

# **Economic and Social Council**

Inland Transport Committee

30 June 2023

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

Original: English

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

**Forty-second session**

Geneva, 21-25 August 2023

Item 4 (b) of the provisional agenda

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

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## **ADN Checklist**

**Transmitted by the Government of the Netherlands**

1. Annex 1 contains a track changes version of the ADN Checklist of 8.6.3.
2. Annex 2 contains a “clean version” of that Checklist, with all track changes accepted.

Annex 1: 8.6.3 ADN Checklist

**ADN Checklist**

concerning the observance of safety provisions and the implementation of the necessary measures for loading/unloading

The Explanation section constitutes an integral part of this Checklist

– **Particulars of vessel**

..... No. ....  
 (name of vessel) (official number)

.....  
 (vessel type)

– **Particulars of loading or unloading operations**

.....  
 (shore loading or unloading installation) (place)

.....  
 (date) (time)

– **Particulars of the cargo as indicated in the transport document**

Quantity m <sup>3</sup> ****	Proper shipping name*** UN Number or Identification number	UN Number or Identification number Proper shipping name***	Dangers* ..... Packing Group	Packing Group Dangers* .....
..... ..... .....	.....	..... ..... .....	..... ..... .....	..... ..... .....

– **Particulars of last cargo\*\***

Cargo tank number(s) of vessel	Proper shipping name*** UN Number or Identification number	UN Number or Identification number Proper shipping name***	Dangers* ..... Packing Group	Packing Group Dangers* .....
.....	.....	..... ..... .....	..... ..... .....	..... ..... .....

\* Dangers indicated in column (5) of Table C, as relevant (as mentioned in the transport document in accordance with 5.4.1.1.2 (c)).

\*\* To be filled in only if vessel is to be loaded.

\*\*\* The proper shipping name given in column (2) of Table C of Chapter 3.2, supplemented, when applicable, by the technical name in parenthesis.

\*\*\*\* This is the actual quantity as stated in the transport document that will be loaded.

<b>- Particulars of loading/unloading</b>							<b>2 of 8</b>
<b>Loading/unloading rate</b> (not to be filled in if vessel is to be loaded with gas or have gas unloaded)							
Proper shipping name**	Cargo tank number(s) of vessel	agreed rate of loading/unloading					
		start		half way		end	
		rate m <sup>3</sup> /h	quantity m <sup>3</sup>	rate m <sup>3</sup> /h	quantity m <sup>3</sup>	rate m <sup>3</sup> /h	quantity m <sup>3</sup>
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....

**- End of loading**

How ~~will the cargo piping be drained after loading or unloading by stripping or by blowing~~ residual quantities be emptied to the shore installation/to the vessel after loading or unloading?\*

**by blowing\***  
**by stripping\***  
by gravity\*

If ~~drained-emptied~~ by blowing, how?

.....

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

..... kPa  
(permissible maximum pressure in the cargo tank)

.....litres  
(estimated residual quantity)

**Questions to the master or the person mandated by him and the person in charge at the loading/unloading place**

~~Loading/unloading may only be started after all questions on the checklist have been checked off by "X", i.e. answered with YES and the list has been signed by both persons.~~

~~Non applicable questions have to be deleted.~~

~~If not all questions can be answered with YES, loading/unloading is only allowed with consent of the competent authority.~~

\* Delete as appropriate.

\*\* ~~The proper shipping name given in column (2) of Table C of Chapter 3.2, supplemented, when applicable, by the technical name in parenthesis.~~

<u>Questions to the master or the person mandated by him and the person in charge at the loading/unloading place at the shore facility responsible for the handling</u>			<u>3 of 8</u>
<p><u>Loading/unloading may only be started after all questions on the checklist have been checked off by "X", i.e. answered with YES and the list has been signed by both persons.</u></p> <p><u>Non-applicable questions have to be <del>deleted</del>crossed out.</u></p> <p><u>If not all questions can be answered with YES, loading/unloading is only allowed with consent of the competent authority.</u></p>			
		vessel	<u>3</u> loading/ unloading place
1.	Is the vessel permitted to carry this cargo?	O*	O*
2.	<i>(Reserved)</i>		
3.	Is the vessel well moored in view of local circumstances?	O	–
4.	Have suitable means in accordance with 7.2.4.77 been provided for leaving the vessel, including in cases of emergency?	O	O
5.	Are the escape routes and the loading/unloading place adequately lighted?	O	O
6.	<u>Vessel/shore connections</u>		
<u>6.1</u>	<u>6.1</u> —Is the piping for loading or unloading <u>between vessel and shore</u> ——— in satisfactory condition?	–	O
<u>6.2</u>	Is <u>the piping for loading or unloading</u> <del>#</del> correctly connected?	–	O
<u>6.3</u>	<u>6.2</u> —Are all the connecting flanges fitted with suitable ——— gaskets?	–	O
<u>6.4</u>	<u>6.3</u> —Are all the connecting bolts ( <u>or equivalent</u> ) <u>correctly</u> fitted and tightened?	O	O
<u>6.5</u>	<u>6.4</u> —Are the shoreside loading/ <u>unloading</u> arms free to move in all directions and ( <u>if present</u> ) do the hose assemblies have enough room for easy movement?	–	O
7.	<u>Vessel piping systems</u>		
<u>7.1</u>	Are all flanges of the connections of the piping for loading and unloading and of the venting piping not in use, <u>on board</u> , correctly blanked off?	O	O
<u>7.2</u>	<u>Have all valves and other closing devices been checked for correct open – or closed position?</u>	<u>O</u>	<u>O</u>
<del>8.1</del>	Are suitable means of collecting leakages placed under the pipe connections which are in use and are they empty? <sup>2</sup>	O	O
<del>8.2</del>	<del>Is a water film as mentioned in 9.3.1.21.11 activated?</del>	<del>O</del>	<del>O</del>
9.	<u>Connections between piping</u>		
<u>9.1</u>	Are the movable connecting pieces between the ballast and bilge piping on the one hand and the piping for loading and unloading on the other hand disconnected?	O	–
<u>9.2</u>	<u>Are the moveable connection pieces between the suitable venting equipment on the one hand and the piping for loading and unloading disconnected?</u>	<u>O</u>	
10.	<u>Safety provisions</u>		
<u>10.1</u>	Is continuous and suitable supervision of loading/unloading ensured for the whole period of the operation?	O	O
<u>10.2</u>	<u>Are the required fire extinguishing systems and appliances operational?</u>	<u>O</u>	<u>O</u>
<u>10.3</u>	<u>Has smoking been generally prohibited?</u>	<u>O</u>	<u>O</u>
11.	<u>Communication</u>		
<u>11.1</u>	Is communication between vessel and shore ensured?	O	O
<u>11.2</u>	<u>The language used for operational verbal communication is .....</u>	<u>O</u>	<u>O</u>

*\* To be filled in only if vessel is to be loaded.*

		<u>vessel</u>	<u>4 of 8</u> <u>loading/ unloading place</u>
<u>12.</u>	<u>Venting and vapour return piping</u>		
12.1	For the loading of the vessel, is the venting piping, where required, <del>or if it exists</del> , connected with the vapour return piping?	O	O
12.2	Is it ensured that the shore installation is such that the pressure at the connecting-point of the vapour return piping and the venting piping cannot exceed the opening pressure of the pressure relief devices/high velocity vent valves (pressure at connecting point __ kPa)?	–	O*
12.3	When anti-explosion protection is required in Chapter 3.2, Table C, column (17) does the shore installation ensure that its vapour return piping is such that the vessel is protected against detonations and flame fronts from the shore.	–	O
<u>13.</u>	<u>Working pressure</u>		
<del>13.1</del>	Has the starting working pressure of the vessel's cargo discharge pump been adjusted to the permissible working pressure of the shore installation? (agreed pressure __ kPa)	O	<u>O</u> –
<del>13.2</del>	Has the starting working pressure of the shore pump been adjusted to the permissible working pressure of the on-board installation? (agreed pressure __ kPa)	<u>O</u> –	O
<del>14.</del>	Is it known what actions are to be taken in the event of an “Emergency-stop” and an “Alarm”?	O	O
<del>14.</del> <u>15.</u>	Check on the most important operational requirements <u>on board</u> : <del>Are the required fire extinguishing systems and appliances operational?</del> <del>Have all valves and other closing devices been checked for correct open—or closed position?</del> <del>Has smoking been generally prohibited?</del> <del>Are the flame operated heating applications on board turned off?</del>	<del>⊖</del> <del>⊖</del> <del>⊖</del> <del>⊖</del>	<del>⊖</del> <del>⊖</del> <del>⊖</del> –
<u>15.1</u>	Is the voltage cut off from the radar installations?	O	–
<u>15.2</u>	<u>Are the ventilation systems and gas detection system switched on and operational?</u>	<u>O</u>	<u>–</u>
<u>15.3</u>	Are all electrical installations and equipment marked red switched off?	O	–
<u>15.4</u>	Are all windows and doors closed?	O	–
16.	Is the liquid level alarm-installation operational?	O	–
17.	Is the following system plugged in, in working order and tested?  Overflow prevention device □ when loading □ when unloading Device for switching off the on-board pump from the shore facility (only when unloading the vessel)	O  O	O  O
18.	<del>To be filled in only in the case of loading or unloading of substances for the carriage of which a closed cargo tank or an open cargo tank with flame arrester is required:</del>  Are the cargo tank hatches and cargo tank inspection and sampling openings closed or protected by flame arresters fulfilling the requirements of column (16) of Table C of Chapter 3.2?	O	–

\* To be filled in only if vessel is to be loaded.

		<u>vessel</u>	<u>5 of 8</u> <u>loading/ unloading place</u>
19.	When transporting refrigerated liquefied gases, has the holding time been determined according to 7.2.4.16.16, and is known and documented on board?	O**	O**
20.	Is the loading temperature within the range of the maximum permissible temperature as prescribed in 7.2.3.28?	O**	O**
<u>21.</u>	<u>Transport of refrigerated liquefied gases</u>		
<u>21.1</u>	<u>Are suitable facilities to collect leaked liquids provided underneath the refrigerated liquefied gas connections and are they empty?</u>	<u>O</u>	<u>O</u>
<u>8-221.2</u>	<u>Is a water film as mentioned in 9.3.1.21.11 activated?</u>	<u>O</u>	<u>O</u>
Checked, filled in and signed for the vessel: ..... (name in capital letters) ..... (signature)		for the installation of loading and unloading: ..... (name in capital letters) ..... (signature)	
** To be filled in only if the vessel is to be loaded.			

**Explanation****6 of 8****General information****Particulars of vessel**

For “vessel type”, state the type of vessel, cargo tank design, type of cargo tank and opening pressure of the pressure relief valves/high-velocity vent valves/safety valves following the definitions given in 1.2.1 and the certificate of approval (for example, C-2-2-50).

**Particulars of last cargo**

This concerns the last cargo of all tanks to be loaded.

**Particulars of loading/unloading**

It should be unambiguous to which cargo tank the “cargo tank number(s) of vessel” refers. Where necessary, add additional information to distinguish between cargo tanks (e.g. “starboard 1-1”).

The “estimated residual quantity” is the maximum quantity of product that will flow after active loading or unloading has stopped. It is the amount of product remaining in the hose or loading arm estimated from the last closed valve, expressed in litres. Operationally, the quantity at which loading is stopped in the final stage should be agreed upon in order to safely receive the residual quantity.

The “permissible maximum pressure in the cargo tank” refers to the maximum pressure of the high-velocity vent valve.”

**Questions****Question 1**

Prior to loading, both parties will check whether the vessel is permitted to carry this cargo by means of the vessel substance list.

See also 1.4.2.2.1a, 1.4.3.3n, 7.2.1.21.

**Question 2**

*(Reserved)*

**Question 3**

“Well moored” means that the vessel is fastened to the pier or the cargo transfer station in such a way that, without intervention of a third person, movements of the vessel in any direction that could hamper the operation of the cargo transfer gear will be prevented. Established or predictable variations of the water-level at that location and special factors have to be taken into account.

See also 1.1.4.6, 7.2.4.76, 7.2.5.3.

**Question 4**

It must be possible to escape safely from the vessel at any time. If there is none or only one protected escape route available at the shoreside for a quick escape from the vessel in case of emergency, a suitable means of escape has to be provided on the vessel side if required in accordance with 7.2.4.77.

See also 1.4.3.3q, 1.4.3.7.1g.

**Question 5****7 of 8**

See also 7.2.4.53.

**Question 6**

A valid inspection certificate for the hose assemblies must be available on board. The material of the piping for loading and unloading must be able to withstand the expected loads and be suitable for cargo transfer of the respective substances. The piping for loading and unloading between vessel and shore must be placed so that it cannot be damaged by ordinary movements of the vessel during the loading and unloading process or by variations of the water. In addition, all flanged joints must be fitted with appropriate gaskets and sufficient bolt connections or other types of suitable couplings (e.g. claw coupling) in order to exclude the possibility of leakage.

For 6.1, see also 9.3.x.25.

For 6.3, see also 1.4.3.3t, 1.4.3.7.1k

**Question 7**

All openings of the venting piping and connections to shore installations used for loading and unloading, through which the loading and unloading operation is carried out, shall be provided with safety valves. All openings, when not in use for loading and unloading, shall be fitted with a blind flange.

**Question 8**

The receptacle intended for recovering possible liquid spillage shall be earthed to the metal structure of the vessel. Pipe connections shall be relieved of pressure prior to connection or disconnecting and the minimal amount of product that may be released shall be caught in the receptacle.

See also 7.2.4.16.5.

**Question 9**

The suitable venting equipment (fan, flame arresters and connecting pieces) should be disconnected from the piping for loading and unloading before the loading and unloading starts.

See also 7.2.3.7, 7.2.3.25.1, 7.2.3.25.2.

**Question 10**

Loading/unloading must be supervised on board and ashore so that dangers which may occur in the vicinity of piping for loading and unloading between vessel and shore can be recognized immediately. 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.

For 10.1, see also 1.4.3.7.1l, 1.4.3.3u.

For 10.2, see also 7.2.4.40.

For 10.3, see also 7.2.4.41.

**Question 11**

For a safe loading/unloading operation good communications between vessel and shore are required. For this purpose telephone and radio equipment may be used only if of an explosion protected type and located within reach of the supervisor. Communication shall be ensured for the entire duration of the loading/unloading operation. It shall take place in a language both persons can understand.

**Question 12****8 of 8**

[In addition to the requirement of 7.2.4.25.5 ADN other regulations could prescribe the use of the vapour return piping and the venting piping, such as local regulations or permits.]

For 12.1, see also 7.2.4.25.5

For 12.2, see also 1.4.3.3s, 1.4.3.7.1j, 7.2.4.16.6.

For 12.3, see also 1.4.3.3r, 1.4.3.7.1i.



**Question 13**

*(Reserved)*

**Question ~~13~~14**

Before the start of the loading/unloading operation the representative of the shore installation and the master or the person mandated by him must agree on the applicable procedure. The specific properties of the substances to be loaded/unloaded have to be taken into account.

**Question 15**

The systems mentioned in 15.3 shall remain switched on during the operation.

“Ventilation systems” refers to systems for the accommodation, wheelhouse and service spaces as described in 9.3.x.12.4.

For 15.6, see also 7.2.3.51.6, 9.3.x.12.4

**Question 16**

See also 9.3.x.21.4.

**Question 17**

To prevent backflow from the shore, it is also necessary to activate the overflow prevention device on the vessel under certain circumstances when unloading. It is obligatory during loading and optional during unloading. Delete this item if it is not necessary during unloading.

For 17.1 and 17.2, see also 7.2.4.13.2, 9.3.x.21.5.

**Question 18**

See also 7.2.3.22.

**Question 19**

*(Reserved)*

**Question 20**

*(Reserved)*

**Question 21**

For 21.1, see also 7.2.4.29, 9.3.1.21.11.

For 21.2, see also 7.2.4.2.9.

**Annex 2: 8.6.3 ADN Checklist**

**ADN Checklist**

concerning the observance of safety provisions and the implementation of the necessary measures for loading/unloading

The Explanation section constitutes an integral part of this Checklist

– **Particulars of vessel**

..... No. ....  
 (name of vessel) (official number)

.....  
 (vessel type)

– **Particulars of loading or unloading operations**

.....  
 (shore loading or unloading installation) (place)

.....  
 (date) (time)

– **Particulars of the cargo as indicated in the transport document**

Quantity m <sup>3</sup> ****	UN Number or Identification number	Proper shipping name***	Packing Group	Dangers* .....
.....	.....	..... ..... .....	.....	.....

– **Particulars of last cargo\*\***

Cargo tank number(s) of vessel	UN Number or Identification number	Proper shipping name ***	Packing Group	Dangers* .....
.....	.....	..... ..... .....	.....	.....

\* Dangers indicated in column (5) of Table C, as relevant (as mentioned in the transport document in accordance with 5.4.1.1.2 (c)).

\*\* To be filled in only if vessel is to be loaded.

\*\*\* The proper shipping name given in column (2) of Table C of Chapter 3.2, supplemented, when applicable, by the technical name in parenthesis.

\*\*\*\* This is the actual quantity as stated in the transport document that will be loaded.

<b>- Particulars of loading/unloading</b>							<b>2 of 8</b>
<b>Loading/unloading rate</b> (not to be filled in if vessel is to be loaded with gas or have gas unloaded)							
Cargo tank number(s) of vessel	agreed rate of loading/unloading						
	start		half way		end		
	rate m <sup>3</sup> /h	quantity m <sup>3</sup>	rate m <sup>3</sup> /h	quantity m <sup>3</sup>	rate m <sup>3</sup> /h	quantity m <sup>3</sup>	
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....

**- End of loading**  
 How will residual quantities be emptied to the shore installation/to the vessel after loading or unloading?\*

**by blowing\***  
**by stripping\***  
**by gravity\***

If emptied by blowing, how?

.....

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

..... kPa  
 (permissible maximum pressure in the cargo tank)

.....litres  
 (estimated residual quantity)

\* Delete as appropriate.

<b>Questions to the master or the person mandated by him and the person at the shore facility responsible for the handling</b>			<b>3 of 8</b>
Loading/unloading may only be started after all questions on the checklist have been checked off by "X", i.e. answered with YES and the list has been signed by both persons.			
Non-applicable questions have to be crossed out.			
If not all questions can be answered with YES, loading/unloading is only allowed with consent of the competent authority.			
		vessel	loading/ unloading place
1.	Is the vessel permitted to carry this cargo?	O*	O*
2.	<i>(Reserved)</i>		
3.	Is the vessel well moored in view of local circumstances?	O	–
4.	Have suitable means in accordance with 7.2.4.77 been provided for leaving the vessel, including in cases of emergency?	O	O
5.	Are the escape routes and the loading/unloading place adequately lighted?	O	O
6.	Vessel/shore connections		
6.1	Is the piping for loading or unloading in satisfactory condition?	–	O
6.2	Is the piping for loading or unloading correctly connected?	–	O
6.3	Are all the connecting flanges fitted with suitable gaskets?	–	O
6.4	Are all the connecting bolts (or equivalent) correctly fitted and tightened?	O	O
6.5	Are the shoreside loading/unloading arms free to move in all directions and (if present) do the hose assemblies have enough room for easy movement?	–	O
7.	Vessel piping systems		
7.1	Are all flanges of the connections of the piping for loading and unloading and of the venting piping not in use, on board, correctly blanked off?	O	O
7.2	Have all valves and other closing devices been checked for correct open – or closed position?	O	O
8	Are suitable means of collecting leakages placed under the pipe connections which are in use and are they empty?	O	O
9.	Connections between piping		
9.1	Are the movable connecting pieces between the ballast and bilge piping on the one hand and the piping for loading and unloading on the other hand disconnected?	O	–
9.2	Are the moveable connection pieces between the suitable venting equipment on the one hand and the piping for loading and unloading disconnected?	O	
10.	Safety provisions		
10.1	Is continuous and suitable supervision of loading/unloading ensured for the whole period of the operation?	O	O
10.2	Are the required fire extinguishing systems and appliances operational?	O	O
10.3	Has smoking been generally prohibited?	O	O
11.	Communication		
11.1	Is communication between vessel and shore ensured?	O	O
11.2	The language used for operational verbal communication is .....	O	O

\* To be filled in only if vessel is to be loaded.

		vessel	4 of 8 loading/ unloading place
12.	Venting and vapour return piping		
12.1	For the loading of the vessel, is the venting piping, where required, connected with the vapour return piping?	O	O
12.2	Is it ensured that the shore installation is such that the pressure at the connecting-point of the vapour return piping and the venting piping cannot exceed the opening pressure of the pressure relief devices/high velocity vent valves (pressure at connecting point __ kPa)?	–	O*
12.3	When anti-explosion protection is required in Chapter 3.2, Table C, column (17) does the shore installation ensure that its vapour return piping is such that the vessel is protected against detonations and flame fronts from the shore.	–	O
13.	Working pressure		
13.1	Has the starting working pressure of the vessel's cargo discharge pump been adjusted to the permissible working pressure of the shore installation? (agreed pressure __ kPa)	O	O
13.2	Has the starting working pressure of the shore pump been adjusted to the permissible working pressure of the on-board installation? (agreed pressure __ kPa)	O	O
14.	Is it known what actions are to be taken in the event of an "Emergency-stop" and an "Alarm"?	O	O
15.	Check on the most important operational requirements on board:		
15.1	Is the voltage cut off from the radar installations?	O	–
15.2	Are the ventilation systems and gas detection system switched on and operational?	O	–
15.3	Are all electrical installations and equipment marked red switched off?	O	–
15.4	Are all windows and doors closed?	O	–
16.	Is the liquid level alarm-installation operational?	O	–
17.	Is the following system plugged in, in working order and tested?		
	Overflow prevention device	O	O
	<input type="checkbox"/> when loading <input type="checkbox"/> when unloading		
	Device for switching off the on-board pump from the shore facility (only when unloading the vessel)	O	O
18.	Are the cargo tank hatches and cargo tank inspection and sampling openings closed or protected by flame arresters fulfilling the requirements of column (16) of Table C of Chapter 3.2?	O	–

\* To be filled in only if vessel is to be loaded.

		vessel	<b>5 of 8</b> loading/ unloading place
19.	When transporting refrigerated liquefied gases, has the holding time been determined according to 7.2.4.16.16, and is known and documented on board?	O*	O*
20.	Is the loading temperature within the range of the maximum permissible temperature as prescribed in 7.2.3.28?	O*	O*
21.	Transport of refrigerated liquefied gases		
21.1	Are suitable facilities to collect leaked liquids provided underneath the refrigerated liquefied gas connections and are they empty?	O	O
21.2	Is a water film as mentioned in 9.3.1.21.11 activated?	O	O
Checked, filled in and signed for the vessel: ..... (name in capital letters) ..... (signature)		for the installation of loading and unloading: ..... (name in capital letters) ..... (signature)	
* <i>To be filled in only if the vessel is to be loaded.</i>			

**Explanation**

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**General information****Particulars of vessel**

For “vessel type”, state the type of vessel, cargo tank design, type of cargo tank and opening pressure of the pressure relief valves/high-velocity vent valves/safety valves following the definitions given in 1.2.1 and the certificate of approval (for example, C-2-2-50).

**Particulars of last cargo**

This concerns the last cargo of all tanks to be loaded.

**Particulars of loading/unloading**

It should be unambiguous to which cargo tank the “cargo tank number(s) of vessel” refers. Where necessary, add additional information to distinguish between cargo tanks (e.g. “starboard 1-1”).

The “estimated residual quantity” is the maximum quantity of product that will flow after active loading or unloading has stopped. It is the amount of product remaining in the hose or loading arm estimated from the last closed valve, expressed in litres. Operationally, the quantity at which loading is stopped in the final stage should be agreed upon in order to safely receive the residual quantity.

The “permissible maximum pressure in the cargo tank” refers to the maximum pressure of the high-velocity vent valve.”

**Questions****Question 1**

Prior to loading, both parties will check whether the vessel is permitted to carry this cargo by means of the vessel substance list.

See also 1.4.2.2.1a, 1.4.3.3n, 7.2.1.21.

**Question 2**

*(Reserved)*

**Question 3**

“Well moored” means that the vessel is fastened to the pier or the cargo transfer station in such a way that, without intervention of a third person, movements of the vessel in any direction that could hamper the operation of the cargo transfer gear will be prevented. Established or predictable variations of the water-level at that location and special factors have to be taken into account.

See also 1.1.4.6, 7.2.4.76, 7.2.5.3.

**Question 4**

It must be possible to escape safely from the vessel at any time. If there is none or only one protected escape route available at the shoreside for a quick escape from the vessel in case of emergency, a suitable means of escape has to be provided on the vessel side if required in accordance with 7.2.4.77.

See also 1.4.3.3q, 1.4.3.7.1g.

**Question 5**

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See also 7.2.4.53.

**Question 6**

A valid inspection certificate for the hose assemblies must be available on board. The material of the piping for loading and unloading must be able to withstand the expected loads and be suitable for cargo transfer of the respective substances. The piping for loading and unloading between vessel and shore must be placed so that it cannot be damaged by ordinary movements of the vessel during the loading and unloading process or by variations of the water. In addition, all flanged joints must be fitted with appropriate gaskets and sufficient bolt connections or other types of suitable couplings (e.g. claw coupling) in order to exclude the possibility of leakage.

For 6.1, see also 9.3.x.25.

For 6.3, see also 1.4.3.3t, 1.4.3.7.1k

**Question 7**

All openings of the venting piping and connections to shore installations used for loading and unloading, through which the loading and unloading operation is carried out, shall be provided with safety valves. All openings, when not in use for loading and unloading, shall be fitted with a blind flange.

**Question 8**

The receptacle intended for recovering possible liquid spillage shall be earthed to the metal structure of the vessel. Pipe connections shall be relieved of pressure prior to connection or disconnecting and the minimal amount of product that may be released shall be caught in the receptacle.

See also 7.2.4.16.5.

**Question 9**

The suitable venting equipment (fan, flame arresters and connecting pieces) should be disconnected from the piping for loading and unloading before the loading and unloading starts.

See also 7.2.3.7, 7.2.3.25.1, 7.2.3.25.2.

**Question 10**

Loading/unloading must be supervised on board and ashore so that dangers which may occur in the vicinity of piping for loading and unloading between vessel and shore can be recognized immediately. 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.

For 10.1, see also 1.4.3.7.1l, 1.4.3.3u.

For 10.2, see also 7.2.4.40.

For 10.3, see also 7.2.4.41.

**Question 11**

For a safe loading/unloading operation good communications between vessel and shore are required. For this purpose telephone and radio equipment may be used only if of an explosion protected type and located within reach of the supervisor. Communication shall be ensured for the entire duration of the loading/unloading operation. It shall take place in a language both persons can understand.

**Question 12****8 of 8**

[In addition to the requirement of 7.2.4.25.5 ADN other regulations could prescribe the use of the vapour return piping and the venting piping, such as local regulations or permits.]

For 12.1, see also 7.2.4.25.5

For 12.2, see also 1.4.3.3s, 1.4.3.7.1j, 7.2.4.16.6.

For 12.3, see also 1.4.3.3r, 1.4.3.7.1i.



**Question 13**

*(Reserved)*

**Question 14**

Before the start of the loading/unloading operation the representative of the shore installation and the master or the person mandated by him must agree on the applicable procedure. The specific properties of the substances to be loaded/unloaded have to be taken into account.

**Question 15**

The systems mentioned in 15.3 shall remain switched on during the operation.

“Ventilation systems” refers to systems for the accommodation, wheelhouse and service spaces as described in 9.3.x.12.4.

For 15.6, see also 7.2.3.51.6, 9.3.x.12.4

**Question 16**

See also 9.3.x.21.4.

**Question 17**

To prevent backflow from the shore, it is also necessary to activate the overflow prevention device on the vessel under certain circumstances when unloading. It is obligatory during loading and optional during unloading. Delete this item if it is not necessary during unloading.

For 17.1 and 17.2, see also 7.2.4.13.2, 9.3.x.21.5.

**Question 18**

See also 7.2.3.22.

**Question 19**

*(Reserved)*

**Question 20**

*(Reserved)*

**Question 21**

For 21.1, see also 7.2.4.29, 9.3.1.21.11.

For 21.2, see also 7.2.4.2.9.

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