when 5.4.1.1.1 is brought into line with the United Nations Recommendations (next session).]

PART 7

Chapter 7.1

7.1.3.8 Replace the text by: “Reserved”.

Chapter 7.2

7.2.3.7 Insert under the heading:

“7.2.3.7.0 Gas-freeing of empty or unloaded cargo tanks is permitted under the conditions below but only if it is not prohibited on the basis of international or domestic legal requirements.”

7.2.3.8 Delete: “insert “*Reserved*”.”

7.2.3.15 End, add the following new paragraph:

“During the carriage of goods for which a type C vessel is prescribed in column (6) of Table C of Chapter 3.2 and cargo tank type 1 in column (7), an expert holding the certificate referred to in 8.2.1.5 for carriage in type G vessels is sufficient.”

7.2.3.25.3 Second indent, second sentence, insert before “hold spaces”: “double-hull and double bottom spaces and”.

7.2.3.28 Add the following:

“7.2.3.28 *Refrigeration system*

For the carriage of refrigerated substances, an instruction shall be on board mentioning the permissible maximum loading temperature in relation to the capacity of the refrigeration system and the insulation design of the cargo tanks.”

7.2.3.71 Delete.

7.2.3.52-
7.2.3.99 (*Reserved*).

7.2.4.11 In the footnote delete ‘from the 1st January 2003’.

7.2.4.12 Add the following:

“7.2.4.12 *Registration during the voyage*

The following particulars shall immediately be entered in the register referred to in 8.1.11:

Loading: Place of loading and loading berth, date and time, UN number or identification number of the substance, including the class and packing group if it exists;

Unloading: Place of unloading and unloading berth, date and time;

Gas-freeing of UN No. 1203 petrol: Gas-freeing place and facility or sector, date and time.

These particulars shall be provided for each cargo tank.”

7.2.4.13.1 End, add the following sentence as a new paragraph:

“If the vessel is equipped with piping for loading and unloading below the deck passing through the cargo tanks, the mixed loading or carriage of substances likely to react dangerously with each other is prohibited.”

7.2.4.16.8 Insert “PP” before “equipment referred to in 8.1.5” (twice).

Add the following sentence at the end:

“They shall also wear protective equipment A if a toximeter (TOX) is prescribed in column (18) of Table C of Chapter 3.2.”

7.2.4.18.2 Delete.

7.2.4.18.3 Becomes 7.2.4.18.2.

7.2.4.18.4 Becomes 7.2.4.18.3.

Add the following new 7.2.4.18.4:

“7.2.4.18.4 Inerting or blanketing of flammable cargoes shall be carried out in such a way as to reduce the electrostatic charge as far as possible when the inerting agent is added.”

Add the following new 7.2.4.51.3:

“7.2.4.51.3 Equipment for electric corrosion protection against external currents shall be disconnected before berthing and may not be re-connected until after the departure of the vessel, at earliest.”

PART 8

Chapter 8.1

8.1.2.1 Add the following letters:

- “(j) the checklist or a certificate showing the result of the check drawn up by the competent authority which carried it out, referred to in 1.8.12. This list or certificate shall be kept on board;
- (k) for the carriage of refrigerated substances, the instruction required in 7.2.3.28;
- (l) the certificate concerning the refrigeration system, prescribed in 9.3.1.27.10.”

8.1.2.3 (a) In the footnote delete ‘from the 1st January 2003’.

(b) Read:

“(b) The ADN specialized knowledge certificate prescribed in 7.2.3.15;”

(j) In the footnote delete ‘from the 1st January 2003’.

Add the following new (m):

“(m) The registration document referred to in 8.1.11.”

8.1.5.2 Read:

“8.1.5.2 Materials and special additional protective equipment specified by the consignor in the instructions in writing shall be provided by the consignor or by the filler of cargo tanks or holds.

This requirement is not applicable when, in a transport chain the instructions in writing for carriage by road or the corresponding copies of the IMDG Code EmS safety data sheets are used in accordance with 1.1.4.2.2 and the materials and additional protective equipment expressly refer to a transport mode other than inland navigation.”

8.1.6.2 Read:

“Hoses and hose assemblies used for loading, unloading or delivering products shall comply with European standard EN 12115:1999 (Rubber and thermoplastics hoses and hose assemblies) or EN 13765:2003 (Thermoplastic multilayer (non-vulcanized) hoses and hose assemblies) or EN ISO 10380:2003 (Corrugated metal hoses and hose assemblies). They shall be checked and inspected in accordance with table 6 of standard EN 12115:1999 or table K.1 of standard EN 13765:2003 or paragraph 7 of standard EN ISO 10380:2003 at least once a year, according to the manufacturer’s instructions, by persons authorized for this purpose by the competent authority. A certificate concerning this inspection shall be carried on board.”

8.1.6.5 Read the references as follows: “...prescribed in 9.3.1.22, 9.3.2.22, 9.3.2.26.4, 9.3.3.22 and 9.3.3.26.4”.

8.1.7 First sentence, after “certified safe type electrical equipment”, insert: “and the conformity of the documents required in 9.3.1.50.1, 9.3.2.50.1 or 9.3.3.50.1 with the circumstances on board”.

8.1.10 In the footnote delete ‘from the 1st January 2003’.

Add the following new 8.1.11:

“8.1.11 Register of operations relating to the carriage of UN 1203

Tank vessels accepted for the carriage of UN No. 1203 petrol shall have on board a register of operations during the voyage. This register may consist of other documents containing the information required. This register or these other documents shall be kept on board for not less than three months.”

Chapter 8.2

8.2.2.3.1 *Basic course*

and

8.2.2.3.2 *Refresher and advanced training courses*

“Authorization for”, read as follows:

For “*Basic course on the transport of dry cargo*”:

“Authorization for: dry cargo vessel”.

For “*Basic course on transport by tank vessels*”:

“Authorization for: tank vessels for the transport of substances for which a type N tank vessel is prescribed”.

For “*Combined basic course on dry cargo and transport in tank vessels*”:

“Authorization for: dry cargo vessels and tank vessels for the transport of substances for which a type N tank vessel is prescribed”.

8.2.2.3.3 “Authorization for”, read as follows:

Specialization course on gases

“Authorization for: tank vessels for the transport of substances for which a type G tank vessel is required and transport in type G of substances for which a type C is required in cargo tank type 1 in column (7) of Table C of Chapter 3.2”.

Specialization course on chemicals

“Authorization for: tank vessels for the transport of substances for which a type C tank vessel is required”.

8.2.2.3.4 Read:

“8.2.2.3.4 *Refresher and advanced training courses*

Refresher and advanced training course on gases

Prior training: valid ADN ‘gases’ and ‘tank vessels’ certificate or combined ‘dry cargo and tank vessels’ certificate;
Knowledge: ADN, in particular, loading, transport, unloading and handling of gases;
Authorization for: tank vessels for the transport of substances for which a type G tank vessel is required and transport in type G of substances for which a type C is required in cargo tank type 1 in column (7) of Table C of Chapter 3.2”;
Training: gases 8.2.2.3.3.1.

Refresher and advanced training course on chemicals

Prior training: valid ADN “chemicals” and “tank vessels” certificate or combined “dry cargo and tank vessels” certificate;
Knowledge: ADN, in particular, loading, transport, unloading and handling of gases;
Authorization for: tank vessels for the transport of substances for which a type C tank vessel is required;
Training: chemicals 8.2.2.3.3.2.

8.2.2.5 Second last paragraph, delete.

8.2.2.6.7 Replace “organizer of the training course” by “training body”.

8.2.2.7.1.3 [does not concern the English text].

8.2.2.7.2.3 [does not concern the English text].

8.2.3 Delete.

Chapter 8.3

Add a new 8.3.1.3 to read:

“8.3.1.3 When the vessel is required to carry two blue cones or two blue lights in accordance with column (19) of Table C of Chapter 3.2, persons under 14 years of age are not permitted on board.”

8.3.5 Read:

“8.3.5 Danger caused by work on board

No repair or maintenance work requiring the use of an open flame or electric current or liable to cause sparks may be carried out

- on board dry cargo vessels in the protected area or on the deck less than 3m forward or aft of that area;
- on board tank vessels.

This requirement does not apply:

- when dry cargo vessels are furnished with an authorization from the competent local authority or a certificate attesting gas-free condition valid for the protected area;
- when tank vessels are furnished with an authorization from the competent local authority or a certificate attesting gas-free condition valid for the vessel;
- to berthing operations.

Such work on board tank vessels may be undertaken without permission in the service spaces outside the cargo area, provided the doors and openings are closed and the vessel is not being loaded, unloaded or gas-freed.

The use of chromium vanadium steel screwdrivers and wrenches or screwdrivers and wrenches of equivalent material from the point of view of spark formation is permitted.”

Chapter 8.6

8.6.1.1 Point 9 of the model, replace “equivalences” by “equivalence”.

8.6.1.3 Point 16 of the model, replace “equivalences” by “equivalence”.

PART 9

Chapter 9.1

9.1.0.12.1 Second subparagraph, delete the first sentence.

9.1.0.40.1 First indent, amend the last sentence to read:

“These pumps and their means of propulsion and electrical equipment shall not be installed in the same space;”.

9.1.0.52.1 First indent, beginning, read: “- in the holds it is ...”.

Second indent, insert “on the deck” before “it is”.

9.1.0.52.3 First sentence, amend to read:

“Sockets for the connection of signal lights and gangway lighting shall be solidly fitted to the vessel close to the signal mast or the gangway.”

Replace in the second sentence “and hold ventilators” by “, hold ventilators and containers”.

Add:

“9.1.0.52.4 Accumulators shall be located outside the protected area.”

9.1.0.56.3 Second sentence, delete “accidental”.

9.1.0.71 Replace “7.1.3.71” by “8.3.3”.

9.1.0.74.1 Replace “7.1.3.74” by “8.3.4”.

9.3.1.10.2 Beginning of the first paragraph, amend to read:

9.3.2.10.2

9.3.3.10.2 “Outside the cargo area, the lower edges of door-openings ...”.

9.3.1.10.3 Add the following:

9.3.2.10.3

9.3.3.10.3

“9.3.X.10.3 In the cargo area, the lower edges of door-openings in the sidewalls of superstructures shall have a height of not less than 0.50 m above the deck and the sills of hatches and ventilation openings of premises located under the deck shall have a height of not less than 0.50 m above the deck. This requirement does not apply to access openings to double-hull and double bottom spaces.”

9.3.1.10.3 The existing paragraph becomes 9.3.X.10.4.

9.3.2.10.3

9.3.3.10.3

9.3.1.12.3 First paragraph, last sentence, delete.

9.3.2.12.3

9.3.3.12.3

9.3.1.12.5 Replace “for gas-freeing of tanks” by “in the cargo area”.

9.3.2.12.5

9.3.3.12.5

9.3.1.18 Add:

9.3.2.18

9.3.3.18

“9.3.X.18 *Inerting facility*

In cases in which inerting or blanketing of the cargo is prescribed, the vessel shall be equipped with an inerting system.

This system shall be capable of maintaining a permanent minimum pressure of 7 kPa (0.07 bar) in the spaces to be inerted. In addition, the inerting system shall not increase the pressure in the cargo tank to a pressure greater than that at which the pressure valve is regulated. The set pressure of the vacuum-relief valve shall be 3.5 kPa.

A sufficient quantity of inert gas for loading or unloading shall be carried or produced on board if it is not possible to obtain it on shore. In addition, a sufficient quantity of inert gas to offset normal losses occurring during carriage shall be on board.

The premises to be inerted shall be equipped with connections for introducing the inert gas and monitoring systems so as to ensure the correct atmosphere on a permanent basis.

When the pressure or the concentration of inert gas in the gaseous phase falls below a given value, this monitoring system shall activate an audible and visible alarm in the wheelhouse. When the wheelhouse is unoccupied, the alarm shall also be perceptible in a location occupied by a crew member.”

9.3.1.21.1 (g) Amend to read:

“(g) a connection for a closed sampling device;”

(h) Delete: “(h) (*Reserved*)”

9.3.1.21.3 End, add:

9.3.2.21.3

9.3.3.21.3

“The permissible maximum filling level of the cargo tank shall be marked on each level gauge.

Permanent reading of the overpressure and vacuum shall be possible from a location from which loading or unloading operations may be interrupted. The permissible maximum overpressure and vacuum shall be marked on each level gauge.

Readings shall be possible in all weather conditions.”

- 9.3.1.21.7 Last two paragraphs, delete.
9.3.2.21.7
9.3.3.21.7
- 9.3.1.21.8 First sentence, amend to read:
9.3.2.21.8
9.3.3.21.8 “Where the control elements of the shut-off devices of the cargo tanks are located in a control room, it shall be possible to stop the loading pumps and read the level gauges in the control room, and the visual and audible warning given by the level alarm device, the high level sensor referred to in 9.3.X.21.1 (d) and the instruments for measuring the pressure and temperature of the cargo shall be noticeable in the control room and on deck.”
- 9.3.1.21.9 Delete.
- 9.3.1.21.10 Becomes 9.3.1.21.9.
- 9.3.1.21.10 Add:
“9.3.1.21.10 When refrigerated substances are carried the opening pressure of the safety system shall be determined by the design of the cargo tanks. In the event of the transport of substances that must be carried in a refrigerated state the opening pressure of the safety system shall be not less than 25 kPa greater than the maximum pressure calculated according to 9.3.1.27.”
- 9.3.1.22.1 The existing text becomes (a). Add:
“(b) Cargo tank openings with a cross-section greater than 0.10 m² shall be located not less than 0.50 m above the deck.”
- 9.3.1.22.5 Add:
“9.3.1.22.5 Each tank in which refrigerated substances are carried shall be equipped with a safety system to prevent unauthorized vacuum or overpressure.”
- 9.3.1.23.1 Second paragraph, delete.
- 9.3.1.24 Add:
“9.3.1.24 *Regulation of cargo pressure and temperature*
- 9.3.1.24.1 Unless the entire cargo system is designed to resist the full effective vapour pressure of the cargo at the upper limits of the ambient design temperatures, the pressure of the tanks shall be kept below the permissible maximum set pressure of the safety valves, by one or more of the following means:
(a) a system for the regulation of cargo tank pressure using mechanical refrigeration;
(b) a system permitting the heating and pressure increase of the liquefied gas. The insulation or the design pressure of the cargo tank, or the combination of these two elements, shall be such as to leave an adequate margin for the operating

period and the temperatures expected; in each case the system shall be deemed acceptable by a recognized classification society;

(c) other systems deemed acceptable by a recognized classification society.

9.3.1.24.2 The systems prescribed in 9.3.1.24.1 shall be constructed, installed and tested to the satisfaction of the recognized classification society. The materials used in their construction shall be compatible with the cargoes to be carried. For normal service, the upper ambient design temperature limits shall be:

air: +30° C;

water: +20° C.

9.3.1.24.3 The cargo storage system shall be capable of resisting the full vapour pressure of the cargo at the upper limits of the ambient design temperatures, whatever the system adopted to deal with the boil-off gas. This requirement is indicated by remark 37 in column (20) of Table C of Chapter 3.2.”

9.3.1.25.7 End of first sentence, read:

“... at the inlet and outlet of the pump.”

Second sentence, delete.

End, add:

“Readings shall be possible in all weather conditions.”

9.3.1.27 Amend to read:

“9.3.1.27 *Refrigeration system*

9.3.1.27.1 The refrigeration system referred to in 9.3.1.24.1 (a) shall be composed of one or more units capable of keeping the pressure and temperature of the cargo at the upper limits of the ambient design temperatures at the prescribed level. Unless another means of regulating cargo pressure and temperature deemed satisfactory by a recognized classification society is provided, provision shall be made for one or more stand-by units with an output at least equal to that of the largest prescribed unit. A stand-by unit shall include a compressor, its engine, its control system and all necessary accessories to enable it to operate independently of the units normally used. Provision shall be made for a stand-by heat-exchanger unless the system’s normal heat-exchanger has a surplus capacity equal to at least 25% of the largest prescribed capacity. It is not necessary to make provision for separate piping.

Cargo tanks, piping and accessories shall be insulated so that, in the event of a failure of all cargo refrigeration systems, the entire cargo remains for at least 52 hours in a condition not causing the safety valves to open.

9.3.1.27.2 The security devices and the connecting lines from the refrigeration system ... (remainder unchanged).

- 9.3.1.27.3 When several refrigerated cargoes with a potentially dangerous chemical reaction are carried simultaneously, particular care shall be given to the refrigeration systems so as to prevent any mixing of the cargoes. For the carriage of such cargoes, separate refrigeration systems, each including the full stand-by unit referred to in 9.3.1.27.1, shall be provided for each cargo. When, however, refrigeration is ensured by an indirect or combined system and no leak in the heat exchangers can under any foreseeable circumstances lead to the mixing of cargoes, no provision need be made for separate refrigeration units for the different cargoes.
- 9.3.1.27.4 When two or more refrigerated cargoes are not soluble in each other under conditions of carriage such that their vapour pressures are added together in the event of mixing, particular care shall be given to the refrigeration systems to prevent any mixing of the cargoes.
- 9.3.1.27.5 When the refrigeration systems require water for cooling, a sufficient quantity shall be supplied by a pump or pumps used exclusively for the purpose. This pump or pumps shall have at least two suction pipes, if possible leading from two water intakes, one to port, the other to starboard. Provision shall be made for a stand-by pump with a satisfactory flow; this may be a pump used for other purposes provided that its use for supplying water for cooling does not impair any other essential service.
- 9.3.1.27.6 The refrigeration system may take one of the following forms:
- (a) Direct system: the cargo vapours are compressed, condensed and returned to the cargo tanks. This system shall not be used for certain cargoes specified in column (20) of Table C of Chapter 3.2. This requirement is indicated by remark 35 in column (20) of Table C of Chapter 3.2;
 - (b) Indirect system: the cargo or the cargo vapours are cooled or condensed by means of a coolant without being compressed;
 - (c) Combined system: the cargo vapours are compressed and condensed in a cargo/coolant heat-exchanger and returned to the cargo tanks. This system shall not be used for certain cargoes specified in Table C of Chapter 3.2. This requirement is indicated by remark 36 in column (20) of Table C of Chapter 3.2.
- 9.3.1.27.7 All primary and secondary coolant fluids shall be compatible with each other and with the cargo with which they may come into contact. Heat exchange may take place either at a distance from the cargo tank, or by using cooling coils attached to the inside or the outside of the cargo tank.
- 9.3.1.27.8 When the refrigeration system is installed in a separate service space, this service space shall meet the requirements of 9.3.1.17.6.
- 9.3.1.27.9 Text of the existing 9.3.1.27.4.
- 9.3.1.27.10 Text of the existing 9.3.1.27.5 adapting the reference to the requirements as follows: "... stating that 9.3.1.24.1 to 9.3.1.24.3, 9.2.1.27.1 and 9.3.1.27.9 above ..." (remainder unchanged).

- 9.3.1.40.1 First indent, amend the last sentence to read:
9.3.2.40.1
9.3.3.40.1 “- These pumps and their means of propulsion and electrical equipment shall not be installed in the same space.”
- 9.3.1.51.1 Insert the following first indent:
9.3.2.51.1
9.3.3.51.1 “- electric corrosion protection against external currents;”
- 9.3.1.52.3 (b) Insert the following third indent:
9.3.2.52.3
9.3.3.52.3 “(iii) mobile and fixed telephone installations in the accommodation or the wheelhouse;”
- The existing indent (iii) becomes (iv).
- 9.3.1.56.5 Replace “245 IEC 66” by “IEC publication 60 245-4 (1994)”.
9.3.2.56.5
9.3.3.56.5
- 9.3.2.11.4 Third paragraph, replace the second and third sentences as follows:

“The bulkheads between the cargo tanks may be fitted with passages provided that the unloading pipes are fitted with shut-off devices in the cargo tank from which they come.”
- 9.3.2.12.7 Replace “9.3.2.16.3” by “9.3.2.26.4”.
- 9.3.2.20.1 Amend to read:

“9.3.2.20.1 Cofferdams or cofferdam compartments remaining once a service space has been arranged in accordance with 9.3.2.11.6 shall be accessible through an access hatch. If, however, the cofferdam is connected to a double-hull space, it is sufficient for it to be accessible from that space. For openings giving access to double-hull spaces on deck the last sentence of 9.3.2.10.3 remains applicable. In this case an arrangement shall be made for possible monitoring in order to ascertain from the deck whether the cofferdam is empty.”
- 9.3.2.21.1 (g) Amend to read:

“(g) a connection for a sampling device, closed or partially closed, and/or at least one sampling opening as required in column (13) of Table C of Chapter 3.2;”
- 9.3.2.21.9 to
9.3.2.21.11 Delete.
- 9.3.2.21.12 Becomes 9.3.2.21.9.
- 9.3.2.25.7 Read:
9.3.3.25.7

“The permissible maximum overpressure or vacuum value shall be indicated on each installation. Readings shall be possible in all weather conditions.”

- 9.3.2.35.1 Beginning of the second indent, amend to read:
- “- cofferdams, hold spaces and double bottoms ...”.
- 9.3.3.10.4 The existing paragraph becomes 9.3.3.10.5 and replace the reference to 9.3.3.10.3 by a reference to 9.3.3.10.4.
- 9.3.3.11.4 Third paragraph, replace the second and third sentences to read:
- “The bulkheads between the cargo tanks may be fitted with passages provided that the unloading pipes are fitted with shut-off devices in the cargo tank from which they come.”
- 9.3.3.12.7 Replace “9.3.3.26.3” by “9.3.3.26.4”.
- 9.3.3.20.1 Amend to read:
- “9.3.3.20.1 Cofferdams or cofferdam compartments remaining once a service space has been arranged in accordance with 9.3.3.11.6 shall be accessible through an access hatch. If, however, the cofferdam is connected to a double-hull space, it is sufficient for it to be accessible from that space. For openings giving access to double-hull spaces on deck the last sentence of 9.3.2.10.3 remains applicable. In this case an arrangement shall be made for possible monitoring in order to ascertain from the deck whether the cofferdam is empty.”
- 9.3.3.21.1 (g) Amend to read:
- “(g) a connection for a sampling device, closed or partially closed, and/or at least one sampling opening as required in column (13) of Table C of Chapter 3.2;”.
- (h) Delete.
- 9.3.3.21.5 (c) Amend to read:
- “(c) Supply vessels and other vessels which may be delivering products required for operation shall be equipped with a transshipment facility compatible with European standard EN 12 827:1996 and a rapid closing device enabling refuelling to be interrupted. It shall be possible to actuate this rapid closing device by means of an electrical signal from the overflow prevention system. The electrical circuits actuating the rapid closing device shall be secured according to the quiescent current principle or other appropriate error detection measures. The state of operation of electrical circuits which cannot be controlled using the quiescent current principle shall be capable of being easily checked. It shall be possible to actuate the rapid closing device independently of the electrical signal.
The rapid closing device shall actuate a visual and an audible alarm on board.”
- 9.3.3.21.9 to
9.3.3.21.12 Delete.

- 9.3.3.21.13 Becomes 9.3.3.21.9; amend to read:
- “9.3.3.21.9 9.3.3.21.1 (e), 9.3.3.21.7 as regards measuring the pressure, do not apply to open type N with flame-arrester and to open type N.
- 9.3.3.21.1 (b), (c) and (g), 9.3.3.21.3 and 9.3.3.21.4 do not apply to oil separator and supply vessels.
- Screens in sampling openings are not required on board open type N tank vessels.
- 9.3.3.21.1 (f) and 9.3.3.21.7 do not apply to supply vessels.
- 9.3.3.21.5 (a) does not apply to oil separator vessels.”
- 9.3.3.25.12 First line, after “9.3.3.25.2” insert “(a), last sentence and”.
- 9.3.3.35.1 First indent [does not concern the English text].
- Second indent, after “cofferdams” insert: “, double-hull, double bottom”.
-