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INLAND TRANSPORT COMMITTEE

Joint Meeting of Experts on the Regulations annexed to the
European Agreement concerning the International Carriage
of Dangerous Goods by Inland Waterways (ADN)

**REPORT OF THE JOINT MEETING OF EXPERTS
ON ITS SEVENTIEH SESSION***
(21-23 January 2003)

Addendum 1

**Consolidated text of the amendments to the 2003 version of the Regulations annexed to
ADN adopted by the Meeting of Experts at its seventh session.**

The secretariat reproduces below the consolidated text of the amendments to the 2003 version of the Regulations annexed to ADN adopted by the Meeting of Experts at its seventh session.

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**AMENDMENTS TO THE 2003 VERSION OF THE REGULATIONS
ANNEXED TO ADN**

PART 1

1.2.1 Add the following definitions:

Not readily flammable means a material which is not in itself readily flammable or whose outer surface at least is not readily flammable and limits the propagation of a fire to an appropriate degree.

In order to determine flammability, the IMO procedure, Resolution A.653(16), or any equivalent requirements of a Contracting State are recognized.

Training means teaching instruction, courses or apprenticeships dispensed by an organizer approved by the competent authority.

Instruction means transmitting know-how or teaching how to do something or how to act. This transmission or teaching may be dispensed internally by the personnel.

1.3.2.2.4 Read:

“1.3.2.2.4 Persons wearing self-contained breathing apparatus shall be physically able to bear the additional constraints.

They shall:

- in the case of devices operating with pressurized air, be trained in their handling and maintenance;
- in the case of devices supplied with pressurized air through a hose, be trained in their handling and maintenance.”

1.4.2.3.1 Add (f) and (g) worded as follows:

“(f) ascertain that the seals he has put in place to ensure that the connections between the vessel’s loading and discharging hoses are leakproof are made of a material which is not attacked by the cargo, which does not cause the decomposition of the cargo and does not cause a harmful or dangerous reaction with the cargo;

(g) ascertain that permanent and appropriate surveillance is ensured for the entire duration of loading or discharging;”

Under “Obligations concerning the filling of tanks,” add:

- (s) he shall, after filling the tank, check the leakproofness of the closing devices;
- (t) he shall ensure that no dangerous residue of the filling substance adheres to the outside of the tanks filled by him.”

Under “Obligations concerning the bulk loading of dangerous solids in vessels,” (s), (t) and (u) become (u), (v) and (w).

Add:

“1.6.1.5 (Reserved).”

Add the following paragraphs:

“1.8.5.3 An occurrence subject to report in accordance with 1.8.5.1 has occurred if dangerous goods were released or if there was an imminent risk of loss of product, if personal injury, material or environmental damage occurred, or if the authorities were involved and one or more of the following criteria has/have been met: Personal injury means an occurrence in which death or injury directly relating to the dangerous goods carried has occurred, and where the injury

- (a) requires intensive medical treatment,
- (b) requires a stay in hospital of at least one day, or
- (c) results in the inability to work for at least three consecutive days.

Loss of product means the release of dangerous goods

- (a) substances of Classes 1 or 2 or packing group I in quantities of 50 kg or 50 litres or more, or other substances not assigned to a packing group;
- (b) substances of packing group II in quantities of 333 kg or 333 litres or more; or
- (c) substances of packing group III in quantities of 1,000 kg or 1,000 litres or more.

The loss of product criterion also applies if there was an imminent risk of loss of product in the above-mentioned quantities. As a rule, this has to be assumed if, owing to structural damage, the means of containment is no longer suitable for further carriage or if, for any other reason, a sufficient level of safety is no longer ensured (e.g. owing to distortion of tanks or containers, overturning of a tank or fire in the immediate vicinity).

If dangerous goods of Class 6.2 are involved, the obligation to report applies without quantity limitation.

In occurrences involving Class 7 material, the criteria for loss of product are:

- (a) Any release of radioactive material from the packages;
- (b) Exposure leading to a breach of the limits set out in the regulations for protection of workers and members of the public against ionizing radiation (Schedule II of IAEA Safety Series No. 115 – "International Basic Safety Standards for Protection Against Ionizing Radiation and for Safety of Radiation Sources"); or
- (c) Where there is reason to believe that there has been a significant degradation in any package safety function (containment, shielding, thermal protection or criticality) that may have rendered the package unsuitable for continued carriage without additional safety measures.

NOTE: *See the provisions of 7.5.11 CV33 (6) of ADR or of 7.5.11 CW33 (6) of RID for undeliverable consignments.*

Material damage or environmental damage means the release of dangerous goods, irrespective of the quantity, where the estimated amount of damage exceeds 50,000 Euros. Damage to any directly involved means of carriage containing dangerous goods and to the modal infrastructure shall not be taken into account for this purpose.

Involvement of authorities means the direct involvement of the authorities or emergency services during the occurrence involving dangerous goods and the evacuation of persons or closure of public traffic routes (roads/railways) for at least three hours owing to the danger posed by the dangerous goods.

If necessary, the competent authority may request further relevant information."

1.8.5.4 The Contracting Parties may establish a standard format for these reports."

PART 2

2.2.7.1.2 In (b), replace the text by "reserved."

PART 3

Table C Add the following entry 2966 and amend the entry 9002 to read:

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2966	THIOGLYCOL	6.1	T1	II	6.1	C	2	2	3	25	95	1.12	2	no		no	PP,EP TOX.A	2	
9002	SUBSTANCES WITH A SELF- IGNITION TEMPERATURE OF 200°C OR BELOW n.o.s.	3	F4		3	C	1	1			95		1	yes	T4	II B4)	yes	PP,EX.A	0

PART 7

7.1.2.0.2 Insert: “4.2, 4.3, 5.1” between “4.1” and “5.2”.

(The text proposed by the secretariat for 7.1.4.1.1 (see TRANS/WP.15/AC.2/2002/1/Add.10) was adopted but placed in square brackets for confirmation at the next session.)

[7.1.4.1.1] The following gross masses shall not be exceeded on any vessel except for double-hull vessels. For pushed convoys and side-by-side formations this gross mass applies to each unit of the convoy or formation.

Class 1

(existing text unchanged)

Class 2

All goods for which label No. 2.3 is required in column (5)
of Table A of Chapter 3.2: total

120 000 kg

All goods for which label No. 2.1 is required in column (5)
of Table A of Chapter 3.2: total

300 000 kg

Other goods

No limitation

Class 3

All goods for which label No. 6.1 is required in column (5)
of Table A of Chapter 3.2: total

120 000 kg

Other goods

300 000 kg

Class 4.1

UN Nos. 3221, 3222, 3231 and 3232, total	15 000 kg
All goods for which label No. 6.1 is required in column (5) of Table A of Chapter 3.2 and UN Nos. 3221, 3222, 3231 and 3232: total	120 000 kg
Other goods	No limitation

Class 4.2

All goods of packing groups I or II and those for which label No. 6.1 is required in column (5) of Table A of Chapter 3.2: total	300 000 kg
Other goods	No limitation

Class 4.3

All goods of packing groups I or II and those for which label No. 3, 4.1 or 6.1 is required in column (5) of Table A of Chapter 3.2: total	300 000 kg
Other goods	No limitation

Class 5.1

All goods for which label No. 3, 4.1 or 6.1 is required in column (5) of Table A of Chapter 3.2: total	300 000 kg
Other goods	No limitation

Class 5.2

UN Nos. 3101, 3102, 3111 and 3112: total	15 000 kg
All other goods: total	120 000 kg

Class 6.1

Packing group I	120 000 kg
Packing group II	300 000 kg
Packing group III	No limitation

Class 7

UN Nos. 2912, 2913, 2915, 2917, 2919, 2977, 2978 and 3321 to 3333	0 kg
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Other goods	No limitation
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Class 8

Packing group I, goods of packing group II for which label No. 3 or 6.1 is required in column (5) of the table in Chapter 3.2: Total	300 000 kg
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Other goods	No limitation
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Class 9

Packing group II	300 000 kg
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Other goods	No limitation
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(rest of the text unchanged)]

7.1.5.0.2 Second and third indents, insert: “a substance of Class 2 is involved or” after “are/is required,”.

7.2.4.1.1 Second sentence, after “These intermediate bulk containers, tank-containers or portable tanks shall:” insert:

“meet the requirements of international regulations applicable to the substance concerned.”

– Replace “9.3.2.26” by “9.3.2.26.4”

– Replace “9.3.3.26” by “9.3.3.26.4”

Beginning of the second sentence (second indent), read:

“Receptacles shall meet the packing requirements referred to in Part 4 and shall be placed on board ...”

After 7.2.4.1.3, add:

“7.2.4.1.4 On board supply vessels or other vessels delivering products for the operation of vessels, the number of cargo samples referred to in 7.2.4.1.1 may be increased from 30 to a maximum of 500.”

After 7.2.4.15.1, insert:

“7.2.4.15.2 During the filling of permitted residual cargo tanks, intermediate bulk containers (IBCs), tank-containers or portable tanks, gases shall be safely evacuated.”

7.2.4.15.2 becomes “7.2.4.15.3”.

7.2.4.16.12 Add the following sentence:

“The protection of the vessel against detonations and the passage of flames from the shore is not required when the cargo tanks are inerted in accordance with 7.2.4.19.”

PART 8

8.1.2.3 Add a new (i) to read:

“(i) The instructions relating to the loading and unloading flows prescribed in 9.3.2.25.9 or 9.3.3.25.9.”

Number “(i)”, “(j)” and “(k)” as “(j)”, “(k)” and “(l).”

8.2.1.3 Replace “the topics referred to in 8.2.2.3.2” by “the objectives referred to in 8.2.2.3.1.1 and in 8.2.2.3.1.2 or 8.2.2.3.1.3.”

8.2.1.4 Replace “the topics referred to in 8.2.2.3.3” by “the objectives referred to in 8.2.2.3.3.1.”

8.2.1.5 Replace “the topics referred to in 8.2.2.3.4” by “the objectives referred to in 8.2.2.3.3.2.”

8.2.1.6 Replace “the topics referred to in 8.2.2” by “the objectives referred to in 8.2.2.3.1.1 and in 8.2.2.3.1.2 or 8.2.2.3.1.3.”

8.2.1.7 Replace “the topics referred to in 8.2.2.3.3” by “the objectives referred to in 8.2.2.3.3.1.”

8.2.1.8 Replace “the topics referred to in 8.2.2.3.4” by “the objectives referred to in 8.2.2.3.3.2.”

8.2.2 Read:

“8.2.2 Special requirements for the training of experts

8.2.2.1 Theoretical knowledge and practical abilities shall be acquired as a result of training in theory and practical exercises. The theoretical knowledge shall be tested by an examination. During the refresher and advanced courses exercises and tests shall ensure that the participant takes an active role in the training.

8.2.2.2 The training organizer shall ensure that participants have a good knowledge of the subject and shall take into account the latest developments concerning the Regulations and the requirements for training in the transport of dangerous goods. Teaching shall relate closely to practice. In accordance with the approval, the teaching syllabus shall be drawn up on the basis of the objectives referred to in 8.2.2.3.1.1 to 8.2.2.3.1.3 and in 8.2.2.3.3.1 or 8.2.2.3.3.2. Basic training and the

refresher and advanced courses shall comprise individual practical exercises (see 8.2.2.3.1.1).

8.2.2.3 *Organization of training*

Basic training and the refresher and advanced courses shall be organized in the context of basic courses (see 8.2.2.3.1) and if necessary specialization courses (see 8.2.2.3.3). The courses referred to in 8.2.2.3.1 may comprise three variants: transport of dry cargo, transport in tank vessels and combined transport of dry cargo and transport in tank vessels.

8.2.2.3.1 *Basic course*

Basic course on the transport of dry cargo

Prior training:	none
Knowledge:	ADN in general, except Chapter 3.2, Table C, Chapters 7.2 and 9.3
Authorized for:	vessels carrying dry cargo only
Training:	general 8.2.2.3.1.1 and dry cargo vessels 8.2.2.3.1.2

Basic course on transport by tank vessels

Prior training:	none
Knowledge:	ADN in general, except Chapter 3.2, Tables A and B, Chapters 7.1, 9.1, 9.2 and sections 9.3.1 and 9.3.2
Authorized for:	type N tank vessels only
Training:	general 8.2.2.3.1.1 and tank vessels 8.2.2.3.1.3

Combined basic course on dry cargo and tank vessels

Prior training:	none
Knowledge:	ADN in general, except sections 9.3.1 and 9.3.2
Authorized for:	dry cargo vessels and type N tank vessels
Training:	general 8.2.2.3.1.1, dry cargo vessels 8.2.2.3.1.2 and tank vessels 8.2.2.3.1.3

8.2.2.3.1.1 The general part of the basic training course shall comprise at least the following objectives:

General:

– Objectives and structure of ADN.

Construction and equipment:

- Construction and equipment of vessels subject to ADN.

Measurement techniques:

- Measurements of toxicity, oxygen content, explosivity.

Knowledge of products:

- Classification and hazard characteristics of the dangerous goods.

Loading, unloading and transport:

- Loading, unloading, general service requirements and requirements relating to transport.

Documents:

- Documents which must be on board during transport.

Hazards and measures of prevention:

- General safety measures.

Practical exercises:

- Practical exercises, in particular with respect to entry into spaces, use of fire-extinguishers, fire-fighting equipment and personal protective equipment as well as flammable gas detectors, oxygen meters and toximeters.

8.2.2.3.1.2 The “dry cargo vessels” part of the basic training course shall comprise at least the following objectives:

Construction and equipment:

- Construction and equipment of dry cargo vessels.

Treatment of holds and adjacent spaces:

- degassing, cleaning, maintenance,
- ventilation of holds and spaces outside the cargo area.

Loading, unloading and transport:

- loading, unloading, general service and transport requirements,
- labelling of packages.

Documents:

- documents which must be on board during transport.

Hazards and measures of prevention:

- general safety measures,
- personal protective and safety equipment.

8.2.2.3.1.3 The “tank vessel” part of the basic training course shall comprise at least the following objectives:

Construction and equipment:

- construction and equipment of tank vessels,
- ventilation,
- loading and unloading systems.

Treatment of cargo tanks and adjacent spaces:

- degassing, cleaning, maintenance,
- heating and cooling of cargo,
- handling of residual cargo tanks.

Measurement and sampling techniques:

- measurements of toxicity, oxygen content and explosivity,
- sampling.

Loading, unloading and transport:

- loading, unloading, general service and transport requirements.

Documents:

- documents which must be on board during transport.

Hazards and measures of prevention:

- prevention and general safety measures,
- spark formation,
- personal protective and safety equipment,
- fires and fire-fighting.

8.2.2.3.2 *Refresher and advanced training courses*

Refresher and advanced training course on transport of dry cargo

Prior training:	valid ADN “dry cargo vessels” or combined “dry cargo vessels/tank vessels” certificate
Knowledge:	ADN in general, except Chapter 3.2, Table C, Chapters 7.2 and 9.3
Authorized for:	dry cargo vessels only
Training:	general 8.2.2.3.1.1 and dry cargo vessels 8.2.2.3.1.2

Refresher and advanced training course on transport in tank vessels

Prior training:	valid ADN “tank vessels” or combined “dry cargo vessels/tank vessels” certificate
Knowledge:	ADN in general, except Chapter 3.2, Tables A and B, Chapters 7.1, 9.1 and 9.2 and sections 9.3.1 and 9.3.2
Authorized for:	type N vessels only
Training:	general 8.2.2.3.1.1 and tank vessels 8.2.2.3.1.3

Refresher and advanced training course on combined transport in “dry cargo vessels/tank vessels”

Prior training:	valid ADN combined “dry cargo vessels and tank vessels” certificate
Knowledge:	ADN in general, including sections 9.3.1 and 9.3.2
Authorized for:	dry cargo vessels and type N tank vessels
Training:	general 8.2.2.3.1.1, dry cargo vessels 8.2.2.3.1.2 and tank vessels 8.2.2.3.1.3

8.2.2.3.3 *Specialization courses*

Specialization course on gases

Prior training:	valid ADN “tank vessels” or combined “dry cargo vessels/tank vessels” certificate
Knowledge:	ADN, in particular knowledge relating to loading, transport, unloading and handling of gases

Authorized for: types N and G vessels

Training: gases 8.2.2.3.3.1

Specialization course on chemicals

Prior training: valid ADN “tank vessels” or combined “dry cargo vessels/tank vessels” certificate

Knowledge: ADN, in particular knowledge relating to loading, transport, unloading and handling of chemicals

Authorized for: types N and C tank vessels

Training: chemicals 8.2.2.3.3.2

8.2.2.3.3.1 The specialization course on gases shall comprise at least the following objectives:

Knowledge of physics and chemistry:

- laws of gases, e.g. Boyle, Gay-Lussac and fundamental law
- partial pressures and mixtures, e.g. definitions and simple calculations, pressure increase and gas release from cargo tanks
- Avogadro’s number and calculation of masses of ideal gas and application of the mass formula
- density and volume of liquids, e.g. density, volume in terms of temperature increase and maximum degree of filling
- critical pressure and temperature
- polymerization, e.g. theoretical and practical questions, conditions of carriage
- vaporization, condensation, e.g. definition, liquid volume and vapour volume ratio
- mixtures, e.g. vapour pressure, composition and hazard characteristics
- chemical bonds and formulae.

Practice:

- flushing of cargo tanks, e.g. flushing in the event of a change of cargo, addition of air to the cargo, methods of flushing (degassing) before entering cargo tanks
- sampling
- danger of explosion
- health risks
- gas concentration measures, e.g. which apparatus to use and how to use it
- monitoring of closed spaces and entry to these spaces
- certificates for degassing and permitted work

- degree of filling and over-filling
- safety installations
- pumps and compressors.

Emergency measures

- physical injury, e.g. liquefied gases on the skin, breathing in gas, assistance
- irregularities relating to the cargo, e.g. leak in a connection, over-filling, polymerization and hazards in the vicinity of the vessel.

8.2.2.3.3.2 The specialization course on chemicals shall comprise at least the following objectives:

Knowledge of physics and chemistry:

- chemical products, e.g. molecules, atoms, physical state, acids, bases, oxidation
- density, pressure and volume of liquids, e.g. density, volume and pressure in terms of temperature increase, maximum degree of filling
- critical temperature
- polymerization, e.g. theoretical and practical questions, conditions of carriage
- mixtures, e.g. vapour pressure, composition and hazard characteristics
- chemical bonds and formulae.

Practice:

- cleaning of cargo tanks, e.g. degassing, washing, residues, cargo residues
- sampling
- danger of explosion
- health risks
- gas concentration measures, e.g. which apparatus to use and how to use it
- monitoring of closed spaces and entry to these spaces
- certificates for degassing and permitted work
- degree of filling and over-filling
- safety installations
- pumps and compressors.

Emergency measures

- physical injury, e.g. liquefied gases on the skin, breathing in gas, assistance
- irregularities relating to the cargo, e.g. leak in a connection, over-filling, polymerization and hazards in the vicinity of the vessel.

8.2.2.3.4 *Refresher and advanced training courses*

Refresher and advanced training course on gases

Prior training:	valid ADN “gases” certificate
Knowledge:	ADN, in particular, loading, transport, unloading and handling of gases
Authorization for:	types N and G tank vessels
Training:	gases 8.2.2.3.3.1

Refresher and advanced training course on chemicals

Prior training:	valid ADN “chemicals” certificate
Knowledge:	ADN, in particular, loading, transport, unloading and handling of chemicals
Authorization for:	types N and C tank vessels
Training:	chemicals 8.2.2.3.3.2

8.2.2.4 *Planning of refresher and specialization courses*

The following minimum periods of training shall be observed:

Basic “dry cargo vessels course”	24 lessons of 45 minutes each
Basic “tank vessels” course	24 lessons of 45 minutes each
Basic combined course	32 lessons of 45 minutes each
Specialization course on gases	16 lessons of 45 minutes each
Specialization course on chemicals	16 lessons of 45 minutes each

Each day of training may comprise not more than eight lessons.

If the theoretical training is by correspondence, equivalences to the above-mentioned lessons shall be determined. Training by correspondence shall be completed within a period of nine months.

Approximately 30% of basic training shall be devoted to practical exercises. Practical exercises shall, where possible, be undertaken during the period of theoretical training; in any event, they shall be completed not later than three months following the completion of theoretical training.

8.2.2.5 *Planning of refresher and advanced training courses*

The refresher and advanced training courses shall take place before the expiry of the deadline referred to in 8.2.1.4, 8.2.1.6 or 8.2.1.8.

The following minimum periods of training shall be observed:

Basic refresher course:

– dry cargo vessels	16 lessons of 45 minutes each
– tank vessels	16 lessons of 45 minutes each
– combined dry cargo vessels and tank vessels	16 lessons of 45 minutes each
Specialization refresher course on gases	8 lessons of 45 minutes each
Specialization refresher course on chemicals	8 lessons of 45 minutes each

Each day of training may comprise not more than eight lessons.

If the theoretical training is by correspondence, equivalences to the above-mentioned lessons shall be determined. Training by correspondence shall be completed within a period of nine months.

Approximately 50% of basic training shall be devoted to practical exercises. Practical exercises shall, where possible, be undertaken during the period of theoretical training; in any event, they shall be completed not later than three months following the completion of theoretical training.

8.2.2.6 *Approval of training courses*

8.2.2.6.1 Training courses shall be approved by the competent authority.

8.2.2.6.2 Approval shall be granted only on written application.

8.2.2.6.3 Applications for approval shall be accompanied by:

- (a) the detailed course curriculum showing the course topics and the length of time to be devoted to them, as well as the teaching methods envisaged;
- (b) the roster of teaching staff, listing their qualifications and the subjects to be taught by each one;
- (c) information on classrooms and teaching materials, as well as on the facilities available for practical exercises;
- (d) enrolment requirements, e.g. the number of participants.

8.2.2.6.4 The competent authority shall be responsible for monitoring training courses and examinations.

- 8.2.2.6.5 The approval comprises the following conditions, inter alia:
- (a) training courses shall conform to the information accompanying the application for approval;
 - (b) the competent authority may send inspectors to attend training courses and examinations;
 - (c) the timetables for the various training courses shall be notified in advance to the competent authority.

Approval shall be granted in writing. It may be withdrawn in the event of failure to comply with the conditions of approval.

- 8.2.2.6.6 The approval document shall indicate whether the course in question is a basic training course, a specialization course or a refresher and advanced training course.

- 8.2.2.6.7 If, after approval is granted, the organizer of the training course wishes to change conditions affecting the approval, he shall seek the prior agreement of the competent authority. This provision shall apply in particular to amendments to syllabuses.

- 8.2.2.6.8 Training courses shall take account of the current developments in the various subjects taught. The course organizer shall be responsible for ensuring that recent developments are brought to the attention of, and properly understood by, teachers.

8.2.2.7 *Examinations*

(The text of this sub-section and its paragraphs is that of the existing 8.2.3.5 with the following amendments:

Each time the reference occurs, replace “the competent authority” by the “Administrative Committee”. The footnote should read: “Before the entry into force of the Agreement, or until the Administrative Committee adopts the list of questions, this list of questions shall be drafted by the competent authority. It is recommended that the competent authority should use the lists of questions drawn up by the Central Commission for the Navigation of the Rhine or the Danube Commission.”)

- 8.2.2.7.1.3 (former 8.2.3.5.1.3) Read:

“The Administrative Committee shall establish a list of questions comprising the objectives set out in 8.2.2.3.1.1 to 8.2.2.3.1.3. The examination questions shall be

selected from this list. The candidate shall not have advance knowledge of the questions selected.”

8.2.2.7.1.4 (former 8.2.3.5.1.4) Read:

“The model attached to the list of questions is to be used to compile the examination questions.”

8.2.2.7.1.5 (former 8.2.3.5.1.5) Add “and CEVNI” after “regulations on dangerous goods”.

8.2.2.7.2.3 (former 8.2.3.5.2.3) Replace “the topics referred to in 8.2.2.3.3 or 8.2.2.3.4” by “the objectives set out in 8.2.2.3.3.1 or 8.2.2.3.3.2”.

Delete the last sentence.

8.2.2.8 *ADN specialized knowledge certificate*

Include the text of the existing 8.2.3.6, replacing the last sentence by:

“The validity of the basic training certificate shall be five years as from the date of the examination.

The validity of the ‘gases’ and/or ‘chemicals’ specialized training certificate shall be brought into line with the validity of the basic training certificate.

If the refresher and advanced training course was not fully completed before the expiry of the period of validity of the certificate, a new certificate shall not be issued until the candidate has completed a further initial basic training course and passed an examination referred to in 8.2.2.7 above.”

8.2.3.5.2.4 (former 8.2.3.5.12.4) Read:

“The model attached to the list of questions is to be used to compile the examination questions.”.

8.6 Delete this chapter and renumber the following accordingly.

8.7.3 **Checklist**

Page 2:

After “kPa
(permissible maximum pressure in the cargo tank)”

insert:

“litres

(estimated residual quantity)".

After "Questions to the master", insert:

"or the person mandated by him".

Page 3:

Question 2, insert after "master":

"or the person mandated by him".

In the explanation for question 10, add the following sentence:

"When supervision is effected by additional technical means it must be agreed between the shore installation and the vessel how it is to be ensured."

In the explanation for question 13, insert after "master":

"or the person mandated by him".

PART 9

- 9.1.0.52.1 End, add the following sentence:
- "Submerged pumps installed or used in the holds shall be of the certified safe type at least for temperature class T4 and explosion group II B."
- 9.1.0.80 Between "4.1" and "5.2" insert "4.2, 4.3, 5.1,"
- 9.1.0.88.1 Between "4.1" and "5.2" insert "4.2, 4.3, 5.1,"
- 9.2** Word the heading of 9.2 to read:
- "Rules for construction applicable to seagoing vessels which comply with the requirements of the SOLAS 74 Convention, Chapter II-2, Regulation 19 or SOLAS 74, Chapter II-2, Regulation 54"** (twice)
- 9.2** Number the text under the heading 9.2.0 and word it to read:
- "9.2.0 The requirements of 9.2.0.0 to 9.2.0.79 are applicable to seagoing vessels which comply with the following requirements:
- SOLAS 74, Chapter II-2, Regulation 19 in its amended version; or

- SOLAS 74, Chapter II-2, Regulation 54 in its amended version in accordance with the resolutions mentioned in Chapter II-2, Regulation 1, paragraph 2.1, provided that the vessel was constructed before 1 July 2002.

Seagoing vessels which do not comply with the above-mentioned requirements of the SOLAS 74 Convention shall meet the requirements of 9.1.0.0 to 9.1.0.79.”

- 9.2.0.80 Between “4.1” and “5.2” insert: “4.2, 4.3, 5.1,”
- 9.2.0.88.1 Between “4.1” and “5.2” insert: “4.2, 4.3, 5.1,”
- 9.3.1.21.1 (f), read:
- “(f) an instrument for measuring the temperature of the cargo;”.
- 9.3.1.21.10 Replace: “a switch” by “switches”
- and “The switch shall be placed” by “The switches shall be placed”.
- 9.3.1.28 Replace: “vapours” by “gases”
- Second paragraph, add the following second sentence:
- “The spray nozzles shall be so installed that released gases are precipitated safely.”
- 9.3.2.11.4 Third paragraph, end of second sentence, read:
- “... provided that the discharge pipes are fitted with shut-off devices at the outlet from the cargo tank and in the cargo pump-room direct at the bulkhead.”
- 9.3.2.21.1 (f), read:
- “(f) an instrument for measuring the temperature of the cargo if in column (9) of Table C of Chapter 3.2 a heating installation is required or if in column (20) a possibility of heating the cargo is required or if a maximum temperature is indicated;”
- 9.3.2.21.7 Third paragraph, first sentence, after “activate the alarm” insert “at latest”.
- 9.3.2.21.12 Replace: “a switch” by “switches”
- and “The switch shall be placed” by “The switches shall be placed”.
- 9.3.2.26.4 Insert this number in front of “The residual cargo tank ...” and word 9.3.2.26.4 to read:

“9.3.2.26.4 The residual cargo tank shall be equipped with:

- pressure-relief and vacuum-relief valves.

The high-velocity vent valve shall be so regulated as not to open during carriage. This condition is met when the opening pressure of the valve meets the conditions set out in column (19) of Table C of Chapter 3.2,

When anti-explosion protection is required in column (17) of Table C of Chapter 3.2, the vacuum-relief valve shall be capable of withstanding deflagrations and the high-velocity vent valve shall withstand steady burning;

- a level indicator;
- connections with shut-off devices, for pipes and hoses.

Intermediate bulk containers (IBCs), tank containers and portable tanks intended to collect cargo remains, cargo residues or slops shall be equipped with:

- a connection enabling gases released during filling to be evacuated safely;
- a possibility of indicating the degree of filling;
- connections with shut-off devices, for pipes and hoses.

Residual cargo tanks, intermediate bulk containers (IBCs), tank containers and portable tanks shall be connected to the vapour pipe of cargo tanks only for the time necessary to fill them in accordance with 7.2.4.15.2.

Residual cargo tanks, intermediate bulk containers (IBCs), tank containers and portable tanks placed on the deck shall be located at a minimum distance from the hull equal to one quarter of the vessel's breadth.”

9.3.2.28 Read:

“9.3.2.28 *Water-spray system*

When water-spraying is required in column (9) of Table C of Chapter 3.2, a water-spray system shall be installed in the cargo area on deck to enable gas emissions from loading to be precipitated and to cool the tops of cargo tanks by spraying water over the whole surface so as to avoid safely the activation of the high-velocity vent valve at 50 kPa.

The gas precipitation system shall be fitted with a connection device for supply from a shore installation.

The spray nozzles shall be so installed that the entire cargo deck area is covered and the gases released are precipitated safely.

The system shall be capable of being put into operation from the wheelhouse and from the deck. Its capacity shall be such that when all the spray nozzles are in operation, the outflow is not less than 50 litres per square metre of deck area and per hour.”

9.3.3.11.4 Third paragraph, end of second sentence, read:

“... provided that the discharge pipes are fitted with shut-off devices at the outlet from the cargo tank and in the cargo pump-room direct at the bulkhead.”

Third paragraph, add the following as the penultimate sentence:

“All penetrations in cargo tanks shall be fitted with stop valves.”

9.3.3.11.10 Delete.

9.3.3.11.11 Becomes 9.3.3.11.10.

9.3.3.12.9 Delete.

9.3.3.12.10 Delete.

9.3.3.21.1 (f), read:

“(f)an instrument for measuring the temperature of the cargo if in column (9) of Table C of Chapter 3.2 a heating installation is required or if in column (20) a possibility of heating the cargo is required or if a maximum temperature is indicated;”

9.3.3.21.7 Second paragraph, first sentence, after “activate the alarm” insert “at latest”.

9.3.3.21.14 Delete.

9.3.3.22.7 Delete.

9.3.3.25.2 Delete (h).

9.3.3.25.13 Delete.

9.3.3.26.3 Leave only the first sentence with this number. Transfer the rest to a new 9.3.3.26.4 with the following amendments:

Read: “The high-velocity vent valve shall be so regulated” instead of “The valve shall be so regulated”.

Replace the last sentence by:

Intermediate bulk containers (IBCs), tank containers and portable tanks intended to collect cargo remains, cargo residues or slops shall be equipped with:

- a connection enabling gases released during filling to be evacuated safely;
- a possibility of indicating the degree of filling;
- connections with shut-off devices, for pipes and hoses.

Residual cargo tanks, intermediate bulk containers (IBCs), tank containers and portable tanks shall be connected to the vapour pipe of cargo tanks only for the time necessary to fill them in accordance with 7.2.4.15.2.

Residual cargo tanks, intermediate bulk containers (IBCs), tank containers and portable tanks placed on the deck shall be located at a minimum distance from the hull equal to one quarter of the vessel’s breadth.”

9.3.3.26.4 Becomes 9.3.3.26.5.

9.3.3.28 Read:

“9.3.2.28 *Water-spray system*

When water-spraying is required in column (9) of Table C of Chapter 3.2, a water-spray system shall be installed in the cargo area on deck for the purpose of cooling the tops of cargo tanks by spraying water over the whole surface so as to avoid safely the activation of the high-velocity vent valve at 10 kPa or as regulated.

The spray nozzles shall be so installed that the entire cargo deck area is covered and the gases released are precipitated safely.

The system shall be capable of being put into operation from the wheelhouse and from the deck. Its capacity shall be such that when all the spray nozzles are in operation, the outflow is not less than 50 litres per square metre of deck area and per hour.”

9.3.3.42.5 Delete.

General amendment:

When reference is made to residual cargo tanks, “réservoir/réservoirs” should be replaced by “citerne/citernes” throughout the French version of the annexed Regulations, where appropriate. (Concerns the French text only)
