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ECONOMIC COMMISSION FOR EUROPE

INLAND TRANSPORT COMMITTEE

**Working Party on the Transport
of Dangerous Goods**

**Meeting of Experts on the European Provisions
concerning the International Carriage of
Dangerous Goods by Inland Waterway (ADN)**

**REPORT OF THE MEETING OF EXPERTS ON ITS SECOND SESSION
(19-22 January 1999)**

Addendum 1

**Amendments to the European Provisions concerning the International Carriage of
Dangerous Goods by Inland Waterway (ADN) (TRANS/WP.15/148), adopted by the
Meeting of Experts at its first and second sessions (see TRANS/WP.15/AC.2/2, Annex 1 and
TRANS/WP.15/AC.2/4, Annexes 1 and 2)**

NOTE : This list of amendments includes the modifications with the aim of adapting the ADN provisions in need of agreement (TRANS/WP.15/AC.2/4, Annex 2).

6002 (5) (a) Second dash, end, delete “(a), (b) or (c)” and read:

“ ... and, if it exists, the letter as indicated in the list ...”

(6) (a) First dash, second paragraph, amend to read:

“If the substance is not mentioned by name but is assigned to an n.o.s. entry followed by (...) or to a collective entry followed by (...), its description shall consist of the number of the substance, the n.o.s. entry or the collective entry, followed by the chemical or technical name in brackets. In the case of a mixture the chemical or technical names of a maximum of two components which predominantly contribute to the danger or dangers of the mixture shall be indicated.”

Before “- name and address of the consignor;” insert

“- mass in tonnes;”.

(c) Add a new subparagraph:

“(c) If required, heating instructions issued by the consignor for the carriage of substances having a melting-point of 0° C or above.”

- (7) After “IMDG code” add: “(copy of EmS Schedules and MFAG Guide)”.
- 6201** (The correction to be made does not apply to the English text).
- 6226** To be deleted.
- 6301** (The correction to the description of item 72° does not apply to the English text).
- 72° Delete NOTE 2 and replace “NOTE 1” with “NOTE”.
- 6901** List of substances
- Add the following to the list of substances:
- F. Environmentally hazardous substances**
- Item 11° (c), add the following substance to the end of the list: “bilge water”.
- G. Elevated temperature substances**
- Item 20°, end, add the following Note 3:
- “**NOTE 3:** Substances having a flashpoint above 61° C which are handed over for carriage or which are carried at a temperature within a limiting range of 15 K below their flashpoint are substances of Class 3, item 72°.”
- H. Other substances presenting a hazard during carriage but not meeting the definition of another class**
- Item 39° (c), add:
- “39° (c) $\frac{2216}{12\%}$ Fishmeal, stabilized (humidity between 5% by mass and 12% by mass with a maximum of 15% fat by mass) or
- $\frac{2216}{12\%}$ Fishscrap, stabilized (humidity between 5% by mass and 12% by mass with a maximum 15% by mass).”
- 10 001** Amend to read:
- “(1) In accordance with Article 9 of the Agreement, transport operations shall remain subject to local, regional or international provisions applicable in general to the carriage of goods by inland waterway.
- (2) Where provisions of Parts II, III or IV conflict with provisions of Part I or with the provisions referred to in paragraph (1) above, the provisions of Part I or those referred to in paragraph (1) above shall not apply.
- The provisions of marginal 10 011, however, shall take precedence over those of Parts II, III and IV.”
- (3) Unchanged.
- 10 014** **Definitions**
- Under “**REGULATIONS**”
- delete the definition of the acronym “ADN”.
- 10 014 (cont'd)** Under “**Miscellaneous**”
- Add the following definitions:
- “Breathing apparatus (ambient air-dependent)

means an apparatus which protects the person wearing it when working in a dangerous atmosphere by means of a suitable filter;”

“Battery-vehicle

means a vehicle with an assembly of:

several cylinders according to marginal 2211 (1) of ADR; or

several tubes according to marginal 2211 (2) of ADR; or

several pressure drums according to marginal 2211 (3) of ADR; or

several bundles of cylinders according to marginal 2211 (5) of ADR; or

several tanks according to the definition of Annex B of ADR

interconnected by a manifold and permanently mounted on the transport unit.”

Amend the following definitions:

Hold (condition)

discharged: empty, but containing residual cargo

empty: without residual cargo (swept clean);

...

Tank-container

means an article of transport equipment (including swap body tanks) conforming ... (remainder unchanged).

Delete the definition of the acronym “ADN”;

Insert the definition of “competent authority” as it appears in marginal 6000 (1);

Add to the present definition of “Classification society (recognized)”:

“in accordance with Annex 2, Chapter 4”.

10 240

Read:

“Each vessel shall be equipped, in addition to the fire-extinguishing appliances prescribed in marginal 10 001 (1), with at least two extinguishers ...” (rest unchanged).

Delete “and sufficient in quantity” in the second sentence.

**10 240
(cont'd)**

Amend the end of the third sentence to read: “... shall be suitable and sufficient in quantity for fighting fires.”

10 260 (1)

(a) Read:

“(a) For each member of the crew a pair of protective goggles, a pair of protective gloves, a protective suit and a suitable pair of protective shoes (if required, protective boots);”

Add a new subparagraph (e):

“(e) breathing apparatus” (ambient air-dependent).

10 282 (3)

“The certificate of approval shall be issued in accordance with the requirements and procedures set out in Annex 2. It shall conform to model No. 1 of Appendix 1 to this Annex”.

(Delete the last sentence).

(4) End, add: "(see also Annex 2, Chapter 1, paragraph 1.10)".

(5), (6), (7) and (8) : Delete.

Renumber the existing paragraph (9) as paragraph (5).

10 301 (3) Insert before the last sentence:

"The measurement may only be effected by persons equipped with suitable breathing apparatus for the substance carried."

10 315 (5) Last subparagraph, read:

"The refresher or advanced training course shall be taken at latest in the last year prior to the expiry of the certificate. When the refresher or advanced training course is taken in the year preceding the date of expiry of the certificate, the new period of validity shall begin on the expiry date of the preceding certificate, but in other cases it shall begin on the date of certification of participation in the course."

10 327 Amend to read:

"Persons authorized on board

(1) The only persons authorized on board are:

(a) ...; (unchanged);

(b) ...; (unchanged);

(c) persons who are on board for service reasons.

(2) (unchanged).

10 331 End, add:

"This requirement does not apply to the outboard motors of lifeboats."

10 351 (3) Insert "or the submerged pumps" after "or when the containers".

10 354 Read the last sentence as follows:

"They shall at least be of the certified safe type".

10 360 (2) (The correction does not apply to the English version).

10 381 (1) (e) Read:

"(e) a copy of ADN with its Annex 1 (at least Annex A and Annex B1) and Annexes 2, 3 and 4".

10 385 (1) (d) Replace "or deterioration" with "or other deterioration".

(e) Read: "the materials and protective special equipment if the protective special equipment ..." (rest unchanged).

(2) Second paragraph, read:

"These instructions in writing shall be supplied by the consignor and handed to the steersman before loading. The consignor is held responsible for the content of the instructions in writing. These instructions shall be drawn up in a language the steersman is able to read and understand and in at least each of the languages of the States concerned by the transport operation."

10 401 (1) Table - Class 2; read the entries in the second column as follows:

any classified under groups T, TF, TC, TO, TFC or TOC, total
any classified under group F, total

- Class 3; Second column, second entry, after 13°: replace “,” with “;”.

Amend the entries for Class 4.1 and insert new entries for Classes 4.2 and 4.3:

4.1	7° and 16° (b), 21°, 22° and 25° (a), 26°, 33° to 40°, 44° and 46°, all substance of (b), total	60 000 kg	120 000 kg
4.2	7°, 8°, 18° and 19°, all substance of (b), total	120 000 kg	300 000 kg
4.3	15°, 18°, 22° and 23°, all substance of (a) or (b), total	120 000 kg	300 000 kg

10 411 (2) Amend to read:

“(2) Where the dangerous goods are transported in containers, the number of the container shall suffice. In this case, a list giving the identification numbers of all containers and a description of the goods contained therein (name of the goods, class, item number, where applicable the letter and, where available, the identification number) shall be annexed to the stowage plan.”

10 412 (2) Read:

“(2) On board vessels carrying dangerous goods only in containers placed in open holds, ventilators do not require to be incorporated but must be on board. Where damage is suspected, the holds shall be ventilated so as to reduce the concentration of gases given off by the cargo to less than 10% of the lower explosive limit or in the case of toxic gases to below any significant concentration.”

10 414 (5) In the first sentence, insert “dangerous” before “goods”. In the second sentence, add “on deck” after “-road tank vehicles”.**10 415** Replace “shall not apply” with “does not apply”.**10 500 (1)** Table

Amend the entries for Classes 3, 4.1, 4.2, 4.3 and 8 to read:

Class	Item No.	Gross mass	Cones/Lights
3	1° to 5° any with letter (a) or (b)	> 3 000 kg	1
	27° and 28°	> 1 000 kg	2
	21° to 26°	> 3 000 kg	1
	11° to 19°, 32° (c) and 41°	> 1 000 kg	2
	5°, 31°, 33°, 34° and 61°, any with letter (c)	> 30 000 kg	1
4.1	7° and 16° any with letter (b)	> 3 000 kg	2
	22° and 25° any with letter (a)	> 1 000 kg	2
4.2	any with letter (b) except 7°, 8°, 18° and 19°	> 30 000 kg	1
	7°, 8°, 18° and 19°, any with letter (b)	> 3 000 kg	2
4.3	any except 15°, 18°, 22° and 23° with letter (a) or (b)	> 30 000 kg	1
	15°, 18°, 22° and 23°, any with letter (a) or (b)	> 3 000 kg	2
8	any with letter (a) and items 6°, 14°, and 45° (b) 2	> 3 000 kg	2
	32° (b) 2, 35° (b) 2, 37°, 54°, 64° (b) and 68°	> 30 000 kg	1

- (2) Insert a new line in the table on the first page for danger labels for the 1.4S label with figure “0” in the last column.

Add, below the table on the first page of danger labels:

“*: indication of the appropriate compatibility group, except S

***: indication of the appropriate division

xxxx: identification number of the substance and compatibility group.

The labels may bear a text.”

10 500 (3) (This correction does not apply to the English text).**10 501 and 10 504**

Delete "local" after "competent" (delete systematically in all marginals where

"local" occurs after "competent").

10 504 (2)

Read:

“(2) An expert in accordance with marginal 10 315 shall be permanently on board berthed vessels which are required to be marked according to marginal 10 500. The competent authority may, however, exempt from this obligation those vessels which are berthed in a harbour basin or in an accepted berthing position.”

10 508 (1)

Delete the underlining.

Annex B.1 - Part II**11 401 (1)** Table:

Insert an entry for item No. 01° of Division 1.1 to read:

Division	Item No.	Maximum net mass	Remarks
1.1	01°	90 kg	In at least 3 batches of not more than 30 kg each, distance between batches not less than 10 m

(2) Amend to read:

“(2) Substances and articles of Class 1 shall not be stowed in the same hold, except as indicated in the following table:

Compatibility group:	A	B	C	D	E	F	G	H	J	L	N	S
A	X	-	-	-	-	-	-	-	-	-	-	-
B	-	X	-	<u>1/</u>	-	-	-	-	-	-	-	X
C	-	-	X	X	X	-	X	-	-	-	<u>2/</u> , <u>3/</u>	X
D	-	<u>1/</u>	X	X	X	-	X	-	-	-	<u>2/</u> , <u>3/</u>	X
E	-	-	X	X	X	-	X	-	-	-	<u>2/</u> , <u>3/</u>	X
F	-	-	-	-	-	X	-	-	-	-	-	X
G	-	-	X	X	X	-	X	-	-	-	-	X
H	-	-	-	-	-	-	-	X	-	-	-	X
J	-	-	-	-	-	-	-	-	X	-	-	X
L	-	-	-	-	-	-	-	-	-	<u>4/</u>	-	-
N	-	-	<u>2/</u> , <u>3/</u>	<u>2/</u> , <u>3/</u>	<u>2/</u> , <u>3/</u>	-	-	-	-	-	<u>2/</u>	X
S	-	X	X	X	X	X	X	X	X	-	X	X

“X” indicates that explosive substances of corresponding compatibility groups in accordance with Annex A of ADR may be stowed in the same hold.

1/ Packages containing substances and articles assigned to compatibility groups B and D may be loaded together in the same hold provided that they are carried in containers or road vehicles with complete metal walls.

2/ Different categories of articles of Division 1.6, compatibility group N, may be carried together as articles of Division 1.6, compatibility group N, only when it is proven by testing or analogy that there is no additional risk of sympathetic detonation between the articles. Otherwise they should be treated as hazard Division 1.1.

3/ When articles of compatibility group N are carried with substances or articles of compatibility groups C, D or E, the articles of compatibility group N should be considered as having the characteristics of compatibility group D.

4/ Packages with substances and articles of compatibility group L may be stowed in the same hold with packages containing the same type of substances or articles of the same compatibility group.

- 21 260** Add a new paragraph (5) to read:
“(5) When dangerous goods of Class 2 are carried on board the vessel and in accordance with paragraph (3) or paragraph (4) a flammable gas detector or a toximeter is required, the breathing apparatus referred to in marginal 10 260 (1) (e) is required on board.”
- 21 301 (2)** Replace "dangerous substances" with "harmful substances".
- 21 312** At the end add:
“In the event of the carriage of dangerous goods in containers in open holds, ventilation is required only if damage to the container is suspected or if it is suspected that the contents have spilled inside the container.”
- 21 412 (2) and (3)** read:
“(2) Holds containing substances of Class 2 listed in groups T, TF, TC, TO, TFC and TOC shall be ventilated with the ventilators operating at full power, where after measurement it has been established that the holds are not free of the gases given off by the cargo.
(3) The measurement required in paragraphs (1) or (2) above shall be carried out immediately after loading. The measurement shall be repeated after an hour for monitoring purposes. The results of the measurement shall be recorded in writing.”
- 31 260** Add a new paragraph (5) to read:
“(5) When dangerous goods of Class 3 are carried on board the vessel and a flammable gas detector or a toximeter is required in accordance with paragraphs (3) or (4), the breathing apparatus referred to in marginal 10 260 (1) (e) is required on board.”
- 31 312** End, add:
“When dangerous goods are carried in containers in open holds ventilation is required only if damage to the containers is suspected or if it is suspected that the contents have spilled inside the container.”
- 31 410** Delete: “to 57°”.
- 31 412 (2) and (3)** Replace by:
“(2) Holds containing substances of Class 3, 11°, 19°, 27°, 28°, 32° or 41° shall be ventilated with the ventilators operating at full power, where after measurement it has been established that the holds are not free of gases given off by the cargo.
(3) The measurements required in paragraphs (1) or (2) above shall be carried out immediately following loading. The measurement shall be repeated after an hour for monitoring purposes. The results of the measurements shall be recorded in writing.”
- 41 260** Add a new paragraph (5) to read:
“(5) When dangerous goods of Class 4.1 are carried on board the vessel and a flammable gas detector is required in accordance with paragraph (3), the breathing apparatus referred to in marginal 10 260 (1) (e) is required on board.”
- 41 312** Insert after “Class 4.1”: “4° (c) or 52° (ADN),”
- 41 335** Delete.

- 41 412 (2)** Replace “once every hour” by “immediately following loading. The measurement shall be repeated after an hour for monitoring purposes.”
- 42 111** Amend to read:
“Goods of 2° (b), 2° (c) and 3° (c), ferrous metal borings, shavings, turnings or cuttings in spontaneously combustible form of 12° (c) and goods of 16° (c) of Class 4.2, may be carried in bulk”.
- 42 260** Add a new paragraph (5) to read:
“(5) When dangerous goods of Class 4.2 are carried on board the vessel and a flammable gas detector is required in accordance with paragraph (3), the breathing apparatus referred to in marginal 10 260 (1) is required on board.”
- 42 412** Add the title: "**Ventilation**".
- (2)** Replace “once every hour” by “immediately following loading. Measurements shall be repeated after an hour and then every eight hours for monitoring purposes.”
- 42 413** Under the title, delete at the beginning of the sentence: "Measures to be loading".
- 43 111** Replace “zinc ashes of 13° (c)” by “zinc ashes and aluminium smelting by-products and aluminium remelting by-products of 13° (c).”
- 43 260** Add a new paragraph (5) to read:
“(5) When dangerous goods of Class 4.3 are carried on board the vessel and a flammable gas detector or a toximeter is required in accordance with paragraphs (3) or (4) the breathing apparatus referred to in marginal 10 260 (1) (e) is required on board.”
- 43 301 (2)** Replace "dangerous goods" with "harmful substances".
- 43 312 (1)** Delete: “with the ventilation equipment operating at full power”.
- (2)** Replace: “spaces” by “holds”.
- 43 335** Delete.
- 43 412 (1)** Replace by:
“(1) Holds containing goods of Class 4.3, in bulk or unpackaged, shall be ventilated with the ventilation equipment operating at full power, where after measurement it has been established that the concentration of gases given off by the cargo exceeds 10% of the lower explosive limit.”
- (2)** Replace “once every hour” by: “immediately following loading. Measurements shall be repeated not later than every eight hours to monitor the situation.”
- 52 260** Add a new paragraph (5) to read:
(5) When dangerous goods of Class 5.2 are carried on board the vessel and a flammable gas detector is required in accordance with paragraph (3), the breathing apparatus referred to in marginal 10 260 (1) (e) is required on board.
- 52 412 (3)** Replace “once every hour” by “immediately following loading. Measurements shall be repeated after an hour and then every eight hours for monitoring purposes.”

- 61 260** Add a new paragraph (5) to read:
- “(5) When dangerous goods of Class 6.1 are carried on board the vessel and a flammable gas detector or a toximeter is required in accordance with paragraphs (3) or (4), the breathing apparatus referred to in marginal 10 260 (1) (e) is required on board.”
- 61 312 (1)** Replace by:
- “(1) The holds shall be ventilated. When dangerous goods are carried in containers in open holds ventilation is required only if damage to the containers is suspected or if it is suspected that the contents have spilled inside the container.”
- (2)** Replace “spaces” by “holds”.
- 61 412** Read:
- “Ventilation**
- “(1) Holds containing goods of Class 6.1 in bulk shall be ventilated with the ventilators operating at full power.
- (2) Holds containing goods of Class 6.1 listed under letters (a) or (b) of the item numbers shall be ventilated with the ventilators operating at full power, where after measurement it has been established that the holds are not free from gases given off by the cargo.
- (3) The measurements required in paragraph (2) above shall be made immediately following loading. Measurements shall be repeated after an hour then every eight hours for monitoring purposes. The results of the measurements shall be recorded in writing.”
- 81 260** Add a new paragraph (5) to read:
- “(5) When dangerous goods of Class 8 are carried on board the vessel and a flammable gas detector or a toximeter is required in accordance with paragraphs (3) or (4), the breathing apparatus referred to in marginal 10 260 (1) (e) is required on board.”
- 91 111 (1)** Replace by:
- “(1) Expandable polymeric beads of Class 9, 4° (c), castor beans of 35° (b), stabilized fishmeal and stabilized fishscrap of 39° (c) may be carried in bulk. Castor meal, castor pomace or castor flake shall not be carried in bulk.”
- 91 260 (3)** Replace "when goods of polymeric" with "when expandable polymeric".
- (5)** Add a new paragraph (5) to read:
- “(5) When dangerous goods of Class 9 are carried on board the vessel and a flammable gas detector is required in accordance with paragraph(3), the breathing apparatus referred to in marginal 10 260 (1) (e) is required on board.”
- 91 301 (1)** Replace “goods of polymeric beads, expandable” with “expandable polymeric beads”.
- (2)** Replace “goods of Class 9” with “expandable polymeric beads of Class 9, 4° (c)”.
- 91 312** Insert “in bulk” after “4° (c)”.
- 91 335** Delete.
- 91 412 (1)** (1) Insert “in bulk” after “4° (c)” and replace “50%” by “10%”.

(2) Replace “once every hour” by: “immediately following loading. Measurements shall be repeated after an hour then every eight hours for monitoring purposes”.

91 414 (1) Insert “in bulk” after “4° (c)”.

Annex B.1 - Part III

- 110 212 (1)** First subparagraph, end, add:
“The extraction of gases and vapours through the duct shall also be ensured for carriage in bulk.”
Second subparagraph, end, add:
“If the extraction ducts are movable they shall be suitable for the ventilator assembly and capable of being firmly fixed. Protection shall be ensured against bad weather and spray. The air intake shall be ensured during ventilation.”
- 110 231 (2)** Replace by:
“(2) The air vents in the engine rooms and the air intakes of the engines which do not take air in directly from the engine room shall be located not less than 2 m from the protected area.”
- 110 235** Add a new marginal 110 235 to read:
“Stripping installation
The stripping pumps intended for the holds shall be located in the protected area. This requirement shall not apply when stripping is effected by eductors.”
- 110 240 (3)** End, add: “or in its vicinity”.
- 110 252 (3)** First sentence, delete.
Second sentence, delete “permanently”.
End, add:
“Sockets intended to supply the submerged pumps and hold ventilators shall be solidly fixed to the vessel in the vicinity of the hatches.”
- 110 256 (2)** Insert after "for containers": “, for submerged pumps, hold ventilators”.
- 110 293 (1)** After "stability" insert: "including".
- 110 294 (1)** Read:
"Intact stability requirements, including those established on the basis of the damage stability calculation, shall be fully observed".
(2) Amend to read:
“For the carriage of containers, proof of sufficient stability shall also be furnished in accordance with the provisions of the regulations referred to in marginal 10 001 (1)”.

Annex B.1 - Part IV

- 120 293 (1)** After "stability" insert: "including".
- 120 294 (2)** Amend to read:
- "For the carriage of containers, additional proof of sufficient stability shall be furnished in accordance with the requirements of the regulations referred to in marginal 10 011 (1)".
- (4)** (French version only).

Annex B.2 - Part I**210 001** Amend to read:

(1) In accordance with Article 9 of the Agreement, transport operations shall remain subject to local, regional or international provisions applicable in general to the carriage of goods by inland waterway.

(2) Where provisions of Parts II or III conflict with provisions of Part I or with the provisions referred to in paragraph (1) above, the provisions of Part I or those referred to in paragraph (1) above shall not apply.

The provisions of marginals 210 003 to 210 121, however, shall take precedence over those of Parts II and III.

(3) Unchanged.

210 003 Read:

“The provisions of this Annex shall also apply to empty vessels or vessels which have been unloaded as long as the cargo tanks or receptacles accepted on board are not free from dangerous goods or gases.”

210 014 Delete the definition of the acronym “ADN”.**MISCELLANEOUS**

Insert the definition of “competent authority” as it appears in marginal 6000 (1);

Add to the present definition of “recognized classification society”:

“in accordance with Annex 2, Chapter 4”.

Insert the following definitions:

Breathing apparatus (ambient air-dependent):

means an apparatus which protects the person wearing it when working in a dangerous atmosphere by means of a suitable filter;

Supply vessel:

means an open type N tank-vessel with a dead weight of up to 300 tonnes, constructed and fitted for the carriage and delivery to other vessels of products intended for the operation of vessels;

Oil separator vessel:

means an open type N tank-vessel with a dead weight of up to 300 tonnes, constructed and fitted to accept and carry oily and greasy wastes from the operation of vessels. Vessels without cargo tanks are considered to be subject to Annex B.1;

Oily and greasy wastes from the operation of the vessel:

means used oils, bilge water and other oily or greasy wastes, such as used grease, used filters, used rags, and receptacles and packagings for such wastes;

**210 014
(cont'd)**

Bilge water:

means oily water from the engine room bilges, the peak, the cofferdams and the double hold spaces;

Maximum working pressure:

means the maximum pressure occurring in a cargo tank or a residual cargo tank during operation. This pressure generally equals the opening pressure of high velocity vent valves.

Construction pressure:

means the pressure on the basis of which the cargo tank or the residual cargo tank has been designed and built. This pressure generally equals the maximum working pressure.

Opening pressure:

means the pressure referred to in a list of substances at which the high velocity vent valves open. For pressure tanks the opening pressure of the safety valve shall be established in accordance with the requirements of the competent authority or a recognized classification society;

Pressure tank:

means a tank designed and approved for a working pressure ≥ 400 kPa (4 bar).

Test pressure:

means the pressure at which a cargo tank, a residual cargo tank, a cofferdam or the loading and unloading pipes shall be tested prior to being brought into service for the first time and subsequently regularly within prescribed times;

Amend the definition of "Pressures" to read:

"For tanks, all kinds of pressures (e.g. working pressure, opening pressure of the high velocity vent valves, test pressure) shall be expressed as gauge pressures in kPa (bar); the vapour pressure of substances, however, shall be expressed as an absolute pressure in kPa (bar).

Supply installation (bunkering system) :

means an installation for the supply of vessels with liquid fuels;

Add at the end of the definition of "Cargo area": "and the openings of the pump-rooms".

Amend the end of the definition of "Highest Class" to read: "... under its supervision and the complete plant was tested to its satisfaction on completion".

In the definition of "Loading journal", before "ballast water", replace "delivering" with "discharging".

In the definition of "Rescue winch", replace "hold spaces" with "cargo tanks".

210 121

Add a new paragraph (6) to read:

"(6) Oily and greasy wastes resulting from the operation of the vessel may only be carried in fire-resistant receptacles, fitted with a lid, or in cargo tanks."

210 219 (3)

Insert "210 240 (2)", after "marginal 210 205".

- 210 240** Read:
“Each vessel shall be equipped, in addition to the fire-extinguishing appliance prescribed in marginal 210 001 (1), with at least two extinguishers ...” (rest unchanged).
- 210 282 (3)** Amend to read:
“The certificate of approval shall be issued in accordance with the requirements and procedures set out in Annex 2. It shall conform to model No. 1 of Appendix 1 to this Annex”.
(Last sentence, delete).
- 210 287** Delete.
- 210 301 (1)** Read:
“(1) The cofferdams shall be empty. They shall be inspected once a day in order to ascertain that they are dry (except for condensation water).”
- (4)** Amend to read:
“(4) When the gas concentration has to be measured before entry into cargo tanks, residual cargo tanks, cargo pumprooms below deck, cofferdams, double hold spaces, double bottoms or hold spaces, the results of these measurements shall be recorded in writing. The measurement may only be effected by persons equipped with breathing apparatus suited to the substance carried. Entry into these spaces is not permitted for the purpose of measuring.”
- 210 302** Add a new marginal:
“**210 302 Cargo pumprooms below deck**
The cargo pumprooms below deck shall be inspected daily so as to ascertain that there are no leaks. The bilges and the drip pans shall be kept clean and free from products.”
- 210 307 (5)** End, for “or no longer”, read “or do not”.
- 210 315 (5)** Last sentence, replace by:
“When the refresher or advanced training course is taken in the year preceding the date of expiry of the certificate the new period of validity shall begin on the expiry date of the preceding certificate; in other cases it shall begin on the date of the certificate of participation in the course.”
- 210 317 (6)** Replace “in accordance with Resolution ... shall be equivalent” by “in
210 318 (6) accordance with the STCW Convention and the requirements of Chapter V of the STCW Code on Training and Qualifications of Masters, Officers and Ratings of Tankers shall be equivalent ...”.
- 210 320 (1)** Read:
“Cofferdams and hold spaces containing insulated cargo tanks shall not be filled with water. Double hold spaces, double bottoms and hold spaces may be filled with ballast water provided the cargo tanks have been discharged ... (remainder unchanged).”

- 210 322** Amend to read:
“The cargo tanks, residual cargo tanks and entrances to cargo pumprooms below deck, cofferdams and hold spaces shall remain closed. This requirement shall not apply to cargo pumprooms on board oil separator and supply vessels or to the other exceptions set out in this Annex.”
- 210 325 (2)** Replace “in an emergency” with “in case of emergency”.
- (3)** In the first indent, replace “no wall common to” with “no common boundary with”.
- 210 327** Amend to read:
“Persons authorized on board
- (1)** Only the following persons are authorized to be on board:
- (a)** ... (unchanged);
 - (b)** ... (unchanged);
 - (c)** persons who are on board for reasons of service.
- (2)** (unchanged)”.
- 210 329** Replace “Recommendations ... Vessels”
and “paragraph 15.9.4 ... Vessels” by “requirements set out in marginal 10 001 (1)”.
- Number the present text (1) and add a new paragraph (2):
“(2) Paragraph (1) above does not apply to oil separator or supply vessels.”
- 210 331 (1)** End, add: “This requirement does not apply to the outboard motors of lifeboats.”
- 210 344** Delete “on deck”.
- 210 351 (2)** End, add:
“- electric cables for connecting submerged pumps on board oil separator vessels”.
- (3)** First sentence, replace by:
“The sockets for connecting the signal lights and gangway lighting or for submerged pumps on board oil separator vessels shall not be live except when the signal lights or the gangway lighting or the submerged pumps on board oil separator vessels are switched on.”
- 210 374** Replace "provided to windows" with "provided their windows".
- 210 381 (1)** Amend to read:
“(e) A copy of the ADN with its Annex 1 (at least Annex A and Annex B.2) and its annexes 2, 3 and 4”.
- End, add:
“(k) the classification certificate;
- (l)** certificate referred to in marginals 311 208(2) or (3), 321 208(2) or (3) or 331 208(2) or (3);
- 210 381 (1)** **(cont'd)** **(m)** in the event of the carriage of goods having a melting point of 0° C or above, heating instructions”.

- (3) In the first sentence, replace "shall be kept" with "shall also be kept".
- (b) Replace "piping" with "hoses".
- (5) Add a new paragraph (5) to read:
- “(5) Paragraphs (1) (b) and (g), (2) and (4) do not apply to oil separator or supply vessels. Paragraph (1) (c) does not apply to oil separator vessels.”
- 210 385** (1) (b) Same text as in 10 385 (1) (b).
- (2) Last sentence, replace by:
- “These instructions in writing shall be supplied by the consignor and handed to the steersman before loading. The consignor is held responsible for the content of the instructions in writing. These instructions shall be drawn up in a language the steersman is able to read and understand and in at least each of the languages of the States concerned by the transport operation.”
- (4) Add a new paragraph (4) to read:
- “(4) Paragraphs (1) to (3) above do not apply to oil separator vessels.”
- 210 401** Amend to read:
- “Limitation of the quantities carried**
- (1) The carriage of packages in the cargo area is prohibited. This prohibition does not apply to:
- residual cargo, cargo residues and slops in approved intermediate bulk containers or tank-containers having a maximum individual capacity of not more than 2 m³; not more than six such intermediate bulk containers or tank-containers, however, shall be carried. These intermediate bulk containers or tank-containers shall be properly secured in the cargo area and shall comply with the provisions of marginal 321 226 or 331 226 for the reception of residual cargo, cargo residues or slops;
 - to cargo samples, up to a maximum of 30, of substances listed in the annex to the certificate of approval, where the maximum contents are 500 ml per receptacle. Receptacles for samples shall be placed on board, at a specific point in the cargo area, such that under normal conditions of carriage they cannot break or be punctured and their contents cannot spill in the hold space. Fragile receptacles shall be suitably padded.
- (2) On board oil separator vessels receptacles with a maximum capacity of 2 m³ oily and greasy wastes resulting from the operation of vessels may be placed in the cargo area provided that these receptacles are properly secured.
- (3) On board supply vessels packages of dangerous goods may be carried in the cargo area up to a gross quantity of 5,000 kg provided that this possibility is mentioned in the certificate of approval. The packages shall be properly secured and shall be protected against heat, sun and bad weather.”

210 402 Add a new marginal to read:

“210 402 Reception of oily and greasy wastes resulting from the operation of vessels and delivery of products for the operation of vessels.

- (1) The reception of unpackaged liquid oily and greasy wastes resulting from the operation of vessels may only be effected by suction.
- (2) The landing and reception of oily and greasy wastes may not take place during the loading and unloading of substances for which protection against explosion is required in the list of substances (Annex 4) nor during the gas-freeing of tank vessels. This requirement does not apply to oil separator vessels provided that the provisions for protection against explosion applicable to the dangerous substance are complied with.
- (3) Berthing and handing over of products for the operation of vessels shall not take place during the loading or unloading of substances for which protection against explosions is required in the list of substances (Annex 4) nor during the gas-freeing of tank vessels. This requirement does not apply to supply vessels provided that the provisions for protection against explosion applicable to the dangerous substance are complied with.
- (4) The competent authority may issue derogations to the requirements of paragraphs (1) and (2) above.”

210 407 Number the present paragraph (1) and add:

“(2) The reception of unpackaged oily and greasy liquid wastes resulting from the operation of vessels and the handing over of products for the operation of vessels shall not be taken to be loading or unloading within the meaning of paragraph (1) above.”

210 410 Add a new paragraph (4) to read:

“(4) Paragraphs (1) to (3) above shall not apply to the reception of oily and greasy wastes by oil separator vessels nor to the handing over of products for the operation of vessels by supply vessels.”

210 413 Add a new paragraph (3):

“(3) Before the start of loading operations the overflow control device switch shall be connected to the shore installation.”

210 414 In the title, replace "stowing" with "stowage".

210 416 Heading, insert “, transport” after “loading”.

(2) Insert after the first subparagraph:

“In the event of a failure of a safety or control device, loading or unloading shall be suspended immediately.”

(3) Insert ", cleaning" after "unloading, stripping".

(5) End, add: “This requirement shall not apply to the carriage of goods of Class 2.”

210 416 (7) Add a new paragraph (7) to read:

“(7) Persons entering the premises located in the below deck cargo area during loading or unloading shall wear the equipment referred to in marginal 10 260 (1) (a) if this equipment is prescribed in Part II.

Persons connecting or disconnecting the loading and unloading pipes or taking samples shall wear the equipment referred to in marginal 210 260 (1) (a) if this equipment is prescribed in Part II.”

210 417 (3) Add a new paragraph (3):

“(3) Paragraphs (1) and (2) above shall not apply to the reception of oily and greasy wastes resulting from the operation of vessels nor to the handing over of products for the operation of vessels.”

210 418 Add a new marginal to read:

“210 418 Monitoring of gaseous phases in cargo tanks and adjacent empty spaces

(1) For the gaseous phases of tanks, inerting or blanketing may be necessary. These are defined as follows:

- Inerting: cargo tanks and their piping and other spaces for which this process is prescribed in this Annex are filled with gases or vapours which prevent combustion, do not react with the cargo and maintain this state;
- Blanketing: cargo tanks and their piping are filled with a liquid, gas or vapour which separates the cargo from the air and maintains this situation.

(2) When inerting or blanketing of the cargo is prescribed, the following requirements shall apply:

- (a) A sufficient quantity of inert gas for loading or unloading shall be on board or shall be capable of being produced if it is not possible to obtain it on shore. A sufficient quantity of inert gas to offset normal losses occurring during carriage shall be on board;
- (b) The inerting facility on board the vessel 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 facility shall not increase the pressure in the cargo tank to a pressure greater than that at which the pressure valve is regulated;
- (c) For the blanketing of the cargo the requirements referred to in (a) and (b) for inerting shall apply as regards the quantity of gas required for blanketing;
- (d) The parts above the surface of the liquid covered by a layer of gas shall be fitted with monitoring devices so as to ensure the correct atmosphere on a permanent basis;
- (e) 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.

(3) For certain substances the requirements for the monitoring of the gaseous phases in cargo tanks and in adjacent empty spaces are given in column 20 of the list of substances (Appendix 4).”

210 421 (4) Add a new paragraph (4):

“(4) If the degree of filling of 97.5% is exceeded a technical installation shall be authorized to pump off the overflow. During such an operation an automatic visual alarm shall be activated.”

210 422 (6) Add a new paragraph (6):

“(6) Paragraphs (1) to (5) shall not apply to oil separator or supply vessels.”

210 425 (2) End, add:

“This requirement shall not apply to hoses used for the reception of oily and greasy wastes resulting from the operation of vessels and the delivery of products for the operation of vessels.”

(4) End, add: “This requirement shall not apply to supply vessels.”

210 440 Amend to read:

“Fire extinguishing arrangements

During loading and unloading, the fire extinguishing systems, the hoses and spray nozzles shall be kept ready for operation in the cargo area on deck.”

210 451 (2) Replace "mentioned" with "referred to".

210 476 End, add:

“Oil separator vessels may, however, be moored by means of synthetic ropes during the reception of oily and greasy wastes resulting from the operation of vessels, as may supply vessels during the delivery of products for the operation of vessels.”

210 501 and 210 504

Delete "local" after "competent"(delete systematically in all marginals where "local" occurs after "competent").

210 504 (2) Read:

“(2) An expert, as required by marginal 210 315 or, when applicable, by marginals 210 317 or 210 318 shall be permanently on board berthed vessels. The competent authority may, however, exempt from this obligation those vessels which are berthed in the harbour basin or in a permitted berthing position.”

Annex B.2 - Part II

221 221 Replace "operated" with "effected".

231 260 (1) Read:

“(1) When dangerous goods of Class 3 are carried on board the vessel, the protective equipment referred to in marginal 210 260 (1) is required on board, with the exception of the full face mask with respirator for the carriage of goods for which an open type N is required in the list of substances (Appendix 4). This equipment shall be suitable for the goods carried.”

231 428 Add at the end of paragraph (1): "of goods of Class 3 and during the voyage".

261 428

281 428

291 428

Paragraph (2), replace “70%” by “80%”.

Add:

“(3) If a water-spray system is required in the list of substances of Appendix 4 and remark 23 is indicated in column 20, the instrument measuring the internal pressure shall activate an alarm when the internal pressure reaches 40 kPa. The water-spray system shall immediately be activated and remain in operation until the internal pressure drops to 30 kPa.”

241 211 Replace "Tanks" with "Cargo tanks".

261 222 Replace "the blowing-off" with "that blowing-off".

291 260 (1) Read:

(1) When dangerous goods of Class 9 are carried on board the vessel, the protective equipment referred to in marginal 210 260 (1) (a) is required on board, with the exception of the full face mask with respirator for the carriage of goods for which an open type N is required in the list of substances (Appendix 4). This equipment shall be suitable for the goods carried.

Annex B.2 - Part III

- NOTE** : The amendments to the marginals in Part III are listed in ascending numerical order of the last three figures.
- 3X1 200 (3)** (c) Replace “pipes” with “hoses”.
- 311 200 (3)** (d) In the second line, delete “be” between “shall not” and “readily ignite”.
- 3X1 208 (1)** Replace “the highest class” with “its highest class”.
- 331 208** Add a new paragraph (4) to read:
“(4) Paragraphs (2) and (3), checking of the condition of the gas detection system, do not apply to open type N.”
- 3X1 210 (2)** After the second sentence, insert:
“The wall shall have a height not less than 2.00 m”.
- 331 210** Add a new paragraph (4) to read:
“(4) Paragraphs (1) to (3) above do not apply to open type N.”
- 311 211 (3)** (a) In the second line, for "A-Go" read "Class A-60".
- 311 211 (4)** Last sentence, after “cargo area” insert: “or between the engine room and a hold space”.
- 321 211 (4)** Fourth sentence; insert after "in the cargo area": "or between the engine room and a hold space".
- 331 211 (4)** and a hold space".
- 311 211 (5)** Insert: “in the cargo area” after “double bottoms” in the first sentence.
- 3X1 211 (6)** (c) Insert “below deck” after “pump-rooms”.
- (7) Delete “installed” in the last line.
- 321 211 (7) (c)** (Apply to French version only).
- 311 211 (8)** } Last sentence, replace by:
321 211 (10) }
- 331 211 (8)** } “In these spaces the distance between the reinforcements shall not be less than 0.50 m. In double bottoms this distance may be reduced to 0.45 m.
Cargo tanks may have circular openings with a diameter of not less than 0.68 m.”
- 321 211 (8)** Amend to read:
“(8) When a vessel is built with cargo tanks located in a hold space or refrigerated cargo tanks, the distance between the double walls of the hold space shall be not less than 0.80 m and the depth of the double bottom shall be not less than 0.60 m.
- 331 211 (9)** Add a new paragraph (9) to read:
“(9) Paragraphs (4) to (6) above do not apply to open type N.”

331 212 (2) Second subparagraph, replace by:

“The ventilation exhaust ducts shall be located up to 50 mm above the bottom of the service space. The fresh air inlets shall be located in the upper part; they shall be not less than 2 m above the deck, not less than 2 m from the openings of the cargo tanks and not less than 6 m from the outlets of safety valves. The extension pipes which may be necessary may be of the hinged type.

On board open type N vessels fixed ventilation devices shall be sufficient.”

(7) Add a new paragraph (7) to read:

“(7) Paragraphs (4) to (6) above do not apply to open type N.”

331 216 (3) Add a new paragraph (3):

(3) The last sentence of paragraph (2) does not apply to oil separator or supply vessels.”

3X1 217 (5) (d) Insert after “cargo area”: “and the bulkhead between the engine room and the hold spaces”.

End, add: “Penetrations through a bulkhead with an 'A-60' fire protection insulation according to SOLAS II-2, Regulation 3, shall have an equivalent fire protection”.

(f) Insert “or a hold space” after “cargo area”.

End, add: “or hold space”.

311 217 (6) Delete "comprising" in the first sentence.

3X1 217 (6) Replace "the vessel's own gas discharging system" with "the loading and unloading system".

331 217 (8) Add a new paragraph (8) to read:

“(8) Paragraphs (5) (g), (6) and (7) do not apply to open type N.

Paragraphs (2), last sentence, (3), last sentence and (4) do not apply to oil separator and supply vessels.”

331 220 (5) Add a new paragraph (5):

“(5) Paragraph (4) above does not apply to open type N.

Paragraph (2) above does not apply to supply and oil separator vessels.”

321 221 (1) Delete: “h) an ullage opening.”

331 221 (5) The present text becomes (a). Add the following text:

“(b) On board oil separator vessels the sensor referred to in paragraph (1) (d) shall activate a visual and audible alarm and switch off the pump used to evacuate bilge water.”

311 221 (7) Amend to read:

“(7) When the pressure or the temperature exceeds a set value, the instruments for measuring the pressure and the temperature of the cargo shall activate a visual and an audible alarm in the wheelhouse and in the accommodation. When the pressure exceeds a set value during loading or unloading, the instrument for measuring the pressure shall simultaneously initiate an electrical contact which, by means of the plug referred to in

311 221 (7) paragraph (5) above, enables measures to be taken to interrupt the loading
(cont'd) operation. When the vessel's own discharge pump is used, it shall be switched off automatically. The sensor for the alarms referred to above may be connected to the alarm installation. If the overpressure or the vacuum measurement is effected using a manometer, its indicator scale shall not be less than 0.14 m in diameter. The maximum permissible overpressure or vacuum values shall be indicated by a red mark. The manometers shall be capable of being read at all times from the location where it is possible to interrupt loading or unloading.”

321 221 (7)
331 221 (7) Amend to read:

“(7) When the pressure or temperature exceeds a set value, instruments for measuring the vacuum or overpressure of the gaseous phase in the cargo tank or the temperature of the cargo, shall activate a visual and audible alarm in the wheelhouse and in the accommodation. When the pressure exceeds the set value during loading, the instrument for measuring the pressure shall, by means of the plug referred to in paragraph (5) above, initiate simultaneously an electrical contact which shall put into effect measures to interrupt the loading operation. If the vessel's own discharge pump is used, it shall be switched off automatically.

The instrument for measuring the overpressure or vacuum shall activate the alarm when an overpressure equal to 1.15 times the opening pressure of the pressure valve, or a vacuum pressure of 1.1 times the opening pressure of the vacuum pressure valve is reached. The maximum allowable temperature is indicated in the list of substances in Appendix 4.

The sensors for the alarms mentioned in this paragraph may be connected to the alarm device of the sensor. When a manometer is used to measure the overpressure or the vacuum pressure, its indicator scale shall not be less than 0.14 m in diameter. The maximum permissible overpressure or vacuum values shall be indicated by a red mark. The manometers shall be capable of being read at all times from the location where it is possible to interrupt loading or unloading”.

321 221 (9) Amend the beginning to read:
331 221 (9) "The closed-type sampling ...".

331 221 (11) Amend to read:

“(11) The sampling openings shall have a diameter of not more than 0.30 m. They shall be fitted with a flame-arrester and so designed that the period during which they remain open is as short as possible and the drip pan of the flame-arrester does not remain open without external intervention.

Flame-arresters are not required on board open type N tank vessels.”

(13) Add a new paragraph (13) to read:

“(13) Paragraph (1) (h) does not apply to closed type N.

Paragraphs (1) (e), (7) as regards measuring the pressure, (9) and (10) do not apply to open type N with flame-arrester and to open type N.

Paragraphs (1) (h) and (12) do not apply to open type N.

Paragraphs (1) (b), (c) and (g), (3), (4) and (11) do not apply to oil separator or supply vessels.

331 221 (13) Paragraphs (1) (f) and (7) do not apply to supply vessels.
(cont'd) Paragraph (5) (a) does not apply to oil separator vessels.”

321 222 (1) (b)
331 222 (1) (b)

Insert "for preventing overpressures" after "safety devices".

311 222 (3) Read:

“(3) The exhaust outlets of the pressure relief valves shall be located not less than 2 m above the deck at a distance of not less than 6 m from the accommodation and from the service spaces located outside the cargo area. This height may be reduced when within a radius of 1 m round the pressure relief valve outlet there is no equipment, no work is being carried out and signs indicate the area.”

321 222 (4)
331 222 (4)

(a) First indent: replace "flame-arrester" with "flame-arresting effect".

Second sentence, amend to read:

"(a) (closed type N)

The gases shall be discharged upwards. The opening pressure of the high-velocity vent valve and the opening pressure of the vacuum valve shall be indelibly indicated on the valve;

- a connection ...”

In the French text replace “décomprimer” by “décompresser”.

Delete the last indent.

(b) Read:

“(b) The outlets of high-velocity vent valves shall be located not less than 2 m above the deck and at a distance of not less than 6 m from the accommodation and service spaces outside the cargo area. This height may be reduced when within a radius of 1 m round the outlet of the high-velocity vent valve, there is no equipment, no work is being carried out and signs indicate the area. The setting of the high-velocity vent valves shall be such that during the transport operation they do not blow off until the maximum permissible working pressure of the cargo tanks is reached.”

(5) (a) Amend the first sentence to read:

“When a vapour pipe connects two or more cargo tanks, a flame-arrester capable of withstanding an explosion or detonation inside the pipe shall be fitted at the connection to each cargo tank”.

(b) Amend the beginning of the first sentence to read:

“When a vapour pipe connects two or more cargo tanks, a pressure/vacuum relief device provided with a flame-arrester shall be fitted at the connection to each cargo tank: ...”.

(c) After “high-velocity vent valve”, replace “incorporating a flame-arrester” with “with a flame-arresting effect”.

331 222 (6) Add a new paragraph (6) to read:

“(6) Paragraphs (2), (4) (b) and (5) do not apply to open type N with flame-arrester and to open type N.

Paragraph (3) does not apply to open type N.”

311 223 (1) Replace "piping" with "pipes for loading and unloading".

331 223 (1) Insert:

“, with the exception of discharge piping” before “shall be subjected”.

321 223 (2) First sentence, read:

331 223 (2)

“The test pressure for the cargo tanks and residual cargo tanks shall be not be less than 1.3 times the construction pressure”.

(2) Insert "and open cargo tanks" after "cofferdams".

(3) At the end, add: "(gauge pressure)".

311 225(1) Read the first sentence:

321 225 (1) “Pumps, compressors and accessory loading and unloading piping shall be placed in the cargo area.”

311 225 (1) Delete "on deck" in the last sentence.

321 225 (1) Delete "situated on deck" in the last two sentences.

331 225 (1) Read:

(1) (a) The pumps and accessory loading an unloading piping shall be located in the cargo area.

(b) The loading pumps shall be capable of being shut down from the cargo area and from a position outside the cargo area.

(c) Cargo pumps situated on deck shall be located not less than 6 m from entrances to, or openings of, the accommodation and service spaces outside the cargo area.

311 225 (2) (d) Amend to read:

“(d) The pipes for loading and unloading on deck, the vapour pipes with the exception of the shore connections but including the safety valves, and the valves shall be located within the longitudinal line formed by the outer boundaries of the domes and not less than one quarter of the vessel's breadth from the outer shell. This requirement does not apply to the relief pipes situated behind the safety valves. If there is, however, only one dome athwartships, these pipes and their valves shall be located at a distance not less than 2.70 m from the shell.

Where cargo tanks are placed side by side, all the connections to the domes shall be located on the inner side of the domes. The external connections may be located on the fore and aft centre line of the dome. The shut-off devices shall be located directly at the dome or as close as possible to it. The shut-off devices of the loading and unloading piping shall be duplicated, one of the devices being constituted by a remote-controlled quick-action stop device. When the inside diameter of a shut-off device is less than 50 mm this device may be regarded as a safety device against bursts in the piping.”

311 225 (2) (f) In the French text replace “d'un dispositif ... rapide” by “d'un appareil d'arrêt et d'une vanne à fermeture rapide”.

Subparagraphs (i), (j) and (k), delete.

331 225 (3) Beginning, amend to read:

“The distance referred to in (1) (a) and (c) and (2) (e) may ...” (remainder unchanged).

321 225 (7) First sentence, delete "inlet and".
331 225 (7)

(10) For “model No.3 of Appendix 3” read “Model No.2 of Appendix 3”.

331 225 (11) Add a new paragraph (11) to read:

“(11) Paragraphs (1) (a) and (c), (2) (e), (3) and (4) (b), do not apply to open type N.

Paragraphs (2) (f), last sentence, (2) (g), (8) (a), last sentence and (10) do not apply to oil separator and supply vessels.

Paragraph (9) does not apply to oil separator vessels.

Paragraph (2) (h) does not apply to supply vessels.”

321 226 (1)

331 226 (1) Replace "possible leakage" with "any leakage".

321 226 (3) Read:

“(3) The maximum capacity of a residual cargo tank is 30 m³.

The residual cargo tank shall be equipped with:

- pressure/vacuum valves fitted with a flame-arrester. The pressure valve and the flame-arrester shall form a single appliance designed for the high speed ejection of gases. The eductor shall be so regulated that it does not open during the transport operation. This condition is complied with when the opening pressure of the valve meets the conditions required in the list of substances in Appendix 4 for the substance to be carried;
- an ullage opening capable of being closed;
- connections, with stop valves, for pipes and hoses.

No connection between the residual cargo tanks and the vapour pipe of the cargo tanks is permitted.

The residual cargo tanks, the intermediate bulk containers or tank-containers placed on the deck shall be located at a minimum distance from the hull equal to a quarter of the vessel's breadth.”

331 226 (3) (3) Read:

“(3) The maximum permissible capacity of a residual cargo tank is 30 m³.

The residual cargo tanks shall be equipped with:

- in the case of an open system:
 - a device for ensuring pressure equilibrium;
 - an ullage opening;
- 331 226 (3)**
- connections, with stop valves, for pipes and hoses;
 - in the case of a protective system:

- a device for ensuring pressure equilibrium, fitted with a flame-arrester. The pressure valve shall be fitted with a device with a flame-arrester, designed for the high velocity ejection of gases. The eductor shall be so regulated that it does not open during the transport operation. This condition is complied with when the opening pressure of the valve meets the conditions required in the list of substances for the substance to be carried;
- an ullage opening;
- connections, with stop valves, for pipes and hoses;
- in the case of a closed system:
 - pressure/vacuum valves fitted with a flame-arrester;
 - a device for measuring the degree of filling;
 - connections, with stop valves, for pipes and hoses.

No connection between the residual cargo tanks and the vapour pipe of the cargo tanks shall be permitted.”

(4) Add a new paragraph:

“(4) Paragraphs (1) and (3) above do not apply to oil separator vessels.”

311 227 (1) (c) Replace “colling systems” with “cargo refrigeration systems”.

3X1 228 Delete: "by sprinkling water on the whole surface".

3X1 231 (2) Read:

“(2) When the engines take in air directly into the engine room, the air intakes of the engines and the ventilation inlets of the engine room shall be located not less than 2 m from the cargo area.”

(4) Last sentence: For “to service spaces where engines ...are installed”, read: "to engines installed in service spaces".

331 231 (6) Add a new paragraph (6) to read:

“(6) Paragraph (2) above does not apply to oil separator or supply vessels”.

331 234 (3) Add a new paragraph (3):

“(3) The distance described in paragraph (1) above does not apply to oil separator or supply vessels”.

3X1 235 (1) Second sentence, read:

“This provision does not apply to:

- double hull spaces and double bottoms which do not have a common boundary wall with the cargo tanks;
- nor to cofferdams and hold spaces where ballasting is carried out using the piping of the fire-fighting system in the cargo area and bilge-pumping is performed using eductors”.

331 240 (4) Add a new paragraph (4):

“(4) Paragraphs (1) and (2) above do not apply to oil separator or supply vessels.”

321 242 (1)
331 242 Read:

“(1) Boilers which are used for heating the cargo shall be fuelled with a liquid fuel having a flashpoint of more than 55° C. They shall be placed either in the engine room or in another separate space below deck and outside the cargo area, which is accessible from the deck or from the engine room.”

(4) Add at the end:

“This requirement does not apply to the inlets of the ventilation system. These inlets shall be located at a minimum distance of 2 m from the cargo area and 6 m from the openings of cargo tanks or residual cargo tanks, loading pumps situated on deck, openings of high velocity vent valves, pressure valves and shore connections of loading and unloading pipes and must be located not less than 2 m above the deck.”

3X1 250 (1) (c) Delete “machines, appliances or” in the second sentence.

3X1 252 (1) Read:

- “(1) (a) Only the following equipment may be installed in cargo tanks, residual cargo tanks and pipes for loading and unloading (comparable to zone 0):
- (unchanged);
 - (b) Only the following equipment may be installed in the cofferdams, double hull spaces, double bottoms and hold spaces (comparable to zone 1):
 - (c) Replace "control" by "regulation" and "pressurized apparatus" by "pressurized enclosure".

Delete (d) and (e).

331 256 (3) After “signal lights” read: “, gangway lighting and submerged pumps on board oil separator vessels.”

3X1 256 (5) Delete “accidental”

331 256 (5) Insert “and submerged pumps on board oil separator vessels” after “gangway lighting”.

331 260 End, add: “this requirement does not apply to oil separator and supply vessels.”

3X1 274 (3) Insert “the” before “wheelhouse”.

311 992 The marginal number should read 311 292.

Annex B.2 - Appendix 2

Amend the Checklist ADN as follows:

CHECKLIST ADN
(marginal 210 410)

2

Will the cargo piping be drained after loading or unloading by stripping or by blowing residual quantities to the shore installation/to the vessel*?

by blowing*

by stripping*

If drained by blowing, how?

(e.g. air, inert gas, sleeve)

kPa

(permissible maximum pressure in the cargo tank)

* delete as appropriate

...

	Vessel	3 Loading/Unloading place
12.1 For the loading of the vessel, is the vapour pipe, where required, or if it exists, connected with the shore gas return line?	0	0
12.2 Is it ensured that the shore installation is such that the pressure connecting point cannot exceed the opening pressure of the high velocity vent valves (... kPa)?		
* To be filled in only if vessel is to be loaded	-	0*

15.1 Has the starting working pressure of the vessel's cargo discharge pump been adjusted to the permissible working pressure of the shore installation? (to be answered by the vessel only)	0	4 -
15.2 Has the starting working pressure of the shore pump been adjusted to the permissible working pressure of the on board installation (to be answered by the shore installation only)	-	5 0

14: sixth dash, delete.

Annex B.2 - Appendix 4

“2.”, end, add: “(see also marginal 210 418)”, after “inert gas”.

“3.”, end, add after “... inhibitor”:

“When stabilization is ensured solely by blanketing with an inert gas it is sufficient to mention the name of the inert gas used in the transport document.

When stabilization is ensured by another measurement, e.g. the special purity of the substance, this measurement shall be mentioned in the transport document.”

“4.”, end, add after “... melting-point”:

“In instances where cargo heating installations are required, they must be so designed that polymerization through heating is not possible in any part of the cargo tank. Where the temperature of steam-heated coils could give rise to overheating, lower-temperature indirect heating systems shall be provided.”

“5.”, delete “due to the crystallizing of the cargo”.

“6.”, add “and, in the case of closed type vessels, when the vapour pipes and the pressure/vacuum valves may be heated.”, after “or 331 242”.

Amend “7.” and “8.” to read:

“7. For closed type vessels, the vapour pipe and the pressure/vacuum valves shall be capable of being heated.

“8. Double hull spaces, double bottoms and heating coils shall not contain any water.”

“9. (b)”, read:

“(b) Cargo piping and vent lines shall be independent of the corresponding piping used for other cargoes.”

“13.”, delete the text and keep the numbering:

“13. Not relevant”.

“14.”, replace by:

“14. The following substances may not be carried under these conditions:

- substances with a self-ignition temperature $\leq 200^{\circ}$ C
- mixtures containing halogenated hydrocarbons
- mixtures containing more than 10% benzene
- substances and mixtures carried in a stabilized state.”

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1005	AMMONIA, ANHYDROUS	2, 2°C	2 + 6.1 + 8 + 3	G	1	1	3		91		1	yes	T1	II A	+	+	+	2	1
	AMMONIA ANHYDROUS (deeply refrigerated)	2, 3°C	2 + 6.1 + 8 + 3	G	1	1	1; 3		95		1	yes	T1	II A	+	+	+	2	1
1010	1,2 BUTADIENE, STABILIZED	2, 2°F	2 + 3 + unst.	G	1	1			91		1	yes	T2	II B ⁴⁾	+	+	-	1	2; 3
1010	1,3-BUTADIENE, STABILIZED	2, 2°F	2 + 3 + unst.	G	1	1			91		1	yes	T2	II B	+	+	-	1	2; 3
1010	MIXTURES OF 1,3-BUTADIENE AND HYDROCARBONS, STABILIZED	2, 2°F	2 + 3 + unst.	G	1	1			91		1	yes	T2	II B	+	+	-	1	2; 3
1011	BUTANE	2, 2°F	2 + 3	G	1	1			91		1	yes	T2	II A	+	+	-	1	
1012	1-BUTYLENE	2, 2°F	2 + 3	G	1	1			91		1	yes	T2	II A	+	+	-	1	
1020	CHLOROPENTAFLUORO-ETHANE (REFRIGERANT GAS R 115)	2, 2°A	2	G	1	1			91		1	yes			-	-	-	0	
1030	1,1-DIFLUOROETHANE (REFRIGERANT GAS R 152 (a))	2, 2°F	2 + 3	G	1	1			91		1	yes	T1	II A	+	+	-	1	
1033	DIMETHYL ETHER	2, 2° F	2 + 3	G	1	1			91		1	yes	T3	IIB	+	+	-	1	
1040	ETHYLENE OXIDE WITH NITROGEN	2, 2°F	2 + 6.1 + 3	G	1	1			91		1	yes	T2	II B	+	+	+	2	2; 3; 11

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1055	ISOBUTYLENE	2, 2°F	2 + 3	G	1	1			91		1	yes	T2 ¹⁾	II B	+	+	-	1	
1063	METHYL CHLORIDE (REFRIGERANT GAS R40)	2, 2°F	2 + 3	G	1	1			91		1	yes	T1	II A	+	+	-	1	
1077	PROPYLENE	2, 2°F	2 + 3	G	1	1			91		1	yes	T2 ¹⁾	II A	+	+	-	1	
1083	TRIMETHYLAMINE, ANHYDROUS	2, 2°F	2 + 3	G	1	1			91		1	yes	T4	II A	+	+	-	1	
1086	VINYL CHLORIDE, STABILIZED	2, 2°F	2 + 3 + unst.	G	1	1			91		1	yes	T2	II A	+	+	-	1	2; 3; 4
1088	ACETAL	3, 3° (b)	3	N	2	2		10	97	0.83	3	yes	T3	II B ⁴⁾	+	+	-	1	
1089	ACETALDEHYDE (ethanal)	3, 1° (a)	3	C	1	1			95	0.78	1	yes	T4	II A	+	+	-	1	
1090	ACETONE	3, 3° (b)	3	N	2	2		10	97	0.79	3	yes	T1	II A	+	+	-	1	
1092	ACROLEINE, STABILIZED	6.1, 8° (a) 2.	6.1 + 3 + unst.	C	1 2	1 2	3	50	95	0.84	1	no	T3 ²⁾	II B	+	+	+	2	2; 3; 23
1093	ACRYLONITRILE, STABILIZED	3, 11° (a)	3 + 6.1 + unst.	C	2	2	3	50	95	0.80	1	no	T1	II B	+	+	+	2	3; 23
1098	ALLYL ALCOHOL	6.1, 8° (a) 2.	6.1 + 3	C	2	2		40	95	0.85	1	no	T2	II B	+	+	+	2	
1100	ALLYL CHLORIDE	3, 16° (a)	3 + 6.1	C	1 2	1 2	3	50	95	0.94	1	no	T2	II A	+	+	+	2	23
1105	PENTANOLS (n-pentanol)	3, 31° (c)	3	N	3	2			97	0.81	3	yes	T3	II A	+	+	-	1	
1106	AMYLAMINE (n-amylamine)	3, 22° (b)	3 + 8	C	2	2		40	95	0.76	2	yes	T4 ³⁾	II A ⁷⁾	+	+	-	1	
1107	AMYL CHLORIDES (1-chloropentane)	3, 3° (b)	3	C	2	2		50 40	95	0.88	2	yes	T3	II A	+	+	-	1	
1107	AMYL CHLORIDES (1-chloro-3-methylbutane)	3, 3° (b)	3	C	1 2	1 2		45	95	0.89	1 2	yes	T3	II A	+	+	-	1	
1107	AMYL CHLORIDES (2-chloro-2-methylbutane)	3, 3° (b)	3	C	2	2	3	50	95	0.87	2	yes	T3²⁾ T2	II A	+	+	-	1	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1107	AMYL CHLORIDES (1-chloro-2,2-dimethylpropane)	3, 3° (b)	3	C	2	2		50	95	0.87	2	yes	T3 ²⁾ T2	II A	+	+	-	1	
1107	AMYL CHLORIDES (...)	3, 3° (b)	3	C	1	1			95	0.9	1	yes	T3 ²⁾	II A	+	+	-	1	
1108	1-PENTENE (n-amylene)	3, 1° (a)	3	N	1	1			97	0.64	1	yes	T3	II B ⁴⁾	+	+	-	1	
1114	BENZENE	3, 3° (b)	3	C	2	2	3	50	95	0.88	2	yes	T1	II A	+	+	+	1	5; 6; +10°C; 17; 23
1120	BUTANOLS (n-butyl alcohol)	3, 31° (c)	3	N	3	2			97	0.81	3	yes	T2	II B	+	+	-	1	
1120	BUTANOLS (secondary butyl alcohol)	3, 31° (c)	3	N	3	2			97	0.81	3	yes	T2	II B ⁷⁾	+	+	-	1	
1120	BUTANOLS (tertiary butyl alcohol)	3, 3° (b)	3	N	2	2	2	10	97	0.79	3	yes	T1	II A ⁷⁾	+	+	-	1	5; 7; 17
1123	BUTYL ACETATES (n-butyl acetate)	3, 31° (c)	3	N	3	2			97	0.88	3	yes	T2	II A	+	+	-	1	
1123	BUTYL ACETATES (sec-butyl acetate)	3, 3° (b)	3	N	2	2		10	97	0.86	3	yes	T2	II A ⁷⁾	+	+	-	1	5
1125	n-BUTYLAMINE	3, 22° (b)	3 + 8	C	2	2	3	50	95	0.75	2	yes	T2	II A	+	+	-	1	23
1127	CHLOROBUTANES (1-chlorobutane)	3, 3° (b)	3	C	+ 2	+ 2	3	50	95	0.89	+ 2	yes	T3	II A	+	+	-	1	23
1127	CHLOROBUTANES (2-chlorobutane)	3, 3° (b)	3	C	+ 2	+ 2	3	50	95	0.87	+ 2	yes	T4 ³⁾	II A	+	+	-	1	23
1127	CHLOROBUTANES (2-chloro-2-méthylpropane)	3, 3° (b)	3	C	+ 2	+ 2	3	50	95	0.84	+ 2	yes	T4³⁾ T1	II A	+	+	-	1	23
1127	CHLOROBUTANES (1-chloro-2-méthylpropane)	3, 3° (b)	3	C	+ 2	+ 2	3	50	95	0.88	+ 2	yes	T4 ³⁾	II A	+	+	-	1	23
1127	CHLOROBUTANES (...)	3, 3° (b)	3	C	1	1			95	0.89	1	yes	T4 ³⁾	II A	+	+	-	1	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1129	BUTYRALDEHYDE (n-butyraldehyde)	3, 3° (b)	3	C	2	2	3	50	95	0.80	2	yes	T4	II A	+	+	-	1	15; 23
1131	CARBON DISULPHIDE (carbone sulphide)	3, 18° (a)	3 + 6.1	C	2	2	3	50	95	1.26	1	no	T6	II C	+	+	+	2	2; 9; 23
1134	CHLOROBENZENE (phenyl chloride)	3, 31° (c)	3	C	2	2		30	95	1.11	2	yes	T1	II A ⁸⁾	+	+	-	1	
1135	ETHYLENE CHLOROHYDRIN (2-chloroethanol)	6.1, 16° (a)	6.1 + 3	C	2	2		30	95	1.21	1	no	T2	II A ⁸⁾	+	+	+	2	
1143	CROTONALDEHYDE, STABILIZED	6.1, 8° (a) 2.	6.1 + 3 + unst.	C	2	2		40	95	0.85	1	no	T3	II B	+	+	+	2	3; 15
1145	CYCLOHEXANE	3, 3° (b)	3	N	2	2		10	97	0.78	3	yes	T3	II A	+	+	-	1	5; 6; +11°C; 17
1146	CYCLOPENTANE	3, 3° (b)	3	N	2	2		10	97	0.75	3	yes	T2	II B ⁴⁾	+	+	-	1	
1150	1,2 DICHLOROETHYLENE (cis)	3, 3° (b)	3	C	+	+	3	50	95	1.28	+	yes	T2 ¹⁾	II A	+	+	-	1	23
1150	1,2 DICHLOROETHYLENE (trans)	3, 3° (b)	3	C	+	+	3	50	95	1.26	+	yes	T2	II A	+	+	-	1	23
1153	ETHYLENE GLYCOL DIETHYL ETHER	3, 31° (c)	3	N	3	2			97	0.84	3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
1155	DIETHYL ETHER (ETHYL ETHER)	3, 2° (a)	3	C	1	1			95	0.71	1	yes	T4	II B	+	+	-	1	
1157	DIISOBUTYL KETONE	3, 31° (c)	3	N	3	2			97	0.81	3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
1159	DIISOPROPYL ETHER	3, 3° (b)	3	N	2	2		10	97	0.72	3	yes	T2	II A	+	+	-	1	
1163	DIMETHYLHYDRAZINE UNSYMMETRICAL	6.1, 7° (a)1.	6.1 + 3 + 8	C	2	2	3	50	95	0.78	1	no	T3	II B ⁴⁾	+	+	+	2	23

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1165	DIOXANE	3, 3° (b)	3	N	2	2		10	97	1.03	3	yes	T2	II B	+	+	-	1	5; 6: +14°C; 17
1167	DIVINYL ETHER, STABILIZED	3, 2° (a)	3 + unst.	C	1	1			95	0.77	1	yes	T2	II B ⁷⁾	+	+	-	1	2 ; 3
1170	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) aqueous solution with more than 24 % and not more than 70 % alcohol by volume	3, 31° (c)	3	N	3	2			97	0.87 -0.96	3	yes	T2	II B	+	+	-	1	
1170	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) aqueous solution with more than 70 % alcohol by volume	3, 3° (b)	3	N	2	2		10	97	0.79 -0.87	3	yes	T2	II B	+	+	-	1	
1170	ETHANOL (ETHYL ALCOHOL)	3, 3° (b)	3	N	2	2		10	97	0.79 -0.87	3	yes	T2	II B	+	+	-	1	
1171	ETHYLENE GLYCOL MONOETHYL ETHER	3, 31° (c)	3	N	3	2			97	0.93	3	yes	T3	II B	+	+	-	1	
1172	ETHYLENE GLYCOL MONOETHYL ETHER ACETATE	3, 31° (c)	3	N	3	2			97	0.98	3	yes	T2	II A	+	+	-	1	
1173	ETHYL ACETATE	3, 3° (b)	3	N	2	2		10	97	0.90	3	yes	T1	II A	+	+	-	1	
1175	ETHYLBENZENE	3, 3° (b)	3	N	2	2		10	97	0.87	3	yes	T2	II B	+	+	-	1	
1177	ETHYLBUTYL ACETATE	3, 31° (c)	3	N	3	2			97	0.88	3	yes	T2	II A	+	+	-	1	
1184	ETHYLENE DICHLORIDE ((1,2-dichloroethane)	3, 16° (b)	3 + 6.1	C	2	2		50	95	1.25	2	no	T2	II A	+	+	+	2	
1188	ETHYLENE GLYCOL MONOETHYL ETHER	3, 31° (c)	3	N	3	2			97	0.97	3	yes	T3	II B	+	+	-	1	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1191	OCTYL ALDEHYDES (n-octaldehyde)	3, 31° (c)	3	N	3	2			97	0.82	3	yes	T3	II B ⁴⁾	+	+	-	1	
1191	OCTYL ALDEHYDES (2-ethylcapronaldehyde)	3, 31° (c)	3	C	2	2		25 30	95	0.82	2	yes	T4	II A	+	+	-	1	
1193	ETHYL METHYL KETONE (METHYL ETHYLKETONE)	3, 3° (b)	3	N	2	2		10	97	0.80	3	yes	T1	II A	+	+	-	1	
1198	FORMALDEHYDE SOLUTION, FLAMMABLE	3, 33° (c)	3 + 8	N	3	2			97	1.09	3	yes	T2	II B	+	+	-	1	
1199	FURALDEHYDES (á-furfuraldehyde) or furfuraldehydes (á-furfurylaldehyde)	6.1, 13° (b)	6.1 + 3	C	2	2		35	95	1.16	2	no	T3 ²⁾	II B	+	+	+	2	15
1202	GAS OIL or DIESEL FUEL or HEATING OIL LIGHT	3, 31° (c)	3	N	4	2			97	0.74	3	yes	-	-	-	-	-	0	
1203	MOTOR SPIRIT or GASOLINE or PETROL	3, 3° (b)	3	N	2	2		10	97	0.68 - 0.72 ¹⁰⁾	3	yes	T3	II A	+	+	-	1	14
1203	MOTOR SPIRIT or GASOLINE or PETROL with more than 10% benzen boiling point ≤ 60 °C	3, 3° (b)	3	C	1	1			95		1	yes	T3	IIA	+	+	-	1	
1203	MOTOR SPIRIT or GASOLINE or PETROL with more than 10% benzen 60 °C < boiling point ≤ 85 °C	3, 3° (b)	3	C	2	2	3	50	95		2	yes	T3	IIA	+	+	-	1	23
1203	MOTOR SPIRIT or GASOLINE or PETROL with more than 10% benzen 85 °C < boiling point ≤ 115 °C	3, 3° (b)	3	C	2	2		50	95		2	yes	T3	IIA	+	+	-	1	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1203	MOTOR SPIRIT or GASOLIN or PETROL with more than 10 % benzen boiling point > 115 °C	3, 3° (b)	3	C	2	2		35	95		2	yes	T3	II A	+	+	-	1	
1206	HEPTANES (n-heptane)	3, 3° (b)	3	N	2	2		10	97	0.68	3	yes	T3	II B ⁷⁾	+	+	-	1	
1208	HEXANES (n-hexane)	3, 3° (b)	3	N	2	2		10	97	0.66	3	yes	T3	II A	+	+	-	1	
1212	ISOBUTANOL (ISOBUTYL ALCOHOL)	3, 31° (c)	3	N	3	2			97	0.80	3	yes	T2	II B	+	+	-	1	
1213	ISOBUTYL ACETATE	3, 3° (b)	3	N	2	2		10	97	0.87	3	yes	T2	II A ⁷⁾	+	+	-	1	
1214	ISOBUTYLAMINE	3, 22° (b)	3 + 8	C	4 2	4 2	3	50	95	0.73	4 2	yes	T2	II A	+	+	-	1	23
1216	ISOCTENE	3, 3° (b)	3	N	2	2		10	97	0.73	3	yes	T3	II B ⁴⁾	+	+	-	1	
1218	ISOPRENE, STABILIZED	3, 2° (a)	3 + unst.	N	1	1			95	0.68	1	yes	T3	II B	+	+	-	1	2; 3; 16
1219	ISOPROPANOL (ISOPROPYL ALCOHOL)	3, 3° (b)	3	N	2	2		10	97	0.78	3	yes	T2	II A	+	+	-	1	
1220	ISOPROPYLE ACETATE	3, 3° (b)	3	N	2	2		10	97	0.88	3	yes	T1	II A	+	+	-	1	
1221	ISOPROPYLAMINE	3, 22° (a)	3 + 8	C	1	1			95	0.69	1	yes	T2	II A ⁷⁾	+	+	-	1	
1223	KEROSENE	3, 31° (c)	3	N	3	2			97	≤ 0.83	3	yes	T3	II A	+	+	-	1	14
1224	KETONES, LIQUID, N.O.S. (....) f.p. < 23 °C 110 kPa < vp50 ≤ 175 kPa	3, 2° (b)	3	N	2	2		50	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1224	KETONES, LIQUID, N.O.S. (....) f.p. < 23 °C 110 kPa < vp50 ≤ 150 kPa	3, 2° (b)	3	N	2	2	3	10	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1224	KETONES, LIQUID, N.O.S. (...) f.p. < 23 °C vp50 ≤ 110 kPa	3, 3° (b)	3	N	2	2		10	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1224	KETONES, LIQUID, N.O.S. (...) f.p. ≥ 23 °C	3, 31° (c)	3	N	3	2			97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1229	MESITYL OXYDE	3, 31° (c)	3	N	3	2			97	0.85	3	yes	T2	II B ⁴⁾	+	+	-	1	
1230	METHANOL	3, 17° (b)	3 + 6.1	N	2	2	3	50	97	0.79	2	yes	T1	II A	+	+	-	1	23
1231	METHYL ACETATE	3, 3° (b)	3	N	2	2		10	97	0.93	3	yes	T1	II A	+	+	-	1	
1235	METHYLAMINE, AQUEOUS SOLUTION	3, 22° (b)	3 + 8	C	2	2		50	95		2	yes	T2	II A	+	+	-	1	
1243	METHYL FORMATE	3, 1° (a)	3	N	1	1			97	0.97	1	yes	T2	II A	+	+	-	1	
1244	METHYLHYDRAZINE	6.1, 7° (a)1.	6.1 + 3 + 8	C	2	2		45	95	0.88	1	no	T4	II C ⁵⁾	+	+	+	2	
1245	METHYL ISOBUTYL KETONE	3, 3° (b)	3	N	2	2		10	97	0.80	3	yes	T1	II A	+	+	-	1	
1247	METHYL METHACRYLATE MONOMER, STABILIZED	3, 3° (b)	3 + unst.	C	2	2		40	95	0.94	1	yes	T2	II A	+	+	-	1	3; 16
1262	OCTANES (n-octane)	3, 3° (b)	3	N	2	2		10	97	0.70	3	yes	T3	II A	+	+	-	1	
1264	PARALDEHYDE	3, 31° (c)	3	N	3	2			97	0.99	3	yes	T3	II A ⁷⁾	+	+	-	1	5; 6: +16 °C; 17
1265	PENTANES, liquid (n-pentane)	3, 2° (b)	3	N	2	2		50	97	0.63	3	yes	T3	II A	+	+	-	1	
1265	PENTANES, liquid (n-pentane)	3, 2° (b)	3	N	2	2	3	10	97	0.63	3	yes	T3	II A	+	+	-	1	
1265	PENTANES, liquid (2-méthyl butane)	3, 1° (a)	3	N	1	1			97	0.62	1	yes	T2	II A	+	+	-	1	
1267	PETROLEUM CRUDE OIL f.p. < 23 °C vp50 > 175 kPa	3, 1° (a)	3	N	1	1			97		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1267	PETROLEUM CRUDE OIL f.p. < 23 °C vp50 > 175 kPa	3, 1° (a)	3	N	2	2	1	50	97		2	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1267	PETROLEUM CRUDE OIL f.p. < 23 °C 110 kPa < vp50 ≤ 175 kPa	3, 2° (a) 3, 2° (b)	3	N	2	2		50	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1267	PETROLEUM CRUDE OIL f.p. < 23 °C 110 kPa < vp50 ≤ 150 kPa	3, 2° (a) 3, 2° (b)	3	N	2	2	3	10	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1267	PETROLEUM CRUDE OIL fp ≥ 23°C Vp50 ≤ 110 kPa	3, 3° (b)	3	N	2	2		10	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1267	PETROLEUM CRUDE OIL f.p. ≥ 23 °C	3,31° (c)	3	N	3	2			97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1267	PETROLEUM CRUDE OIL with more than 10 % benzen f.p. < 23 °C vp50 > 175kPa	3, 1° (a)	3	C	1	1			95		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
1267	PETROLEUM CRUDE OIL with more than 10 % benzen f.p. < 23 °C 110 kPa < vp 50 ≤ 175 kPa	3, 2°(a) 3, 2° (b)	3	C	1	1			95		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
1267	PETROLEUM CRUDE OIL with more than 10 % benzen f.p. < 23 °C vp50 ≤ 110 kPa boiling point ≤ 60 °C	3, 3 °(b)	3	C	1	1			95		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1267	PETROLEUM CRUDE OIL with more than 10% benzen f.p. 23°C vp50 ≤ 110 kPa 60°C boiling point ≤ 85°C	3,3(b)	3	C	2	2	3	50	95		2	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	23
1267	PETROLEUM CRUDE OIL with more than 10% benzen f.p. 23°C vp50 ≤ 110 kPa 85°C boiling point ≤ 115°C	3,3(b)	3	C	2	2		50	95		2	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
1267	PETROLEUM CRUDE OIL with more than 10% de benzen f.p. 23°C vp50 ≤ 110 kPa boiling point 115°C	3,3(b)	3	C	2	2		35	95		2	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
1268	PETROLEUM DISTILLATES, N.O.S.or PETROLEUM PRODUCTS, N.O.S. f.p. < 23 °C vp50 > 175 kPa	3, 1° (a)	3	N	1	1			97		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. f.p. < 23 °C vp50 > 175 kPa	3, 1° (a)	3	N	2	2	1	50	97		2	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. f.p. < 23 °C 110 kPa < vp50 ≤ 175 kPa	3, 2° (a) 3, 2° (b)	3	N	2	2		50	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. f.p. < 23 °C 110 kPa < vp50 ≤ 150 kPa	3, 2° (a) 3, 2° (b)	3	N	2	2	3	10	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14

1	2	3	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. f.p. < 23 °C vp50 ≤ 110 kPa	3, 3° (b)	3	N	2	2		10	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. f.p. ≥ 23 °C	3, 31° (c)	3	N	3	2			97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1268	PETROLEUM DISTILLATES, N.O.S. with more than 10 % benzen or PETROLEUM PRODUCTS, N.O.S. with more than 10 % benzen f.p. < 23 °C vp > 175 kPa	3, 1°(a)	3	C	1	1			95		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
1268	PETROLEUM DISTILLATES N.O.S. with more than 10 % benzen or PETROLEUM PRODUCTS, N.O.S. with more than 10 % benzen f.p. < 23 °C 110 kPa < vp50 < 175 kPa	3, 2°(a) 3,2°(b)	3	C	1	1			95		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
1268	PETROLEUM DISTILLATES N.O.S. with more than 10 % benzen or PETROLEUM PRODUCTS, N.O.S. with more than 10 % benzen f.p. < 23 °C vp50 ≤ 110 kPa boiling point ≤ 60 °C	3, 3°(b)	3	C	1	1			95		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1268	PETROLEUM DISTILLATES N.O.S. with more than 10 % benzen or petroleum products, n.o.s. with more than 10 % benzen f.p. < 23 °C vp50 ≤ 110 kPa 60 °C < boiling point ≤ 85 °C	3, 3°(b)	3	C	2	2	3	50	95		2	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	23
1268	PETROLEUM DISTILLATES N.O.S. with more 10 % benzen or PETROLEUM PRODUCTS, N.O.S. with more 10 % benzen f.p. < 23 °C vp50 ≤ 110 kPa 85 °C < boiling point ≤ 115 °C	3,3°(b)	3	C	2	2		50	95		2	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
1268	PETROLEUM DISTILLATES N.O.S. with more than 10 % benzen or PETROLEUM PRODUCTS, N.O.S. with more than 10 % benzen f.p. < 23 °C vp50 ≤ 110 kPa boiling point > 115 °C	3,3°(b)	3	C	2	2		35	95		2	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
1274	n-PROPANOL (PROPYL ALCOHOL, NORMAL)	3, 3° (b)	3	N	2	2		10	97	0.80	3	yes	T2	II B	+	+	-	1	
1275	PROPIONALDEHYDE	3, 3° (b)	3	C	+ 2	+ 2	3	50	95	0.81	+ 2	yes	T4	II B	+	+	-	1	15; 23
1277	PROPYLAMINE (1-aminopropane)	3, 22° (b)	3+8	C	+ 2	+ 2	3	50	95	0.72	+ 2	yes	T3 ²⁾	II A	+	+	-	1	23
1278	PROPYL CHLORIDE (1-chloropropane)	3, 2° (b)	3	C	+ 2	+ 2	3	50	95	0.89	+ 2	yes	T1	II A	+	+	-	1	23
1279	PROPYL DICHLORIDE (1,2-DICHLOROPROPANE)	3, 3° (b)	3	C	2	2		45	95	1.16	2	yes	T1	II A ⁸⁾	+	+	-	1	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1280	PROPYLENE OXIDE	3, 2° (a)	3 + unst.	C	1	1			95	0.83	1	yes	T2	II B	+	+	-	1	2; 12
1282	PYRIDINE	3, 3° (b)	3	N	2	2		10	97	0.98	3	yes	T1	II A ⁸⁾	+	+	-	1	
1294	TOLUENE	3, 3° (b)	3	N	2	2		10	97	0.87	3	yes	T1	II A ⁸⁾	+	+	-	1	
1296	TRIETHYLAMINE	3, 22° (b)	3 + 8	C	2	2		50	95	0.73	2	yes	T3	II A ⁸⁾	+	+	-	1	
1300	TURPENTINE SUBSTITUTE (White spirit)	3, 31° (c)	3	N	3	2			97	0.78	3	yes	T3	II B ⁴⁾	+	+	-	1	
1301	VINYL ACETATE, STABILIZED	3, 3° (b)	3 + unst.	N	2	2		10	97	0.93	2	yes	T2	II A	+	+	-	1	3; 16
1307	XYLENES (m-xylène)	3, 31° (c)	3	N	3	2			97	0.86	3	yes	T1	II A	+	+	-	1	
1307	XYLENES (o-xylène)	3, 3° (b)	3	N	3	2			97	0.88	3	yes	T1	II A	+	+	-	1	
1307	XYLENES (p-xylène)	3, 31° (c)	3	N	3	2			97	0.86	3	yes	T1	II A	+	+	-	1	5; 6: +17 °C; 17
1545	ALLYL ISOTHIOCYANATE, STABILIZED	6.1, 20° (b)	6.1 + 3 + unst.	C	2	2		25 30	95	1.02	1	no	T4 ³⁾	II B ⁴⁾	+	+	+	2	2; 3
1547	ANILINE	6.1, 12° (b)	6.1	C	2	2		25	95	1.02	2	no	-	-	-	-	+	2	5
1578	CHLORONITROBENZENES (p-chloronitrobenzene)	6.1, 12° (b)	6.1	C	2	1	2	25	95	1.37	2	no	T4 ³⁾	II B ⁴⁾	+	+	+	2	5; 7; 17
1591	o-DICHLOROBENZENE	6.1, 15° (c)	6.1	C	2	2		25	95	1.32	2	no	-	-	-	-	+	0	
1593	DICHLOROMETHANE (methyl chloride)	6.1, 15° (c)	6.1	C	2	2	3	50	95	1.33	2	no	-	-	-	-	+	0	23
1604	ETHYLENEDIAMINE	8, 54° (b)	8 + 3	N	3	2			97	0.90	3	yes	T2	II A	+	+	-	1	5; 6: +12 °C; 17

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1605	ETHYLENE DIBROMIDE	6.1, 15° (a)	6.1	C	2	2		30	95	2.18	1	no	-	-	-	-	+	2	5; 6: +14 °C; 17
1648	ACETONITRILE (methyl cyanide)	3, 3° (b)	3	N	2	2		10	97	0.78	3	yes	T1	II A	+	+	-	1	
1662	NITROBENZENE	6.1, 12° (b)	6.1	C	2	2		25	95	1.21	2	no	T1	II B	+	+	+	2	5; 6: +10 °C; 17
1663	NITROPHENOLS	6.1, 12° (c)	6.1	C	2	2	2	25	95		2	no	T1 T1	II B ⁴⁾	+	+	+	0	5; 7; 17
1664	NITROTOLUENES (o-nitrotoluene)	6.1, 12° (b)	6.1	C	2	2		25	95	1.16	2	no	-	-	-	-	+	2	5; 17
1664	NITROTOLUENES (p-nitrotoluène, molten)	6.1, 12° (b)	6.1	C	2	2	2	25	95	1.16	2	no	T2	II B ⁴⁾	+	+	+	2	5; 7; 17
1708	TOLUIDINES (o-toluidine)	6.1, 12° (b)	6.1	C	2	2		25	95	1.00	2	no	-	-	-	-	+	2	
1708	TOLUIDINES (m-toluidine)	6.1, 12° (b)	6.1	C	2	2		25	95	1.03	2	no	-	-	-	-	+	2	
1708	TOLUIDINES (p-toluidine)	6.1, 12° (b)	6.1	C	2	2	2	25	95	1.05	2	no	T1	II A ⁸⁾	+	+	+	2	5; 7; 17
1710	TRICHLORETHYLENE	6.1, 15° (c)	6.1	C	2	2		50	95	1.46	2	no	-	-	-	-	+	0	15
1715	ACETIC ANHYDRIDE	8, 32° (b)2.	8 + 3	N	2	3		10	97	1.08	3	yes	T2	II A	+	+	-	1	
1717	ACETYL CHLORIDE	3, 25° (b)	3 + 8	C	+ 2	+ 2	3	50	95	1.10	2	yes	T2	II A ⁸⁾	+	+	-	1	23
1718	BUTYL ACIDE PHOSPHATE	8, 38° (c)	8	N	4	± 3			97	0.98	3	yes	-	-	-	-	-	0	
1719	CAUSTIC ALKALI LIQUID, N.O.S. (...)	8, 42° (b) 8, 42° (c)	8	N	4	2			97		3	yes	-	-	-	-	-	0	
1738	BENZYL CHLORIDE	6.1, 27° (b)	6.1 + 8 + 3	C	2	2		25	95	1.10	2	no	T1	II A ⁸⁾	+	+	+	2	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1742	BORON TRIFLUORIDE ACETIC ACID COMPLEX	8, 33° (b)	8	N	4	2			97	1.35	3	yes	-	-	-	-	-	0	
1750	CHLORACETIC ACID SOLUTION	6.1, 27° (b)	6.1 + 8	C	2	2	2	25	95	1.58	2	no	T1	II A	+	+	+	2	5; 7; 17
1760	CORROSIVE LIQUID, N.O.S (...)	8, 66°(a)	8	N	2	3		10	97		3	yes	-	-	-	-	-	2	
1760	CORROSIVE LIQUID, N.O.S (...)	8, 66° (b)	8	N	2	3		10	97		3	yes	-	-	-	-	-	0	
1760	CORROSIVE LIQUID, N.O.S.	8, 66°(c)	8	N	4	3			97		3	yes	-	-	-	-	-	0	
1760	CORROSIVE LIQUID, N.O.S. (sodium mercaptobenzothiazole, 50% aqueous solution)	8, 66°(b)	8	N	4	2			97	1.25	3	yes	-	-	-	-	-	0	
1760	CORROSIVE LIQUID, N.O.S. (fatty alcohol, C ₁₂ -C ₁₄)	8, 66°(c)	8	N	4	2			97	0.89	3	yes	-	-	-	-	-	0	
1760	CORROSIVE, N.O.S. (ethylene diaminetetraacetic acid, tetrasodium salt, 40% solution)	8, 66°(c)	8	N	4	2			97	1.28	3	yes	-	-	-	-	-	0	
1764	DICHLOROACETIC ACID	8, 32° (b)1.	8	N	4 3	3			97	1.56	3	yes	T4 ³⁾	II A	+	+	-	1	5; 6; +14 °C; 17
1778	FLUOROSILICIC ACID	8, 8° (b)	8	N	2	3		10	97		3	yes	-	-	-	-	-	0	
1779	FORMIC ACID	8, 32° (b)1.	8 + 3	N	2	3		10	97	1.22	3	yes	T1	II A	+	+	-	1	5; 6; +12 °C; 17
1780	FUMARYL CHLORIDE	8, 35° (b)1.	8	N	2	3		10	97	1.41	3	yes	-	-	-	-	-	0	5; 8
1783	HEXAMETHYLENEDIAMINE SOLUTION	8, 53° (b) 8, 53° (c)	8	N	3	2	2		97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	0	5; 7; 17
1789	HYDROCHLORIC ACID	8, 5° (b)	8	N	2	3		10	97		3	yes	-	-	-	-	-	0	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1789	HYDROCHLORIC ACID	8, 5° (c)	8	N	4	3			97		3	yes	-	-	-	-	-	0	
1805	PHOSPHORIC ACID with more than 80% acid, by volume	8, 17° (c)	8	N	4	23	2		95		3	yes	-	-	-	-	-	0	7; 17; 22
1805	PHOSPHORIC ACID with 80% (volume) acid, or less	8, 17° (c)	8	N	4	3			97	1.00-1.60	3	yes	-	-	-	-	-	0	22
1814	POTASSIUM HYDROXIDE SOLUTION	8, 42° (b) 8, 42° (c)	8	N	4	2			97		3	yes	-	-	-	-	-	0	
1823	SODIUM HYDROXIDE, molten	8, 41°(b)	8	N	4	1	2		95	2.13	3	yes	-	-	-	-	-	0	7; 17
1824	SODIUM HYDROXIDE SOLUTION	8, 42° (b) 8, 42° (c)	8	N	4	2			97		3	yes	-	-	-	-	-	0	
1830	SULFURIC ACID with more than 51 % acid	8, 1° (b)	8	N	4	3			97	1.40-1.84	3	yes	-	-	-	-	-	0	8; 22
1831	SULFURIC ACID, FUMING (oleum)	8, 1° (a)	8 + 6.1	C	2	2		50	95	1.94	1	no	-	-	-	-	+	2	8
1832	SULFURIC ACID, SPENT	8, 1° (b)	8	N	4	3			97		3	yes	-	-	-	-	-	0	8
1846	CARBON TETRACHLORIDE	6.1, 15° (b)	6.1	C	2	2	3	50	95	1.59	2	no	-	-	-	-	+	2	23
1848	PROPIONIC ACID	8, 32° (c)	8 + 3	N	3	3			97	0.99	3	yes	T1	II A ⁷⁾	+	+	-	1	
1863	FUEL, AVIATION, TURBINE ENGINE f.p. < 23 °C vp50 > 175 kPa	3, 1° (a)	3	N	1	1			97		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1863	FUEL, AVIATION, TURBINE ENGINE f.p. < 23 °C vp50 > 175 kPa	3, 1° (a)	3	N	2	2	1	50	97		2	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1863	FUEL, AVIATION, TURBINE ENGINE f.p. < 23 °C 110 kPa < vp50 ≤ 175 kPa	3, 2° (a) 3, 2° (b)	3	N	2	2		50	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1863	FUEL, AVIATION, TURBINE ENGINE f.p. < 23 °C 110 kPa < vp50 ≤ 150 kPa	3, 2° (a) 3, 2° (b)	3	N	2	2	3	10	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1863	FUEL, AVIATION, TURBINE ENGINE f.p. < 23 °C vp50 ≤ 110 kPa	3, 3° (b)	3	N	2	2		10	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1863	FUEL, AVIATION, TURBINE ENGINE f.p. ≥ 23 °C	3, 31° (c)	3	N	3	2			97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1863	FUEL, AVIATION, TURBINE ENGINE with more than 10 % benzen f.p. 23 °C vp50 175 kPa	3, 1°(a)	3	C	1	1			95		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
1863	FUEL, AVIATION, TURBINE ENGINE with more than 10 % benzen f.p. 23 °C 110 kPa vp50 ≤ 175 kPa	3, 2°(a) 3, 2°(b)	3	C	1	1			95		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
1863	FUEL, AVIATION, TURBINE ENGINE with more than 10 % benzen f.p. 23 °C vp50 ≤ 110 kPa boiling point ≤ 60 °C	3,3°(b)	3	C	1	1			95		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1863	FUEL, AVIATION, TURBINE ENGINE with more than 10 % benzen f.p. 23 °C vp50 ≤ 110 kPa 60 °C boiling point ≤ 85 °C	3, 3°(b)	3	C	2	2	3	50	95		2	yes	T4 ³⁺	II B ⁴⁾	+	+	-	1	23
1863	FUEL, AVIATION, TURBINE ENGINE with more than 10 % benzen f.p. 23 °C vp50 ≤ 110 kPa 85 °C boiling point ≤ 115 °C	3, 3°(b)	3	C	2	2		50	95		2	yes	T4 ³⁺	II B ⁴⁾	+	+	-	1	
1863	FUEL, AVIATION, TURBINE ENGINE with more than 10 % benzen f.p. 23 °C vp50 ≤ 110 kPa boiling point 115 °C	3, 3°(b)	3	C	2	2		35	95		2	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
1888	CHLOROFORM	6.1, 15° (c)	6.1	C	2	2	3	50	95	1.48	2	no	-	-	-	-	+	0	23
1897	TETRACHLORETHYLENE	6.1, 15° (c)	6.1	C	2	2		30 35	95	1.62	2	no	-	-	-	-	+	0	
1912	METHYL CHLORIDE AND METHYLENE CHLORIDE MIXTURE (liquefied gas)	2, 2°F	2 + 3	G	1	1			91		1	yes	T1	II A ⁸⁾	+	+	-	1	
1915	CYCLOHEXANONE	3, 31° (c)	3	N	3	2			97	0.95	3	yes	T2	II A	+	+	-	1	
1917	ETHYL ACRYLATE, STABILIZED	3, 3° (b)	3 + unst.	C	2	2		40	95	0.92	1	yes	T2	II B	+	+	-	1	3
1918	ISOPROPYLBENZENE (cumene)	3, 31° (c)	3	N	3	2			97	0.86	3	yes	T2	II A ⁸⁾	+	+	-	1	
1919	METHYL ACRYLATE, STABILIZED	3, 3° (b)	3 + unst.	C	2	2	3	50	95	0.95	1	yes	T2	II B	+	+	-	1	3; 16; 18; 23

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1920	NONANES f.p. ≥ 23 °C	3, 31° (c)	3	N	3	2			97	0.70- 0.75	3	yes	T3	II A	+	+	-	1	21
1922	PYRROLIDINE	3, 23° (b)	3 + 8	C	2	2		50	95	0.86	2	yes	T2	II A	+	+	-	1	
1965	HYDROCARBON GAS MIXTURE. LIQUEFIED N.O.S.																		
	* MIXTURE A	2, 2°F	2 + 3	G	1	1			91		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
	* MIXTURE A0	2, 2°F	2 + 3	G	1	1			91		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
	* MIXTURE A01	2, 2°F	2 + 3	G	1	1			91		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
	* MIXTURE A02	2, 2°F	2 + 3	G	1	1			91		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
	* MIXTURE A1	2, 2°F	2 + 3	G	1	1			91		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
	* MIXTURE B	2, 2°F	2 + 3	G	1	1			91		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
	*MIXTURE B1	2,2°F	2 + 3	G	1	1			91		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
	*MIXTURE B2	2,2°F	2 + 3	G	1	1			91		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
	* MIXTURE C	2, 2°F	2 + 3	G	1	1			91		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
1969	ISOBUTANE	2, 2°F	2 + 3	G	1	1			91		1	yes	T2 ¹⁾	II A	+	+	-	1	
1978	PROPANE	2, 2°F	2 + 3	G	1	1			91		1	yes	T1	II A	+	+	-	1	
1987	ALCOHOLS, FLAMMABLE, N.O.S. (...) f.p. < 23 °C $110 \text{ kPa} < \text{vp}_{50} \leq 175 \text{ kPa}$	3, 2° (b)	3	N	2	2		50	97		3	yes	T4 ³⁾	IIB ⁴⁾	+	+	-	1	14
1987	ALCOHOLS, FLAMMABLE, N.O.S. (...) f.p. < 23 °C $110 \text{ kPa} < \text{vp}_{50} \leq 150 \text{ kPa}$	3, 2° (b)	3	N	2	2	3	10	97		3	yes	T4 ³⁾	IIB ⁴⁾	+	+	-	1	14

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1987	ALCOHOLS, FLAMMABLE, N.O.S. (...) f.p. < 23 °C vp50 ≤ 110 kPa	3, 3° (b)	3	N	2	2		10	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1987	ALCOHOLS FLAMMABLE, N.O.S. (tert-butanol 90% (mass)/methanol 10% (mass) mixture)	3, 3° (b)	3	N	2	2		10	97		3	yes	T1	II A	+	+	-	1	
1987	ALCOHOLS FLAMMABLE, N.O.S. (...) f.p. ≥ 23 °C	3, 31° (c)	3	N	3	2			97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1987	ALCOHOLS FLAMMABLE, N.O.S. (cyclohexanol)	3, 31° (c)	3	N	3	2	2		97 95	0.95	3	yes	T3	II A	+	+	-	1	5; 7; 17
1989	ALDEHYDES FLAMMABLE, N.O.S. (...) f.p. < 23 °C 110 kPa < vp50 ≤ 175 kPa	3, 2° (b)	3	N	2	2		50	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1989	ALDEHYDES FLAMMABLE, N.O.S. (...) f.p. < 23 °C 110 kPa < vp50 ≤ 150 kPa	3, 2° (b)	3	N	2	2	3	10	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1989	ALDEHYDES FLAMMABLE, N.O.S. (...) f.p. < 23 °C vp50 ≤ 110 kPa	3, 3° (b)	3	N	2	2		10	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1989	ALDEHYDES FLAMMABLE, N.O.S. (...) f.p. ≥ 23 °C	3, 31° (c)	3	N	3	2			97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1991	CHLOROPRENE, STABILIZED	3, 16° (a)	3 + 6.1	C	2	2	3	50	95	0.96	1	no	T2	IIB ⁴⁾	+	+	+	2	3; 23

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1992	FLAMMABLE LIQUID, TOXIC, N.O.S. (...) f.p. 23 °C boiling point ≤ 60 °C	3, 19°(a) 3, 19°(b)	3 + 6.1	C	1	1			95		1	no	T4 ³⁾	IIB ⁴⁾	+	+	+	2	
1992	FLAMMABLE LIQUID, TOXIC, N.O.S. (...) f.p. ≥ 23 °C boiling point ≤ 60 °C	3, 32°(c)	3 + 6.1	C	1	1			95		1	no	T4 ³⁾	IIB ⁴⁾	+	+	+	1	
1992	FLAMMABLE LIQUID, TOXIC, N.O.S. (...) f.p. 23 °C 60 °C boiling point ≤ 85 °C	3, 19°(b)	3 + 6.1	C	2	2	3	50	95		2	no	T4 ³⁾	IIB ⁴⁾	+	+	+	2	23
1992	FLAMMABLE TOXIC, N.O.S. (...) f.p. ≥ 23 °C 60 °C boiling point ≤ 85 °C	3, 32°(c)	3 + 6.1	C	2	2	3	50	95		2	no	T4 ³⁾	IIB ⁴⁾	+	+	+	1	23
1992	FLAMMABLE LIQUID, TOXIC, N.O.S. (...) f.p. 23 °C 85 °C boiling point ≤ 115 °C	3, 19°(b)	3 + 6.1	C	2	2		50	95		2	no	T4 ³⁾	IIB ⁴⁾	+	+	+	2	
1992	FLAMMABLE LIQUID, TOXIC, N.O.S. (...) f.p. ≥ 23 °C 85 °C boiling point ≤ 115 °C	3, 32°(c)	3 + 6.1	C	2	2		50	95		2	no	T4 ³⁾	IIB ⁴⁾	+	+	+	1	
1992	FLAMMABLE LIQUID, TOXIC, N.O.S. (...) f.p. 23 °C boiling point 115 °C	3, 19°(b)	3 + 6.1	C	2	2		35	95		2	no	T4 ³⁾	IIB ⁴⁾	+	+	+	2	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1992	FLAMMABLE LIQUID, TOXIC, N.O.S. (...) f.p. ≥ 23 °C boiling point 115 °C	3,32°(c)	3 + 6.1	C	2	2		35	95		2	no	T4 ³⁾	II B ⁴⁾	+	+	+	1	
1993	FLAMMABLE LIQUID, N.O.S. (...) f.p. < 23 °C vp50 > 175 kPa	3, 1° (a)	3	N	1	1			97		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1993	FLAMMABLE LIQUID, N.O.S. (...) f.p. < 23 °C vp50 > 175 kPa	3, 1° (a)	3	N	2	2	1	50	97		2	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1993	FLAMMABLE LIQUID, N.O.S. (...) f.p. < 23 °C 110 kPa < vp50 ≤ 175 kPa	3, 2° (a) 3, 2° (b)	3	N	2	2		50	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1993	FLAMMABLE LIQUID, N.O.S. (...) f.p. < 23 °C 110 kPa < vp50 ≤ 150 kPa	3, 2° (a) 3, 2° (b)	3	N	2	2	3	10	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1993	FLAMMABLE LIQUID, N.O.S. (...) f.p. < 23 °C vp50 ≤ 110 kPa	3, 3° (b)	3	N	2	2		10	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1993	FLAMMABLE LIQUID, N.O.S. (...) f.p. ≥ 23 °C	3, 31° (c)	3	N	3	2			97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
1993	FLAMMABLE LIQUID, N.O.S. (cyclohexanone/cyclohexanol mixture)	3, 31° (c)	3	N	3	2			97	0,95	3	yes	T3	II A	+	+	-	1	
1993	FLAMMABLE LIQUID, N.O.S. (...) with more than 10 % benzen) f.p. 23°C vp50 175 kPa	3, 1°(a)	3	C	1	1			95		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
1993	FLAMMABLE LIQUID, N.O.S. (... with more than 10 % benzen) f.p. 23°C 110 kPa vp50 ≤ 175 kPa	3, 2°(a) 3, 2°(b)	3	C	1	1			95		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1993	FLAMMABLE LIQUID, N.O.S. (... with more than 10 % benzen) f.p. 23°C vp50 ≤ 110 kPa boiling point ≤ 60°C	3,3°(b)	3	C	1	1			95		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
1993	FLAMMABLE LIQUID, N.O.S. (... with more than 10 % benzen) f.p. 23° C vp50 ≤ 110 kPa 60°C boiling point ≤ 85°C	3,3°(b)	3	C	2	2	3	50	95		2	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	23
1993	FLAMMABLE LIQUID, N.O.S. (... with more than 10 % benzen) f.p. 23°C vp50 ≤ 110 kPa 85°C boiling point ≤ 115°C	3,3°(b)	3	C	2	2		50	95		2	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
1993	FLAMMABLE LIQUID, N.O.S. (... with more than 10% benzen) f.p. 23°C vp50 ≤ 110 kPa boiling point 115° C	3,3°(b)	3	C	2	2		35	95		2	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
1993	FLAMMABLE LIQUID, N.O.S. (... with more than 10% benzen) f.p. ≥ 23°C 60°C boiling point ≤ 85°C	3,31°(c)	3	C	2	2	3	50	95		2	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	23
1993	FLAMMABLE LIQUID, N.O.S. (... with more than 10% benzen) f.p. ≥ 23°C 85°C boiling point ≤ 115°C	3,31°(c)	3	C	2	2		50	95		2	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1993	FLAMMABLE LIQUID, N.O.S. (...with more than 10% benzen) f.p. $\geq 23^{\circ}\text{C}$ boiling point 115°C	3,31°(c)	3	C	2	2		35	95		2	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
1999	TARS, LIQUID	3, 31° (c)	3	N	4	2	2		97		3	yes	T3	II A ⁷⁾	+	+	-	0	4; 10, 7
2021	CHLOROPHENOLS LIQUID (2-chlorophenol)	6.1, 17° (c)	6.1	C	2	2		25	95	1.23	2	no	T1	II A ⁷⁾	+	+	+	0	5; 6: +10 °C; 17
2022	CRESYLIC ACID	6.1, 27°(b)	6.1 + 8 + 3	C	2	2		25	95	1.03	2	no	T2	II B ⁴⁾	+	+	+	2	5; 6: + 16°C; 17
2023	EPICHLORHYDRIN	6.1, 16° (b)	6.1 + 3	C	2	2		35	95	1.18	2	no	T2	II B	+	+	+	2	
2031	NITRIC ACID, other than red fuming, with not more than 70% acid	8, 2° (b)	8	N	2	3		10	97	1, 41 (at 68% HNO ₃)	3	yes	-	-	-	-	-	0	
2031	NITRIC ACID, other than red fuming, with more than 70 % acid	8, 2° (a)1.	8	N	2	3		10	97	1,51 ¹¹⁾ (at 100% HNO ₃)	3	yes	-	-	-	-	-	2	
2032	NITRIC ACID, RED FUMING	8, 2° (a)2.	8 + 5.1 + 6.1	C	2	2		50	95	1.51	1	no	-	-	-	-	+	2	
2045	ISOBUTYRALDEHYDE	3, 3° (b)	3	C	42	42	3	50	95	0.79	42	yes	T4	II A ⁷⁾	+	+	-	1	23
2046	CYMENES	3, 31° (c)	3	N	3	2			97	0.88	3	yes	T2	II A	+	+	-	1	
2047	DICHLOROPROPENES (2,3-dichloroprop-1-ene)	3, 3° (b)	3	C	2	2		45	95	1.20	2	yes	T1	II A	+	+	-	1	
2047	DICHLOROPROPENES (mixtures of 2,3-dichloroprop-1-ene and 1,3 dichloroprop-1-ene)	3, 3° (b) 3, 31° (c)	3	C	2	2		45	95	1.23	2	yes	T2 ¹⁾	II A	+	+	-	1	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2047	DICHLOROPROPENES (1,3-dichloropropene)	3, 31° (c)	3	C	2	2		40	95	1.23	2	yes	T2 ¹⁾	II A ⁷⁾	+	+	-	1	
2048	DICYCLOPENTADIENE	3, 31° (c)	3	N	3	2	2		97 95	0.94	3	yes	T1	II B ⁴⁾	+	+	-	1	5; 7; 17
2050	DIISOBUTYLENE, ISOMERIC COMPOUNDS	3, 3° (b)	3	N	2	2		10	97	0.72	3	yes	T3 ²⁾	II A ⁷⁾	+	+	-	1	
2051	2-DIMETHYLAMINOETHANOL	8, 54° (b)	8 + 3	N	3	2			97	0.89	3	yes	T3	II A	+	+	-	1	
2053	METHYL ISOBUTYL CARBINOL	3,31°(c)	3	N	3	2			97	0.81	3	yes	T4³⁾	II B⁴⁾	+	+	-	1	
2054	MORPHOLINE	3, 31° (c)	3	N	3	2			97	1.00	3	yes	T3	II A	+	+	-	1	5
2055	STYRENE MONOMER, STABILIZED (vinylbenzene monomer, stabilized)	3, 31° (c)	3 + unst.	N	3	2			97	0.91	3	yes	T1	II A	+	+	-	1	3; 16
2056	TETRAHYDROFURAN	3, 3° (b)	3	N	2	2		10	97	0.89	3	yes	T3	II B	+	+	-	1	
2057	TRIPROPYLENE (propyltrimer)	3, 31° (c)	3	N	3	2			97	0.73	3	yes	T3	II B ⁴⁾	+	+	-	1	
2074	ACRYLAMIDE, aqueous solution	6.1, 12° (c)	6.1	C	2	2		30	95	1.03	2	no	-	-	-	-	+	0	3; 15; 16
2076	CRESOLS	6.1, 27° (b)	6.1 + 8	C	2	2	2	25	95	1.03- 1.05	2	no	T1	II A ⁸⁾	+	+	+	2	5; 7; 17
2078	TOLUENE DIISOCYANATE (2,4- toluene diisocyanate) and isomeric mixtures	6.1, 19° (b)	6.1	C	2	2	2	25	95	1.22	2	no	T1	II B ⁴⁾	+	+	+	2	2; 5; 7; 8; 17
2079	DIETHYLENETRIAMINE	8, 53° (b)	8	N	4	2			97	0.96	3	yes	-	-	-	-	-	1	
2205	ADIPONITRILE	6.1, 12° (c)	6.1	C	2	2		25	95	0.96	2	no	T4 ³⁾	II B ⁴⁾	+	+	+	0	5; 6: +6 °C; 17

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2206	ISOCYANATES, TOXIC, N.O.S. (4-chlorophenyl isocyanate)	6.1, 19° (b)	6.1	C	2	2	2	25	95	1.25	2	no	-	-	-	-	+	2	5; 7; 17
2209	FORMALDEHYDE SOLUTION with at least 25 % formaldehyde	8, 63° (c)	8	N	4	2			97	1.09	3	yes	-	-	-	-	-	0	15
2215	MALEIC ANHYDRIDE	8, 31° (c)	8	N	3	3	2		97 95	0.93	3	yes	T2	II B ⁴⁾	+	+	-	0	5; 7; 17
2218	ACRYLIC ACID, STABILIZED	8, 32° (b)2.	8 + 3 + unst.	C	2	2		25 30	95	1.05	1	yes	T2	II A ⁷⁾	+	+	-	1	3; 4; 5; 6; +17 °C; 17; 18
2227	n-BUTYL METHACRYLATE, STABILIZED	3,31° ((c)	3 + unst.	C	2	2		50	95	0.90	1	yes	T3	IIA	+	+	-	1	3
2238	CHLOROTOLUENES (m-chlorotoluene)	3, 31° (c)	3	C	2	2		25 30	95	1.08	2	yes	T1	II A ⁷⁾	+	+	-	1	
2238	CHLOROTOLUENES (o-chlorotoluene)	3, 31° (c)	3	C	2	2		30	95	1.08	2	yes	T1	II A ⁷⁾	+	+	-	1	
2238	CHLOROTOLUENES (p-chlorotoluene)	3, 31° (c)	3	C	2	2		30	95	1.07	2	yes	T1	II A ⁷⁾	+	+	-	1	5; 6; +11 °C; 17
2239	CHLOROTOLUIDINES	6.1, 17° (c)	6.1	C	2	2		25	95	1.15	2	no	T1	II A ⁷⁾	+	+	+	0	5; 6; +6 °C; 17
2241	CYCLOHEPTANE	3, 3° (b)	3	N	2	2		10	97	0.81	3	yes	T4 ³⁾	II A	+	+	-	1	
2247	n-DECANE	3, 31° (c)	3	N	3	2			97	0.73	3	yes	T3	II A	+	+	-	1	
2248	DI-n-BUTYLAMINE	8, 54° (b)	8 + 3	N	3	2			97	0.76	3	yes	T3	II A ⁷⁾	+	+	-	1	
2259	TRIETHYLENETETRAMINE	8, 53° (b)	8	N	3	2			97	0.98	3	yes	T2	II B ⁴⁾	+	+	-	1	5; 6; +16 °C; 17
2263	DIMETHYLCYCLOHEXANES (cis-1,4-dimethylcyclohexane)	3, 3° (b)	3	C	2	2		35	95	0.78	2	yes	T4 ³⁾	II A ⁷⁾	+	+	-	1	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2263	DIMETHYLCYCLOHEXANES (trans-1,4-dimethylcyclohexane)	3, 3° (b)	3	C	2	2		35	95	0.76	2	yes	T4 ³⁾	II A ⁷⁾	+	+	-	1	
2264	N,N-DIMETHYLCYCLO- HEXYLAMINE	8, 54° (b)	8 + 3	EN	23	2		30	95 97	0.85	23	yes	T3	II B ⁴⁾	+	+	-	1	
2265	N,N-DIMETHYLFORMAMIDE	3, 31° (c)	3	N	3	2			97	0.95	3	yes	T2	II A	+	+	-	1	
2266	N,N-DIMETHYLPROPYLAMINE	3, 22° (b)	3 + 8	C	2	2	3	50	95	0.72	2	yes	T4 ³⁾	II A	+	+	-	1	23
2276	ETHYL-2 HEXYLAMINE	3, 33° (c)	3 + 8	N	3	2			97	0.79	3	yes	T3	II A ⁷⁾	+	+	-	1	
2278	n-HEPTENE	3, 3° (b)	3	N	2	2		10	97	0.70	3	yes	T3	II B ⁴⁾	+	+	-	1	
2280	HEXAMETHYLENEDIAMINE, molten	8, 52° (c)	8	N	3	3	2		95	0.83	3	yes	T3	II B ⁴⁾	+	+	-	0	5; 7; 17
2282	HEXANOLS	3, 31° (c)	3	N	3	2			97	0.83	3	yes	T3	II A	+	+	-	1	
2286	PENTAMETHYLHEPTANE (isododecane)	3, 31° (c)	3	N	3	2			97	0.75	3	yes	T2	II A ⁷⁾	+	+	-	1	
2289	ISOPHORONEDIAMINE	8, 53° (c)	8	N	3	2			97	0.92	3	yes	T2	II A	+	+	-	0	5; 6; +14°C; 17
2303	ISOPROPENYLBENZENE	3, 31° (c)	3	N	3	2			97	0.91	3	yes	T2	II B	+	+	-	1	16
2309	OCTADIENE (1,7 octadiene)	3, 3° (b)	3	N	2	2		10	97	0.75	3	yes	T3	II B ⁴⁾	+	+	-	1	
2311	PHENETIDINES	6.1, 12 (c)	6.1	C	2	2		25	95	1.07	2	no	-	-	-	-	+	0	6; +7 °C; 17
2312	PHENOL, MOLTEN	6.1, 24° (b)1.	6.1	C	2	2	2	25	95	1.07	2	no	T1	II A ⁸⁾	+	+	+	2	5; 7; 17
2320	TETRAETHYLENEPENTAMINE	8,53(c)	8	N	4	2			97	1.00	3	yes	-	-	-	-	-	0	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2321	TRICHLOROBENZENES, LIQUID (1,2,4-trichlorobenzene)	6.1, 15° (c)	6.1	C	2	2	2	25	95	1.45	2	no	T1	II A	-	-	+	0	5;7; 17
2323	TRIETHYL PHOSPHITE	3, 31° (c)	3	N	3	2			97	0.80	3	yes	T3	II B ⁴⁾	+	+	-	1	
2324	TRIISOBUTYLENE	3, 31° (c)	3	N	3	2			97	0.76	3	yes	T2	II B ⁴⁾	+	+	-	1	
2325	1,3,5 TRIMETHYLBENZENE	3, 31° (c)	3	N	3	2			97	0.87	3	yes	T1	II A	+	+	-	1	
2333	ALLYL ACETATE	3, 17° (b)	3 + 6.1	C	2	2		35	95	0.93	2	no	T2	IIA ⁷⁾	+	+	+	1	
2348	BUTYL ACRYLATES, STABILIZED (n-butyl acrylate, stabilized)	3, 31° (c)	3 + unst.	C	2	2		30	95	0.90	1	yes	T3	II B	+	+	-	1	3;163
2350	BUTYL METHYL ETHER	3, 3° (b)	3	N	2	2		10	97	0.74	3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
2356	2-CHLOROPROPANE	3, 2° (a)	3	C	+2	+2	3	50	95	0.86	+2	yes	T1	II A	+	+	-	1	23
2357	CYCLOHEXYLAMINE	8, 54° (b)	8 + 3	N	3	2			97	0.86	3	yes	T3	II A ⁸⁾	+	+	-	1	
2362	1,1 DICHLOROETHANE	3, 3° (b)	3	C	+2	+2	3	50	95	1.17	+2	yes	T2	II A	+	+	-	1	23
2370	1-HEXENE	3, 3° (b)	3	N	2	2		10	97	0.67	3	yes	T3	II B ⁴⁾	+	+	-	1	
2382	DIMETHYLHYDRAZINE SYMETRICAL	6.1, 7° (a)2.	6.1 + 3	C	2	2		50	95	0.83	1	no	T4 ³⁾	II B ⁴⁾	+	+	+	2	5
2383	DIPROPYLAMINE	3,22(b)	3 + 8 + 6.1	C	2	2	3	50	95	0.74	2	no	T4⁴⁾	II B⁴⁾	+	+	+	1	23
2397	3-METHYLBUTAN-2-ONE	3, 3° (b)	3	N	2	2		10	97	0.81	3	yes	T1	II A	+	+	-	1	
2398	METHYL tert-BUTYL ETHER	3, 3° (b)	3	N	2	2		10	97	0.74	3	yes	T1	II A	+	+	-	1	
2404	PROPIONITRILE	3, 11° (b)	3 + 6.1	C	2	2		4045	95	0.78	2	no	T1 ⁹⁾	II B ⁹⁾	+	+	+	2	
2414	THIOPHENE	3, 3° (b)	3	N	2	2		10	97	1.06	3	yes	T2	II A	+	+	-	1	
2430	ALKYLPHENOLS SOLID, N.O.S. (nonylphenol, isomeric mixture, molten)	8, 39° (b)	8	N	3	3	2		95	0.95		yes	T2	II A ⁷⁾	+	+	-	0	5; 7; 17
2432	N,N-DIETHYLANILINE	6.1, 12° (c)	6.1	C	2	2		25	95	0.93	2	no	-	-	-	-	+	0	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2448	SULPHUR, MOLTEN	4.1, 15°	4.1	N	4	1	2		95	2.07	3	yes	-	-	-	-	+ ^{9/}	0	7; ^{2/} Toximeter for H ₂ S, 20:+150°C
2458	HEXADIENE	3, 3° (b)	3	N	2	2		10	97	0.72	3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
2477	METHYL ISOTHIOCYANATE	6.1, 20° (a)	6.1 + 3	C	2	2	2	35	95	1.07 ¹¹⁾	2	no	T4 ³⁾	II B ⁴⁾	+	+	+	2	5; 7; 17
2485	n-BUTYL ISOCYANATE	6.1, 6° (a)	6.1 + 3	C	2	2		35	95	0.89	1	no	T2	II B ⁴⁾	+	+	+	2	
2486	ISOBUTYL ISOCYANATE	3, 14° (b)	3 + 6.1	C	2	2		40	95		2	no	T4 ³⁾	II B ⁴⁾	+	+	+	2	
2487	PHENYL ISOCYANATE	6.1, 18° (a)	6.1 + 3	C	2	2		25	95	1.10	21	no	T1	II B ⁴⁾	+	+	+	2	
2490	DICHLOROISOPROPYL ETHER	6.1, 17° (b)	6.1	C	2	2		25	95	1.11	21	no	-	-	-	-	+	2	
2491	ETHANOLAMINE or ETHANOLAMINE SOLUTION	8, 53° (c)	8	N	3	2			97	1.02	3	yes	T4 ³⁾	II A ⁸⁾	+	+	-	0	5; 6; +14°C; 17
2493	HEXAMETHYLENEIMINE	3, 23° (b)	3 + 8	N	3	2			97	0.88	3	yes	T3 ²⁾	II B ⁴⁾	+	+	-	1	
2496	PROPIONIC ANHYDRIDE	8, 32° (c)	8	N	4	3			97	1.02	3	yes	-	-	-	-	-	0	
2518	1,5,9-CYCLODODECATRIENE	6.1, 25° (c)	6.1	C	2	2		25	95	0.9	2	no	-	-	-	-	+	0	
2527	ISOBUTYL ACRYLATE, STABILIZED	3, 31° (c)	3 + unst.	C	2	2		30	95	0.89	1	yes	T2	II B ⁹⁾	+	+	-	1	3
2528	ISOBUTYL ISOBUTYRATE	3, 31° (c)	3	N	3	2			97	0.86	3	yes	T2	II B ⁴⁾	+	+	-	1	
2531	METHACRYLIC ACID, STABILIZED	8, 32° (c)	8 + unst.	C	2	2	2	25	95	1.02	1	yes	T2	II B ⁴⁾	+	+	-	0	3; 4; 5; 7; 17; 18
2564	TRICHLOROACETIC ACID SOLUTION	8, 32° (b)1.	8	N	3	3	2	10	9795	1.62 ¹¹⁾	3	yes	T4 ³⁾	II A ⁷⁾	+	+	-	1	5; 7; 17; 22
2564	TRICHLOROACETIC ACID SOLUTION	8, 32° (c)	8	N	4	23	2		97	1.62 ¹¹⁾	3	yes	T4 ³⁾	II A ⁷⁾	+	+	-	1	5; 7; 17; 22

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2574	TRICRESYL PHOSPHATE with more than 3 % ortho isomer	6.1, 23° (b)	6.1	C	2	2		25	95	1.18	2	no	-	-	-	-	+	2	
2579	PIPERAZINE, molten (diethylenediamine)	8, 52°(c)	8 + 3	N	3	3	2		95	0.90	3	yes	T2	II B^{d/}	+	+	-	1	7; 17
2586	ALKYLSULFONIC ACIDS, LIQUID with not more than 5 % free sulphuric acid	8, 34° (c)	8	N	4	3			97		3	yes	-	-	-	-	-	0	
2608	NITROPROPANES	3, 31° (c)	3	N	3	2			97	1.00	3	yes	T2	II B ⁷⁾	+	+	-	1	
2615	ETHYL PROPYL ETHER	3, 3° (b)	3	N	2	2		10	97	0.73	3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
2651	4,4'-DIAMINODIPHENYL-METHANE	6.1, 12° (c)	6.1	C	2	2	2	25	95	1.00	2	no	-	-	-	-	+	0	5; 7; 17
2672	AMMONIA SOLUTION (relative density between 0.880 and 0.957 at 15°C in water, with more than 10% but not more than 35% ammonia)	8, 43° (c)	8	N	2	2		10	97	0.88 ¹⁰⁾ - 0.96 ¹⁰⁾	3	yes	-	-	-	-	-	0	
2683	AMMONIUM SULPHIDE SOLUTION	8, 45° (b)2.	8 + 6.1 + 3	C	2	2		50	95		2	no	T4 ³⁾	II B ⁴⁾	+	+	+	0	15; 16
2693	BISULPHITES, AQUEOUS SOLUTION, N.O.S. (...)	8,17°(c)	8	N	4	3			97		3	yes	-	-	-	-	-	0	
2709	BUTYLBENZENES	3, 31°(c)	3	N	3	2			97	0.87	3	yes	T2	II A	+	+	-	1	
2733	AMINES, FLAMMABLE, CORROSIVE, N.O.S. or POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S. (...)	3, 22° (b)	3 + 8	C	2	2	3	50	95	0.72	2	yes	T4 ³⁾	II A	+	+	-	1	23
2735	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (...)	8, 53° (a)	8	N	4	2			97		3	yes	-	-	-	-	-	2	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2735	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (...)	8, 53° (b)	8	N	4	2			97		3	yes	-	-	-	-	-	1	
2735	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (...)	8, 53° (c)	8	N	4	2			97		3	yes	-	-	-	-	-	0	
2754	N-ETHYLTOLUIDINES (N-éthyl-o-toluidine) (N-éthyl-m-toluidine)	6.1, 12°(b)	6.1	C	2	2		25	95	0.94	2	no	-	-	-	-	+	2	
2754	N-ETHYLTOLUIDINES (N-ethyl-m-toluidine)	6.1, 12°(b)	6.1	C	2	2		25	95	0.94	2	no	-	-	-	-	+	2	
2754	N-ETHYLTOLUIDINES, (N-ethyl-o- toluidine and N-ethyl-m-toluidine mixtures)	6.1, 12°(b)	6.1	C	2	2		25	95	0.94	2	no	-	-	-	-	+	2	
2754	N-ETHYLTOLUIDINES (N-ethyl-p-toluidine)	6.1, 12° (b)	6.1	C	2	2	2	25	95	0.94	2	no	-	-	-	-	+	2	7; 17
2789	ACETIC ACID, GLACIAL	8, 32°(b)2.	8 + 3	N	2	3	2	10	9795	1.05 (with 100 % acid)	3	yes	T1	II A	+	+	-	1	5; 7; 17
2789	ACETIC ACID SOLUTION, more than 80% acid, by mass	8, 32° (b)2.	8 + 3	N	2	3	2	10	9795	1.05 (with 100% acid)	3	yes	T1	II A	+	+	-	1	5; 7; 17

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2790	ACETIC ACID SOLUTION, more than 25% but not more than 80% acid, by mass	8, 32° (b)1. 8, 32° (c)	8	N	2	3		10	97		3	yes	-	-	-	-	-	0	
2796	BATTERY FLUID, ACID	8, 1° (b)	8	N	4	3			97	1.00-1.84	3	yes	-	-	-	-	-	0	8; 22
2796	SULPHURIC ACID with not more than 51 % acid	8, 1° (b)	8	N	4	3			97	1.00-1.41	3	yes	-	-	-	-	-	0	8; 22
2797	BATTERY FLUID, ALKALI	8, 42° (b)	8	N	4	2			97	1.00-2.13	3	yes	-	-	-	-	-	0	22
2810	TOXIC LIQUID, ORGANIC, N.O.S. (...) boiling point ≤ 60°C	6.1, 25°(a) 6.1, 25°(b)	6.1	C	1	1			95		1	no	-	-	-	-	+	2	
2810	TOXIC LIQUID, ORGANIC, N.O.S. (...) boiling point ≤ 60°C	6.1, 25°(c)	6.1	C	1	1			95		1	no	-	-	-	-	+	0	
2810	TOXIC LIQUID, ORGANIC, N.O.S. (...) 60°C boiling point ≤ 85°C	6.1, 25°(a)	6.1	C	2	2	3	50	95		1	no	-	-	-	-	+	2	23
2810	TOXIC LIQUID, ORGANIC, N.O.S. (...) 60°C boiling point ≤ 85°C	6.1, 25°(b)	6.1	C	2	2	3	50	95		2	no	-	-	-	-	+	2	23
2810	TOXIC LIQUID ORGANIC, N.O.S. (...) 60°C boiling point ≤ 85°C	6.1, 25°(c)	6.1	C	2	2	3	50	95		2	no	-	-	-	-	+	0	23
2810	TOXIC LIQUID ORGANIC, N.O.S. (...) 85°C boiling point ≤ 115°C	6.1, 25°(a)	6.1	C	2	2		50	95		1	no	-	-	-	-	+	2	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2810	TOXIC LIQUID ORGANIC, N.O.S. (...) 85°C boiling point ≤ 115° C	6.1, 25°(b)	6.1	C	2	2		50	95		2	no	-	-	-	-	+	2	
2810	TOXIC LIQUID ORGANIC, N.O.S. (...) 85°C boiling point ≤ 115° C	6.1, 25°(c)	6.1	C	2	2		50	95		2	no	-	-	-	-	+	0	
2810	TOXIC LIQUID ORGANIC, N.O.S. (...) boiling point 115° C	6.1, 25°(a)	6.1	C	2	2		35	95		1	no	-	-	-	-	+	2	
2810	TOXIC LIQUID ORGANIC, N.O.S. (...) boiling point 115° C	6.1, 25°(b)	6.1	C	2	2		35	95		2	no	-	-	-	-	+	2	
2810	TOXIC LIQUID ORGANIC, N.O.S. (...) boiling point 115° C	6.1, 25°(c)	6.1	C	2	2		35	95		2	no	-	-	-	-	2	0	
2811	TOXIC SOLID, ORGANIC, N.O.S. (1, 2, 3-trichlorobenzene, molten)	6.1, 25°(c)	6.1	C	2	2	2	25	95		2	no	T4 ^{3/}	II B ^{4/}	+	+	+	0	5; 7; 17; 22
2811	TOXIC SOLID, ORGANIC, N.O.S. (1,3,5-trichlorobenzene, molten)	6.1, 25°(c)	6.1	C	2	2	2	25	95		2	no	T4 ^{3/}	II B ^{4/}	+	+	+	0	5;7;17; 22
2815	N-AMINOETHYLPIPERAZINE	8, 53°(c)	8	N	4	2			97	0.98	3	yes	-	-	-	-	-	0	
2820	BUTYRIC ACID	8, 32° (c)	8	N	2	3		10	97	0.96	3	yes	-	-	-	-	-	0	
2829	CAPROIC ACID	8, 32 (c)	8	N	4	3			97	0.92	3	yes	-	-	-	-	-	0	
2831	1,1,1-TRICHLOROETHANE	6.1, 15° (c)	6.1	C	2	2	3	50	95	1.34	2	no	-	-	-	-	+	0	23
2850	TETRAPROPYLENE (PROPYLENE TETRAMER)	3, 31° (c)	3	N	4	2			97	0.76	3	yes	-	-	-	-	-	0	
2874	FURFURYL ALCOHOL	6.1, 14° (c)	6.1	C	2	2		25	95	1.13	2	no	-	-	-	-	+	0	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2920	CORROSIVE LIQUID, FLAMMABLE, N.O.S. (2-propanol and didecyltrimethylammonium chloride, aqueous solution)	8, 68°(b)	8 + 3	N	3	3			97	0.95	3	yes	T3	IIA	+	+	-	1	
2922	CORROSIVE LIQUID, N.O.S. (...) boiling point ≤ 60°C	8, 76°(a)	8 + 6.1	C	1	1			95		1	no	-	-	-	-	+	2	
2922	TOXIC LIQUID CORROSIVE, N.O.S. (...) boiling point ≤ 60°C	8, 76°(b) 8, 76°(c)	8 + 6.1	C	1	1			95		1	no	-	-	-	-	+	0	
2922	TOXIC LIQUID CORROSIVE, N.O.S. (...) 60°C boiling point ≤ 85°C	8, 76°(a)	8 + 6.1	C	2	2	3	50	95		1	no	-	-	-	-	+	2	23
2922	TOXIC LIQUID CORROSIVE, N.O.S. (...) 60°C boiling point ≤ 85°C	8, 76°(b) 8, 76°(c)	8 + 6.1	C	2	2	3	50	95		2	no	-	-	-	-	+	0	23
2922	TOXIC LIQUID CORROSIVE, N.O.S. (...) 85°C boiling point ≤ 115°C	8, 76°(a)	8 + 6.1	C	2	2		50	95		1	no	-	-	-	-	+	2	
2922	TOXIC LIQUID CORROSIVE, N.O.S. (...) 85°C boiling point ≤ 115°C	8, 76°(b) 8, 76°(c)	8 + 6.1	C	2	2		50	95		2	no	-	-	-	-	+	0	
2922	TOXIC LIQUID CORROSIVE, N.O.S. (...) boiling point 115°C	8, 76°(a)	8 + 6.1	C	2	2		35	95		1	no	-	-	-	-	+	2	
2922	TOXIC LIQUID CORROSIVE, N.O.S. (...) boiling point 115°C	8, 76°(b) 8, 76°(c)	8 + 6.1	C	2	2		35	95		2	no	-	-	-	-	+	0	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2924	FLAMMABLE LIQUID, CORROSIVE, N.O.S. boiling point ≤ 60°C	3,26°(a)	3 + 8	C	1	1			95		1	yes	T4 ^{3/}	II B ^{4/}	+	+	-	2	
2924	FLAMMABLE, LIQUID, CORROSIVE, N.O.S. (...) 60°C boiling point ≤ 85°C	3,26°(b) 3,33°(c)	3 + 8	C	1	1			95		1	yes	T4 ^{3/}	II B ^{4/}	+	+	-	1	
2924	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (...) 60°C boiling point ≤ 85°C	3,26°(b) 3,33°(c)	3 + 8	C	2	2	3	50	95		2	yes	T4 ^{3/}	II B ^{4/}	+	+	-	1	23
2924	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (...) 85°C boiling point ≤ 115°C	3,26°(b) 3,33°(c)	3 + 8	C	2	2		50	95		2	yes	T4 ^{3/}	II B ^{4/}	+	+	-	1	
2924	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (...) boiling point 115°C	3,26°(b) 3,33°(c)	3 + 8	C	2	2		35	95		2	yes	T4 ^{3/}	II B ^{4/}	+	+	-	1	
2924	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (aqueous solution of dialkyldimethylammonium chloride (C ₈ - C ₁₈) and 2-propanol)	3,26°(b)	3 + 8	C	2	2		50	95	0.88	2	yes	T2	IIA	+	+	-	1	
2927	TOXIC LIQUID CORROSIVE, ORGANIC, N.O.S. (...) boiling point ≤ 60°C	6.1, 27°(a) 6.1, 27(b)	6.1 + 8	C	1	1			95		1	no	-	-	-	-	+	2	
2927	TOXIC LIQUID CORROSIVE, ORGANIC, N.O.S. (...) 60°C boiling point ≤ 85°C	6.1, 27° (a)	6.1 + 8	C	2	2	3	50	95		1	no	-	-	-	-	+	2	23

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2927	TOXIC LIQUID CORROSIVE ORGANIC, N.O.S. (...) 60°C boiling point ≤ 85°C	6.1, 27°(b)	6.1 + 8	C	2	2	3	50	95		2	no	-	-	-	-	+	2	23
2927	TOXIC LIQUID CORROSIVE, ORGANIC, N.O.S. (...) 85°C boiling point ≤ 115°C	6.1, 27° (a)	6.1 + 8	C	2	2		50	95		1	no	-	-	-	-	+	2	
2927	TOXIC LIQUID CORROSIVE, ORGANIC, N.O.S. (...) 85°C boiling point ≤ 115°C	6.1, 27° (b)	6.1 + 8	C	2	2		50	95		2	no	-	-	-	-	+	2	
2927	TOXIC LIQUID CORROSIVE, ORGANIC, N.O.S. (...) boiling point 115°C	6.1, 27° (a)	6.1 + 8	C	2	2		35	95		1	no	-	-	-	-	+	2	
2927	TOXIC LIQUID CORROSIVE, ORGANIC, N.O.S. (...) boiling point 115°C	6.1, 27° (b)	6.1 + 8	C	2	2		35	95		2	no	-	-	-	-	+	2	
2929	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. (...)	6.1, 9° (a)	6.1 + 3	C	1	1			95		1	no	T4 ³	II B ⁴	+	+	+	2	
2929	TOXIC LIQUID, FLAMMABLE N.O.S. (...) boiling point ≤ 60°C	6.1, 26°(a)1. 26°(b)1.	6.1 + 3	C	1	1			95		1	no	T4 ³	II B ³		+	+	2	
2929	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. (...) 60°C boiling point ≤ 85°C	6.1, 26° (a)1.	6.1 + 3	C	2	2	3	50	95		1	no	T4 ³	II B ⁴	+	+	+	2	23
2929	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. (...) 60°C boiling point ≤ 85°C	6.1, 26° (b)1.	6.1 + 3	C	2	2	3	50	95		2	no	T4 ³	II B ⁴	+	+	+	2	23
2929	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.. (...) 85°C boiling point ≤ 115°C	6.1, 26° (a)1.	6.1 + 3	C	2	2		50	95		1	no	T4 ³	II B ⁴	+	+	+	2	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2929	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. (...) 85°C boiling point ≤115°C	6.1, 26° (b)1.	6.1 + 3	C	2	2		50	95		2	no	T4 ^{3/}	II B ^{4/}	+	+	+	2	
2929	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. (...) boiling point 115°C	6.1, 26° (a)1.	6.1 + 3	C	2	2		35	95		1	no	T4 ^{3/}	II B ^{4/}	+	+	+	2	
2929	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. (...) boiling point 115°C	6.1, 26° (b)1.	6.1 + 3	C	2	2		35	95		2	no	T4 ^{3/}	II B ^{4/}	+	+	+	2	
2935	ETHYL-2-CHLOROPROPIONATE	3, 31° (c)	3	C	2	2		30	95	1.08	2	yes	T4 ^{3/}	II A	+	+	-	1	
2947	ISOPROPYL CHLOROACETATE	3, 31° (c)	3	C	2	2		40	95	1.09	2	yes	T4 ^{3/}	II A	+	+	-	1	
2983	ETHYLENE OXIDE AND PROPYLENE MIXTURE, with not more than 30 % ethylene oxide	3, 17° (a)	3 + 6.1 + unst.	C	1	1	3		95	0.85	1	yes no	T2	II B	+	+	-	1	2; 3; 12
3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., molten, (alkyl-amine (C ₁₂ to C ₁₈))	9, 12° (c)	9	N	4	3	2		95	0.79	3	yes	-	-	-	-	-	0	7; 17
3079	METHACRYLONITRILE, STABILIZED	3, 11° (a)	3 + 6.1 + unst.	C	2	2		45	95	0.80	1	no	T1	II B ^{4/}	+	+	+	2	3
3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (...)	9, 11° (c)		N	4	3			97	...	3	yes	-	-	-	-	-	0	22
3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bilge water)	9, 11° (c)		N	4	3			97	...	3	yes	-	-	-	-	-	0	22

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
3092	1-METHOXY-2-PROPANOL	3, 31° (c)	3	N	3	2			97	0.92	3	yes	T3	II B	+	+	-	1	
3145	ALKYLPHENOLS, LIQUID, N.O.S. (nonylphenols isomers mixture)	8, 40° (b) 8, 40° (c)	8	N	4	3			97	0.95	3	yes	-	-	-	-	-	0	
3175	SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S., molten (2-propanol and dialkyl (C₁₂ to C₁₈) dimethylammonium chloride)	4.1, 4°(c)	4.1	N	3	3	2		95	0.86	3	yes	T2	IIA	+	+	-	0	7;17
3256	ELEVATED TEMPERATURE, LIQUID, FLAMMABLE, N.O.S. (...)	3, 61° (c)	3	N	3	2	2		95		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	7
3257	ELEVATED TEMPERATURE LIQUID, N.O.S. (...)	9,20° (c)		N	4	1	2		95		3	yes	-	-	-	-	-	0	7;20: + 200°C; 22; 24
3257	ELEVATED TEMPERATURE LIQUID, N.O.S. (...)	9,20° (c)		N	4	1	2		95		3	yes	-	-	-	-	-	0	7;20: +115°C; 22;24;25
3259	AMINES, SOLID, CORROSIVE, N.O.S. molten (monoalkyl (C₁₂ to C₁₈) ammonium acetate)	8,52° (c)	8	N	4	3	2		95	0.87	3	yes	-	-	-	-	-	0	7;17
3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.	8, 17° (a)	8	N	2	3		10	97		3	yes	-	-	-	-	-	2	
3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (...)	8, 17° (b)	8	N	2	3		10	97		3	yes	-	-	-	-	-	0	
3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.	8, 17° (c)	8	N	4	3			97		3	yes	-	-	-	-	-	0	
3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (aqueous solution of phosphoric acid and nitric acid)	8, 17° (a)	8	N	2	3		10	97		3	yes	-	-	-	-	-	2	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (aqueous solution of phosphoric acid and nitric acid)	8, 17° (b) 8, 17° (c)	8	N	2 4	3			97		3	yes	-	-	-	-	-	0	
3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (...)	8, 40° (a)	8	N	2	3		10	97		3	yes	-	-	-	-	-	2	
3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (...)	8, 40° (b) 8, 40° (c)	8	N	2	3		10	97		3	yes	-	-	-	-	-	0	
3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (...)	8,40(c)	8	N	4	3			97		3	yes	-	-	-	-	-	0	
3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (...)	8, 47° (a)	8	N	4	2			97		3	yes	-	-	-	-	-	2	
3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (...)	8, 47° (b) 8, 47° (c)	8	N	4	2			97		3	yes	-	-	-	-	-	0	
3267	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (...)	8, 56° (a)	8	N	4	2			97		3	yes	-	-	-	-	-	2	
3267	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (...)	8, 56° (b) 8, 56° (c)	8	N	4	2			97		3	yes	-	-	-	-	-	0	
3271	ETHERS, N.O.S. (...) f.p. < 23 °C vp50 ≤ 110 kPa	3, 3° (b)	3	N	2	2		10	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
3271	ETHERS, N.O.S. (tert-amylnmethyl ether) f.p. < 23 °C vp50 ≤ 110 kPa	3, 3° (b)	3	N	2	2		10	97	0.77	3	yes	T2	II B ⁴⁾	+	+	-	1	
3271	ETHERS, N.O.S. (...) f.p. ≥ 23 °C	3, 31° (c)	3	N	3	2			97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
3272	ESTERS, N.O.S. (...) f.p. < 23 °C vp50 ≤ 110 kPa	3, 3° (b)	3	N	2	2		10	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
3272	ESTERS, N.O.S. (...) f.p. ≥ 23 °C	3, 31° (c)	3	N	3	2			97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
3286	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (...) f.p. 23°C boiling point ≤ 60°C	3,27° (a) 3,27° (b)	3 + 6.1 + 8	C	1	1			95		1	no	T4 ³⁾	II B ⁴⁾	+	+	+	2	
3286	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (...) f.p. 23°C 60°C boiling point ≤ 85°C	3,27° (b)	3 + 6.1 + 8	C	2	2	3	50	95		2	no	T4 ³⁾	II B ⁴⁾	+	+	+	2	23
3286	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (...) f.p. 23°C 85°C boiling point ≤ 115°C	3,27° (b)	3 + 6.1 + 8	C	2	2		50	95		2	no	T4 ³⁾	II B ⁴⁾	+	+	+	2	
3286	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (...) f.p. 23°C boiling point 115°C	3,27° (b)	3 + 6.1 + 8	C	2	2		35	95		2	no	T4 ³⁾	II B ⁴⁾	+	+	+	2	
3287	TOXIC LIQUID, INORGANIC, N.O.S. (sodium dichromate solution)	6.1,65°(c)	6.1	C	2	2		30	95	1.68	2	no	-	-	-	-	+	0	
3287	TOXIC LIQUID, INORGANIC, N.O.S. (...) boiling point ≤ 60°C	6.1,65° (a) 6.1,65° (b)	6.1	C	1	1			95		1	no	-	-	-	-	+	2	
3287	TOXIC LIQUID, INORGANIC, N.O.S. (...) boiling point ≤ 60°C	6.1,65° (c)	6.1	C	1	1			95		1	no	-	-	-	-	+	0	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
3287	TOXIC LIQUID INORGANIC, N.O.S. (...) 60°C boiling point ≤ 85°C	6.1,65° (a)	6.1	C	2	2	3	50	95		1	no	-	-	-	-	+	2	23
3287	TOXIC LIQUID, INORGANIC, N.O.S., (...) 60° C boiling point ≤ 85° C	6.1, 65° (b)	6.1	C	2	2	3	50	95		2	no	-	-	-	-	+	2	23
3287	TOXIC LIQUID INORGANIC, N.O.S. (...) 60°C boiling point ≤ 85°C	6.1,65° (c)	6.1	C	2	2	3	50	95		2	no	-	-	-	-	+	0	23
3287	TOXIC LIQUID INORGANIC, N.O.S. (...) 85°C boiling point ≤ 115°C	6.1,65° (a)	6.1	C	2	2		50	95		1	no	-	-	-	-	+	2	
3287	TOXIC LIQUID INORGANIC, N.O.S. (...) 85°C boiling point ≤ 115°C	6.1,65° (b)	6.1	C	2	2		50	95		2	no	-	-	-	-	+	2	
3287	TOXIC LIQUID INORGANIC, N.O.S. (...) 85°C boiling point ≤ 115°C	6.1,65° (c)	6.1	C	2	2		50	95		2	no	-	-	-	-	+	0	
3287	TOXIC LIQUID INORGANIC, N.O.S. (...) boiling point 115°C	6.1, 65° (a)	6.1	C	2	2		35	95		1	no	-	-	-	-	+	2	
3287	TOXIC LIQUID INORGANIC, N.O.S. (...) boiling point 115°C	6.1, 65°(b)	6.1	C	2	2		35	95		2	no	-	-	-	-	+	2	
3287	TOXIC LIQUID INORGANIC, N.O.S. (...) boiling point 115°C	6.1, 65° (c)	6.1	C	2	2		35	95		2	no	-	-	-	-	+	0	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
3289	TOXIC LIQUID CORROSIVE, INORGANIC, N.O.S. (...) boiling point ≤ 60°C	6.1, 67°(a) 6.1, 67°(b)	6.1 + 8	C	1	1			95		1	no	-	-	-	-	+	2	
3289	TOXIC LIQUID CORROSIVE, INORGANIC, N.O.S. (...) 60°C boiling point ≤ 85°C	6.1, 67° (a)	6.1 + 8	C	2	2	3	50	95		1	no	-	-	-	-	+	2	23
3289	TOXIC LIQUID CORROSIVE, INORGANIC, N.O.S. (...) 60° C boiling point ≤85°C	6.1, 67°(b)	6.1 + 8	C	2	2	3	50	95		2	no	-	-	-	-	+	2	23
3289	TOXIC LIQUID CORROSIVE, INORGANIC, N.O.S. (...) 85° C boiling point ≤ 115°C	6.1, 67° (a)	6.1 + 8	C	2	2		50	95		1	no	-	-	-	-	+	2	
3289	TOXIC LIQUID CORROSIVE, INORGANIC, N.O.S. (...) 85° C boiling point ≤115°C	6.1, 67°(b)	6.1 + 8	C	2	2		50	95		2	no	-	-	-	-	+	2	
3289	TOXIC LIQUID CORROSIVE, INORGANIC, N.O.S. (...) boiling point 115°C	6.1,67° (a)	6.1 + 8	C	2	2		35	95		1	no	-	-	-	-	+	2	
3289	TOXIC LIQUID CORROSIVE, INORGANIC, N.O.S. (...) boiling point 115°C	6.1, 67° (b)	6.1 + 8	C	2	2		35	95		2	no	-	-	-	-	+	2	
3295	HYDROCARBONS, LIQUID, N.O.S. (...) f.p. < 23 °C vp50 > 175 kPa	3, 1° (a)	3	N	1	1			97		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
3295	HYDROCARBONS, LIQUID, N.O.S. (...) f.p. < 23 °C vp50 > 175 kPa	3, 1° (a)	3	N	2	2	1	50	97		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
3295	HYDROCARBONS, LIQUID, N.O.S. (...) f.p. < 23 °C 110 kPa < vp50 ≤ 175 kPa	3, 2° (a) 3, 2° (b)	3	N	2	2		50	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
3295	HYDROCARBONS, LIQUID, N.O.S. (...) f.p. < 23 °C 110kPa < vp50 ≤ 150 kPa	3, 2° (a) 3, 2° (b)	3	N	2	2	3	10	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
3295	HYDROCARBONS, LIQUID, N.O.S. (...) f.p. 23°C v.p.50 ≤ 110 kPa	3,3° (b)	3	N	2	2		10	97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
3295	HYDROCARBONS, LIQUID, N.O.S. (...) f.p. ≥ 23°C	3,31° (c)	3	N	3	2			97		3	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	14
3295	HYDROCARBONS LIQUID, N.O.S. (polycyclic aromatic hydrocarbons mixture)	3,31° (c)	3	N	3	2			97	1.08	3	yes	T1	IIA	+	+	-	1	14
3295	HYDROCARBONS LIQUID, N.O.S. (l-Octen)	3,3° (b)	3	N	2	2		10	97	0.71	3	yes	T3	II B ⁴⁾	+	+	-	1	14
3295	HYDROCARBONS LIQUID, N.O.S. (... with more than 10% benzen) f.p. 23°C vp50 175 kPa	3,1° (a)	3	C	1	1			95		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
3295	HYDROCARBONS LIQUID, N.O.S. (...with more than 10% benzen) f.p. 23°C 110 kPa vp50 ≤ 175 kPa	3,2° (a) 3,2° (b)	3	C	1	1			95		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
3295	HYDROCARBBONS LIQUID, N.O.S. (...with more than 10% benzen) f.p. 23°C vp50 ≤ 110 kPa boiling point ≤ 60°C	3,3° (b)	3	C	1	1			95		1	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
3295	HYDROCARBONS LIQUID, N.O.S. (with more than 10% benzen) f.p. 23°C vp50 ≤ 110 kPa 60°C boiling point ≤ 85°C	3,3° (b)	3	C	2	2	3	50	95		2	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	23
3295	HYDROCARBONS LIQUID, N.O.S. (with more than 10% benzen) f.p. 23°C vp 50 ≤ 110 kPa 85°C boiling point ≤ 115°C	3,3° (b)	3	C	2	2		50	95		2	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
3295	HYDROCARBONS LIQUID, N.O.S. (with more than 10% benzen) f.p. 23°C vp 50 110 kPa boiling point 115°C	3,3° (b)	3	C	2	2		35	95		2	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
3295	HYDROCARBONS LIQUID, N.O.S. (with more than 10% benzen) f.p. ≥ 23°C 60°C boiling point ≤ 85°C	3,31° (c)	3	C	2	2	3	50	95		2	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	23
3295	HYDROCARBONS LIQUID, N.O.S. (with more than 10% benzen) f.p. ≥ 23°C 85°C boiling point ≤ 115°C	3,31° (c)	3	C	2	2		50	95		2	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
3295	HYDROCARBONS LIQUID, N.O.S. (with more than 10% benzen) f.p. ≥ 23°C boiling point 115°C	3,31° (c)	3	C	2	2		35	95		2	yes	T4 ³⁾	II B ⁴⁾	+	+	-	1	
	Substances with 61 °C < f.p. ≤ 100 °C, n.o.s. (...)	9,80°		N	4	2			97		3	yes	-	-	-	-	-	0	
	Substances with 61 °C < f.p. ≤ 100 °C, n.o.s. (ethylene glycole monobutyl ether)	9,80°		N	4	2			97	0.90	3	yes	-	-	-	-	-	0	
	Substances with 61 °C < f.p. ≤ 100 °C, n.o.s. (2- ethylhexylacrylate, stabilized)	9,80°	unst.	N	4	2			95	0.89	3	yes	-	-	-	-	-	0	3; 16

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	DIPHENYLMETHANE-4,4'- DIISOCANATE	9, 81°		N	2	3	2	10	95	1.21 ⁽¹⁾	3	yes	-	-	-	-	+	0	7; 8; 17; 19
	Substances with f.p. 61 °C carried at a temperature in the range of 15 K below its f.p. (...)	3, 72°	3	N	3	2			97		3	yes	T4 ⁽³⁾	II B ⁽⁴⁾	+	+	-	0	

Footnotes related to the list of substances

- 1) The ignition temperature has not been determined in accordance with IEC 79-4; therefore, provisional assignment has been made to temperature class T2 which is considered safe.
- 2) The ignition temperature has not been determined in accordance with IEC 79-4; therefore, provisional assignment has been made to temperature class T3 which is considered safe.
- 3) The ignition temperature has not been determined in accordance with IEC 79-1A; therefore, provisional assignment has been made to temperature class T4 which is considered safe.
- 4) No maximum experimental safe gap (MESG) has been measured in accordance with IEC 79-1A; therefore, provisional assignment has been made to explosion group IIB which is considered safe.
- 5) No maximum experimental safe gap (MESG) has been measured in accordance with IEC 79-1A; therefore, provisional assignment has been made to explosion group IIC which is considered safe.
- 6) The maximum experimental safe gap (MESG) is within the marginal range between explosion group IIA and IIB.
- 7) No maximum experimental safe gap (MESG) has been measured in accordance with IEC-79-1A; therefore, assignment has been made to the explosion group which is considered safe.
- 8) No maximum experimental safe gap (MESG) has been measured in accordance with IEC 79-1A; therefore, assignment has been made to the explosion group in compliance with EN 50014.
- 9) Assignment in accordance with IMO (International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk) (IBC Code).
- 10) Relative density at 15 °C.
- 11) Relative density at 25 °C.
- 12) Relative density at 37°C.
- 13) Indications related to the pure substance.

Amendments to Russian version only: (TRANS/WP.15/148)

Page 68 : Marginal 11 501 Delete "(1)" at the beginning of paragraph.

Page 71 : Read:

"21 413-21 499" instead of "21 414-21 499".

Page 80 : Add the title "Ventilation above Marginal 42 412.

Page 257 : Marginal 311 228 : The end of the last sentence should read:

"... the outflow is 50 litres per square metre of cargo deck area and per hour".
