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INLAND TRANSPORT COMMITTEE

Working Party on the Transport of Dangerous Goods

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

Fifteenth session
Geneva, 24-28 August 2009
Item 5 of the provisional agenda

CATALOGUE OF QUESTIONS

Transport by tank vessels, objectives 2, 3 and 4

Transmitted by the Central Commission for the Navigation of the Rhine (CCNR)[1]

1. At its fourteenth session, the ADN Safety Committee, recalling that, under 8.2.2.7.2.3 of the Regulations annexed to ADN, the ADN Administrative Committee was required to prepare a catalogue of questions for the ADN examinations, decided that the item should be put on the agenda for future sessions, in order to enable lists of questions to be translated and adopted progressively (ECE/TRANS/WP.15/AC.2/30, paras. 38 and 40).

[1] Distributed in German by the Central Commission for the Navigation of the Rhine under the symbol CCNR/ZKR/ADN/WP.15/AC.2/2009/16.

2. This document contains the lists of questions proposed by CCNR in respect of transport by tank vessels and the following objectives:

- Examination objective 2: Construction and equipment
- Examination objective 3: Treatment of cargo tanks and adjacent spaces
- Examination objective 4: Measurement and sampling techniques

TRANSPORT BY TANK VESSELS
Examination objective 2: Construction and equipment

Number	Source	Correct answer
TV 2001	9.3.3.11.3 Must tank vessels of type N be fitted with cofferdams? A Yes, but only between the cargo area and the engine room B Yes, but only between the cargo area and the active bow rudder room C Yes, cofferdams are required at both ends of the cargo area D No, cofferdams are not required; they may be fitted on a voluntary basis to act as ballast tanks	C
TV 2002	9.3.3.25.1 Must pumps and accessory loading and unloading piping be located in the cargo area on board tank vessels of type N? A Yes B No, this is required only on board tank vessels of type C C Yes, but only on board vessels with a pump-room below deck D No, it depends on the navigation area	A
TV 2003	9.3.3.25.2 (b) How should the pipes for loading and unloading be arranged? A They should be arranged so that, after loading or unloading operations, the liquid remaining in these pipes may be safely removed and may flow into either the vessel's cargo tanks or the tanks ashore B They should be arranged so that, after loading or unloading operations, the liquid remaining in these pipes may gather in special sections from which it may be safely removed C They should be located entirely on deck D To avoid electrostatic charges during loading, they should be placed as close as possible to but above the deck	A

TRANSPORT BY TANK VESSELS
Examination objective 2: Construction and equipment

Number	Source	Correct answer
TV 2004	7.2.4.25.2 May loading and unloading piping be extended by rigid or flexible pipes fore or aft beyond the cofferdams? A Yes, this is permitted if the rigid or flexible pipe has the same test pressure as the loading and unloading piping B No, this is prohibited C Yes, on condition that only UN No. 1999 TARS, LIQUID, flows through this piping D Yes, if the piping is equipped with non-return valves	B
TV 2005	9.3.3.16.1 During loading, unloading and gas-freeing, internal combustion engines are used. Where should they be located? A In the cargo area B Outside the cargo area C In the cargo area if they use a fuel with a flashpoint of more than 100º C D In a special engine room forward of the cargo area	B
TV 2006	3.2, Table C To which type of tank vessel is UN No. 1203 MOTOR SPIRIT or GASOLINE or PETROL assigned? A Type N, closed B Type N, open C Type G D Type C	A
TV 2007	3.2, Table C In transport by tank vessels, three types of vessel are distinguished. Where would you find the types of tank vessel in which the various substances must, as a minimum, be transported? A In 7.2.1.21 B In 9.3.3 C In 1.2.1 D In 3.2, Table C	D

TRANSPORT BY TANK VESSELS
Examination objective 2: Construction and equipment

Number	Source	Correct answer
TV 2008	9.3.3.25.3 On the deck of a tank vessel, there is a transverse bulkhead complying with 9.3.3.10.2 at the end of the cargo area. What requirements must be respected during loading, unloading and gas-freeing? A During loading or unloading, the door must not be opened without the permission of the master, so that gases heavier than air cannot penetrate into the accommodation B Closing the protection walls against penetration of gases is not necessary during loading, unloading and gas-freeing but during the journey C The protection walls against penetration of gases must be closed during loading, unloading and gas-freeing if there is little or no wind D The protection walls against penetration of gases must be closed during loading or unloading if the wind is blowing from the cargo area in the direction of the accommodation	A
TV 2009	Basic general knowledge What is the typical characteristic of a tank vessel of type G? A No compensation piping B The cargo tanks are designed as pressure tanks C Supplementary cofferdams D The cargo tanks are made up of the outer hull and the deck	B
TV 2010	9.3.3.20.4 On a closed tank vessel of type N, in which of the following locations are flame arresters to be found? A In the ventilation openings of the cofferdams B In the ventilation opening of the lubricating oil tank C In the ventilation openings of the engine room D In the accommodation ventilators	A

TRANSPORT BY TANK VESSELS
Examination objective 2: Construction and equipment

Number	Source	Correct answer
TV 2011	1.2.1 What is the purpose of a flame arrester? A To prevent the propagation of a flame front in a space to be protected (e.g. cargo tank, cofferdam) B To increase the resistance to heat flow in the pipes C To stop impurities D To prevent explosive vapours escaping into the atmosphere	A
TV 2012	9.3.3.21.1 (d) At what degree of filling must the high level sensor for actuating the facility against overflowing in the cargo tank of a tank vessel be triggered, at the latest? A 85% B 97% C 97.5% D 75%	C
TV 2013	Basic general knowledge Under ADN, what is the definition of a level alarm? A A device that, during loading, gives a visible and audible warning that the maximum degree of filling has almost been reached B A device that shows the current degree of filling of the cargo tank in question C A device that shows that the oil fuel tank for the propulsion engine is nearly empty D A device that warns of excessive pressure in the cargo tanks	A
TV 2014	9.3.3.21.1 (c) At what degree of filling must the level alarm device on a tank vessel of type N be triggered, at the latest? A 86% B 90% C 92% D 97%	B

TRANSPORT BY TANK VESSELS
Examination objective 2: Construction and equipment

Number	Source	Correct answer
TV 2015	Basic general knowledge	D
	What is the typical characteristic of a tank vessel of type C? A Vessel with cylindrical cargo tanks B Single-hull vessel with closed system C Double-hull vessel with trunk deck D Double-hull vessel with flush deck	
TV 2016	8.1.6.2	A
	How often should hoses and hose assemblies used for loading and unloading of tank vessels be checked? A Once a year by persons authorized for this purpose by the competent authority B Every five years, when the certificate of approval is renewed C The leakproofness of the hose connections must be checked every year, and the condition and leakproofness of the hoses themselves every two years D Hoses must be checked initially after five years' use, and then every two years	
TV 2017	8.6.3	A
	The shore facility's cargo transfer hose must be connected to the tank vessel's piping system. What must be ensured in particular? A That all the connecting bolts are fitted and tightened B That at least half the bolts are fitted and tightened during connection C Three fitted bolts are sufficient during connection, but they must be equally spaced and securely tightened D Nothing is required of the master; responsibility for connecting the shore facility's cargo transfer hose to the on-board system lies exclusively with the shore facility	

TRANSPORT BY TANK VESSELS
Examination objective 2: Construction and equipment

Number	Source	Correct answer
TV 2018	7.2.4.25.4 Where in ADN does it state that the loading and unloading piping must be drained each time after loading? A In 2.2.3 B In 3.2, Table C C In 7.2.4.25.4 D In the checklist	C
TV 2019	1.2.1 On a tank vessel, what is gas return piping? A A pipe connecting two or more cargo tanks that is fitted with safety valves protecting the cargo tanks against unacceptable internal overpressures or vacuums and is intended to evacuate gases to the shore facility B A pipe connecting a cargo tank to the shore facility during loading that is fitted with safety valves protecting the cargo tank against unacceptable internal overpressures or vacuums and is intended to evacuate gases to the shore facility C A connecting pipe between the diesel hold and the daily supply tank D A compressed air connecting pipe between a pusher and tank barges	B
TV 2020	1.2.1 On a tank vessel, what is common vapour piping? A A pipe connecting two or more cargo tanks that is fitted with safety valves protecting the cargo tanks against unacceptable overpressures or vacuums and is intended to evacuate gases to the shore facility B A pipe connecting a cargo tank to the shore facility during loading that is fitted with safety valves protecting the cargo tanks against unacceptable overpressures or vacuums and is intended to evacuate gases to the shore facility C A connecting pipe between the diesel hold and the daily supply tank D A compressed air connecting pipe between a pusher and tank barges	A

TRANSPORT BY TANK VESSELS
Examination objective 2: Construction and equipment

Number	Source	Correct answer
TV 2021	9.3.3.25.2 (c) On the deck of a tank vessel, should the pipes for loading and unloading be distinguishable from other piping? A Yes, by means of a special colour code B Yes, the connections should be labelled C Yes, clearly, for example by means of colour marking D ADN does not contain provisions on this subject	C
TV 2022	deleted (07.06.2005)	
TV 2023	9.3.3.22.1 (b) On tank vessels of type N, how high above deck should cargo tank openings with a cross-section of more than 0.10 m^2 be located? A 20 cm B 30 cm C 40 cm D 50 cm	D
TV 2024	9.3.3.21.3 From which point should it be possible to read the filling level of a cargo tank? A From the control position of the shut-off devices B From the wheelhouse C From the general control station of the cargo transfer firm D From anywhere on the vessel	A

TRANSPORT BY TANK VESSELS
Examination objective 2: Construction and equipment

Number	Source	Correct answer
TV 2025	9.3.3.25.8	C
	What provisions are applicable to the suctions needed when, on a tank vessel of type N, the pipes for loading and unloading are used for supplying the cargo tanks with ballast water? A They must be fitted with a high velocity vent valve B They must be fitted with an automatic stop valve C They must be located within the cargo area but outside the cargo tanks D They must be fitted with a standard C connection for an independent pipe	
TV 2026	Basic general knowledge	C
	On a tank vessel, what is a trunk? A The supports for the pipes for loading and unloading B The safe area between the engine room and the cargo tanks C Part of the cargo deck that projects above the level of the gangboard D The transverse strength	
TV 2027	1.2.1	A
	Which of the following spaces on a tank vessel of type N is part of the cargo area? A The cofferdam B The engine room C The accommodation D The forepeak	
TV 2028	9.3.3.31.2	C
	On a tank vessel of type N, what is the least distance that the air intakes of the engines must be located from the cargo area? A 0.50 m B 1.00 m C 2.00 m D 2.50 m	

TRANSPORT BY TANK VESSELS
Examination objective 2: Construction and equipment

Number	Source	Correct answer
TV 2029	9.3.3.11.1	D
	What is the maximum permissible capacity of a cargo tank on a tank vessel with an L x B x H greater than 3,750 m^3, where there is no calculation for a larger tank? A 200 m^3 B 280 m^3 C 350 m^3 D 380 m^3	
TV 2030	1.2.1	B
	What water pressure (in metres) above the deck must a bulkhead on a tank vessel withstand in order to be considered watertight within the meaning of ADN? A 0.50 m B 1.00 m C 2.00 m D 4.00 m	
TV 2031	9.3.3.11.1 (c)	C
	What working pressure must cargo tanks be designed for, as a minimum, when the tank vessel is provided with pressure tanks? A 100 kPa B 200 kPa C 400 kPa D 500 kPa	
TV 2032	9.3.3.11.3	D
	Where should a cofferdam be located on a tank vessel? A Forward of the cargo area only B Aft of the cargo area only C Forward and aft of the cargo area as well as in the middle of the vessel D Forward and aft of the cargo area	

TRANSPORT BY TANK VESSELS
Examination objective 2: Construction and equipment

Number	Source	Correct answer
TV 2033	9.3.3.11.1 (d) When on a tank vessel the diameter of a pressure tank is 3.00 m, what is the maximum length that this cargo tank may be? A 21 m B 24 m C 27 m D 30 m	A
TV 2034	9.3.3.23.2 On a tank vessel of type N, by what factor must the test pressure of the tanks exceed the design pressure? A 0.75 B 0.9 C 1.1 D 1.3	D
TV 2035	9.3.3.21.7 On tank vessels of type N, closed, from which point should it be possible to read overpressure or vacuum in the cargo tank? A From the valve of the cargo tank B From the engine room C From a location on board from where loading or unloading may be interrupted D From a location on shore from where loading or unloading may be interrupted	C
TV 2036	9.3.3 Where are the rules for construction of type N tank vessels found? A In 9.1.0.0 to 9.1.0.95 B In 9.2.0.0 to 9.2.0.95 C In 9.3.2.0 to 9.3.2.99 D In 9.3.3.0 to 9.3.3.99	D

TRANSPORT BY TANK VESSELS
Examination objective 2: Construction and equipment

Number	Source	Correct answer
TV 2037	9.3.3.21.1 Under ADN, which of the following pieces of equipment **is not** a safety and control installation against overflowing of tanks? A The level gauge B The safety device for preventing overflowing C The level alarm D The aluminium indicator	D
TV 2038	9.3.3.22 With which safety equipment or devices must closed tank vessels of type N be fitted? A An outlet to allow gas sampling B A sampling opening with a diameter of at least 0.60 m C Safety devices for preventing unacceptable overpressure or vacuum D A valve that diffuses escaping gases uniformly	C
TV 2039	7.2.3.25.1, 7.2.3.25.2 Which of the following may be connected to the pipes for loading and unloading by means of fixed pipes? A The fuel pipe B The deck-swabbing pipe C The bilge piping system of the cofferdams D None of the above	D
TV 2040	9.3.3.25.1 Where on board should pumps and accessory loading and unloading piping be located? A In the cargo area B At least 0.30 m above deck C Not on the deck D On the deck	A

TRANSPORT BY TANK VESSELS
Examination objective 2: Construction and equipment

Number	Source	Correct answer
TV 2041	9.3.3.25.8 (b) On a tank vessel of type N, what must be fitted at the junction between the ballast water suction pipe in a cargo tank and the cargo loading pipe? A A high velocity vent valve B A non-return valve C An automatic stop valve D A flame arrester	B
TV 2042	9.3.3.25.7 On a tank vessel of type N, what must be fitted on the pipes for loading and unloading? A Pressure gauges at the outlet of the pumps B An overflow valve C A high velocity vent valve D Flame arresters	A
TV 2043	9.3.3.25.6 How must the pipes for loading and unloading be designed? A They must have, at the test pressure, the required elasticity, leakproofness and resistance to pressure B They must have, at most, the same test pressure as the cargo tanks C They must be fitted with pressure-relief valves and vacuum-relief valves to avoid excessive or insufficient pressure D They must be fitted with valves that shut automatically when loading flows are too great	A

TRANSPORT BY TANK VESSELS
Examination objective 2: Construction and equipment

Number	Source	Correct answer
TV 2044	9.3.3.25.8 (b) When water for washing the cargo tanks or ballast water is taken in through the cargo loading pipe, a fitting is required at the junction between the water suction pipe and the cargo loading pipe. What type of fitting is this? A A valve B A ball valve assembly C An automatic stop valve D A non-return valve	D
TV 2045	9.3.3.23.3 A test pressure is prescribed for the pipes for loading and unloading on tank vessels of type N. What is the minimum value of this test pressure? A 100 kPa (1 bar) B 500 kPa (5 bar) C 1,000 kPa (10 bar) D 2,000 kPa (20 bar)	C
TV 2046	deleted (01.01.2007)	
TV 2047	9.3.3.25.4 (b) On closed tank vessels of type N, where in the cargo tank must the openings of the pipes for loading and unloading be located? A Directly below deck B At the bottom C By the sidewall D By the forward bulkhead	B

TRANSPORT BY TANK VESSELS
Examination objective 2: Construction and equipment

Number	Source	Correct answer
TV 2048	9.3.3.11.3	D

What is the purpose of the cofferdams?

A They serve as maintenance spaces
B They serve as supplementary cargo tanks
C They serve as slop tanks
D They separate the vessel's ends from the cargo tanks

TV 2049	9.3.3.50.1 (b)	B

One of the documents required on board tank vessels of type N is a list of the electrical equipment installed in the cargo area. Which of the following particulars need **not** be included?

A Appliance and location
B Dimensions and capacity
C Type of protection, type of protection against explosion
D Testing body and approval number

TV 2050	7.2.3.31.1	C

What is the prescribed flashpoint for fuels for on-board engines of tank vessels transporting dangerous goods?

A No more than 23º C
B No more than 50º C
C At least 55º C
D There are no provisions on this subject

TV 2051	9.3.3.10.2	C

On tank vessels, what is the minimum height of the lower edges of door-openings in the sidewalls of superstructures and the coaming of access hatches to under-deck spaces?

A 0.30 m
B 0.40 m
C 0.50 m
D 0.60 m

TRANSPORT BY TANK VESSELS
Examination objective 2: Construction and equipment

Number	Source	Correct answer
TV 2052	9.3.3.11.3 (a)	B

On a tank vessel, the service spaces outside the cargo area below deck must be separated from the cargo tanks. What provides the separation?

A An active bow rudder room
B A cofferdam
C An engine room
D A watertight bulkhead

TRANSPORT BY TANK VESSELS
Examination objective 3: Treatment of cargo tanks and adjacent spaces

Number	Source	Correct answer
TV 3001	5.4.1.1.6.5	B
	A tank vessel has empty, uncleaned cargo tanks. Who is deemed to be the consignor? A The owner of the last cargo B The master C The consignor of the next cargo D The shipping company	
TV 3002	7.2.3.20.1	D
	You are on board a tank vessel of type N with cargo tanks independent of the vessel's outer hull. The vessel has been discharged. May the double-hull spaces and double bottoms be filled with ballast water? A No, this is permitted only when transporting substances for which a tank vessel with cargo tanks independent of the hull is not required B No, taking on ballast water is not permitted, even during empty journeys C No, in any case double-hull spaces must always be kept dry and do not therefore require ballasting arrangements D Yes, taking on ballast water is permitted in this case	
TV 3003	7.2.4.22	D
	A tank vessel is transporting substances of Class 3 for which anti-explosion protection is required. May the cargo tank apertures be opened during transportation? A Yes, but only as stipulated in 7.2.4.22 B Yes, but only for a short time for inspection purposes C Yes, but only if the gas concentration is less than 50% of the lower explosive limit D No	

TRANSPORT BY TANK VESSELS
Examination objective 3: Treatment of cargo tanks and adjacent spaces

Number	Source	Correct answer
TV 3004	8.3.5 Before work that requires the use of an open flame or electric current or that is liable to cause sparks may be carried out on board a tank vessel, an authorization or a certificate attesting to the totally gas-free condition of the vessel must be obtained. Who issues such authorizations? A The labour inspectorate B The competent local authority C The classification society D The shipping police	B
TV 3005	7.2.3.7.2 When may gas-freeing of tank vessels be carried out while the vessel is under way? A For all substances, without restriction B Only in the vicinity of tank terminals C Under the conditions stipulated in 7.2.3.7.2 D Under the conditions stipulated in 7.2.4.7.2	C
TV 3006	Basic general knowledge On a closed tank vessel, the flame arresters in the cargo tank openings are clogged. What may occur during loading? A The tank may not fill completely B The tank may become misshapen (swollen) C There may be a loss of pressure through the pressure equalization openings in the covers D The high velocity vent valve may be damaged	B

TRANSPORT BY TANK VESSELS
Examination objective 3: Treatment of cargo tanks and adjacent spaces

Number	Source	Correct answer
TV 3007	9.3.3.26.3 What is the maximum permissible capacity of a residual cargo tank on tank vessels of type N? A 20 m^3 B 25 m^3 C 30 m^3 D 35 m^3	C
TV 3008	Basic general knowledge Why do tank vessels have stripping pipes? A To enable optimum filling of the cargo tanks B To enable optimum draining of the cargo tanks C To enable the cargo to be heated, if necessary D To provide a simple means of loading several cargoes	B
TV 3009	1.2.1 Why are tank vessels fitted with stripping systems? A To enable the cargo tanks to be ventilated B To enable maximum draining of the cargo tanks C To enable the cargo tanks to be heated D To enable the cargo tanks to be filled completely	B
TV 3010	Basic general knowledge What risk is created when pressurized air is transmitted by the shore facility via the loading piping? A The cargo may change colour B The vessel may capsize C This process does not create any risk for the vessel D The cargo tanks may become misshapen (swollen)	D

TRANSPORT BY TANK VESSELS
Examination objective 3: Treatment of cargo tanks and adjacent spaces

Number	Source	Correct answer
TV 3011	7.2.4.25 Must loading and unloading piping be drained after each loading operation? A No, this is actually prohibited B No, it is the master who decides. He may do so for safety reasons C Yes D Yes, if the shore facility so requires	C
TV 3012	7.2.3.7.4 Gas-freeing of cargo tanks must be interrupted when dangerous concentrations of gases are to be expected outside the cargo area. At what dangerous concentration must gas-freeing be interrupted? A At more than 30% of the lower explosive limit B At more than 20% of the lower explosive limit C At more than 10% of the lower explosive limit D At more than 50% of the lower explosive limit	B
TV 3013	7.2.3.7.1 Where may gas-freeing of berthed tank vessels be carried out? A At any harbour B At the locations approved by the competent local authority C At any oil port D At any berthing area outside residential areas	B

TRANSPORT BY TANK VESSELS
Examination objective 3: Treatment of cargo tanks and adjacent spaces

Number	Source	Correct answer
TV 3014	Basic general knowledge	C
	A vessel fitted with heating coils must go to a shipyard. Why are the heating coils rinsed? A To ensure that the cargo heating system is functioning B To ensure that the coils resist pressurized air C To ensure that there is no residual cargo in the coils owing to a leak D To ensure that the coils are not obstructed	
TV 3015	7.2.3.7.3	A
	At what locations is gas-freeing of substances other than UN No. 1203 MOTOR SPIRIT or GASOLINE or PETROL authorized? A While the vessel is under way and at locations approved for this purpose B At harbour basins C At locks and their lay-bys D There are no restrictions	
TV 3016	9.3.3.26.3	B
	What is the maximum permissible capacity of a residual cargo tank? A 20 m^3 B 30 m^3 C 25 m^3 D 35 m^3	

TRANSPORT BY TANK VESSELS
Examination objective 3: Treatment of cargo tanks and adjacent spaces

Number	Source	Correct answer
TV 3017	7.2.3.7.2	C
	An empty tank vessel has transported UN No. 1208 HEXANES, Class 3, Classification Code F1. The cargo tanks must be gas-freed while the vessel is under way. What is the maximum permissible gas concentration that may be evacuated into the ambient air through the flame arresters? A < 70% of the lower explosive limit B < 60% of the lower explosive limit C < 50% of the lower explosive limit D < 55% of the lower explosive limit	
TV 3018	7.2.3.7.3	D
	A tank vessel has transported substances of Class 8, Packing Group I. The cargo tanks must be gas-freed while the vessel is under way. What is the maximum permissible gas concentration that may be evacuated into the ambient air through the flame arresters? A < 50% of the lower explosive limit B < 30% of the lower explosive limit C < 20% of the lower explosive limit D < 10% of the lower explosive limit	
TV 3019	9.3.2.26.2, 9.3.3.26.2	D
	Must slop tanks be capable of being closed with lids? A No, but they must be fire resistant B No, but they must be easily manipulable and must be marked C Yes, but only if the capacity is greater than 2 m^3 D Yes	

TRANSPORT BY TANK VESSELS
Examination objective 3: Treatment of cargo tanks and adjacent spaces

Number	Source	Correct answer
TV 3020	7.2.4.22.1, 7.2.4.22.2	C
	Under what circumstances may the flame arresters be removed? A Under no circumstances B When this is provided for in the approval certificate C When the cargo tanks are empty, gas-freed and relieved of pressure D When this is provided for in the instructions in writing	
TV 3021	7.2.3.1.4, 7.2.3.1.5, 7.2.3.1.6, 7.2.4.16.8	B
	A cargo tank previously containing petrol has been gas-freed. It is necessary to enter the tank in order to clean it. However, before the tank is entered, a measurement must be effected. Under what conditions may this be done? A The cargo tanks must have been washed and dried B The person who effects the measurement must wear breathing apparatus and the cargo tank must have been relieved of pressure C The cargo tank must have been relieved of pressure D The person who effects the measurement must wear gloves and the cargo tank must have been relieved of pressure	
TV 3022	Basic general knowledge	A
	What risk may arise when a cargo tank is cleaned with a high pressure device? A There is a risk of electrostatic charge B There is a risk that the jet of water may pierce the tank wall C There is absolutely no risk D There is a risk that the product may be contaminated	

TRANSPORT BY TANK VESSELS
Examination objective 3: Treatment of cargo tanks and adjacent spaces

Number	Source	Correct answer
TV 3023	7.2.3.25	B

Your double-hull, double-bottom tank vessel is loaded with UN No. 1203 MOTOR SPIRIT or GASOLINE or PETROL. The double-hull spaces are half filled with ballast water because of low vertical clearance. The ballast pump is out of service. May you empty the double-hull spaces with the loading pump?

A Yes, emptying the double-hull spaces by means of the loading pump is permitted
B No, connecting the pipes for loading and unloading with the pipes for draining the double-hull spaces is prohibited
C Yes, draining the double-hull spaces by means of the loading pump is permitted if the connection between the pipes for loading and unloading and the pipes for draining the double-hull spaces is removable
D No, draining with the loading pump is prohibited

TV 3024	7.2.4.13.1	B

Your tank vessel has been unloaded. There are still a few litres of the cargo in the tanks. You have to clean the cargo tanks. What must you do if you wish to put the cargo residues in the residual cargo tank, which already contains another product?

A You must obtain authorization from the competent authority before putting the two products in the same tank
B You must ensure that the two substances do not react dangerously with one another
C You must first calculate the average density of the products
D You must seek advice from the reception facility notified by the competent authority

TRANSPORT BY TANK VESSELS
Examination objective 3: Treatment of cargo tanks and adjacent spaces

Number	Source	Correct answer
TV 3025	9.3.2.26.4, 9.3.3.26.4	C

What conditions must a tank vessel's residual cargo tank fulfil?

A It must be equipped with two pressure-relief valves
B It must be equipped with a pressure-relief valve and a vacuum-relief valve
C It must be equipped with a pressure-relief valve, a vacuum-relief valve and a level indicator
D It must be equipped with a pressure-relief valve, a vacuum-relief valve and a safety device against overflowing

TV 3026 8.3.5 C

What is the purpose of the certificate attesting to the totally gas-free condition of a vessel?

A It confirms that, following the taking of measurements, the master has declared the cargo tanks to be clean
B It confirms that measurements have been taken in all spaces on board, which have been deemed clean
C It confirms that work may be carried out without risk in the spaces for which the certificate has been issued
D It confirms that the cargo tanks are clean and ready to receive another product

TV 3027 7.2.3.7.5 D

After the cargo tanks have been gas-freed, the master wishes to remove the marking referred to in Table C of Chapter 3.2 (blue cone(s) or blue light(s)). What is the maximum permissible concentration of flammable gases?

A 5% of the lower explosive limit
B 10% of the lower explosive limit
C 15% of the lower explosive limit
D 20% of the lower explosive limit

TRANSPORT BY TANK VESSELS
Examination objective 3: Treatment of cargo tanks and adjacent spaces

Number	Source	Correct answer
TV 3028	7.2.3.42.4 When certain substances are being unloaded, the cargo heating system must be placed in a space that meets the requirements of 9.3.3.52.3 (b). When does this provision not apply? A When the flashpoint of the cargo being unloaded is not less than 50° C B When the flashpoint of the cargo being unloaded is not less than 60° C C When the flashpoint of the cargo being unloaded is not less than 55° C D When the flashpoint of the cargo being unloaded is not less than 100° C	B
TV 3029	7.2.3.42.2 A tank vessel is carrying a cargo that is heated during transport. Under ADN, what must the cargo tank(s) be equipped with? A A hygrometer B An instrument for measuring vacuums C A thermometer D An instrument for measuring overpressures	C
TV 3030	3.2, Table C, 7.2.3.42.2, 9.3.3.21.1 An open type N tank vessel with flame arresters is transporting UN No. 1604 ETHYLENDIAMINE. When this substance is being transported, must the cargo tanks be equipped with a thermometer? A Yes, this is required for this product B No, on vessels of type N, the cargo tanks need never be equipped with a thermometer C Yes, on vessels of type N, the cargo tanks must always be equipped with a thermometer D No, this is not necessary, except where required in the instructions in writing	A

TRANSPORT BY TANK VESSELS
Examination objective 3: Treatment of cargo tanks and adjacent spaces

Number	Source	Correct answer
TV 3031	3.2, Table C, 7.2.3.42.2, 9.3.3.21.1 An open type N tank vessel with flame arresters is transporting UN No. 1229 MESITYL OXIDE. When this substance is being transported, must the cargo tanks be equipped with a thermometer? A Yes, this is required for this product B No, on vessels of type N, the cargo tanks need never be equipped with a thermometer C Yes, on vessels of type N, the cargo tanks must always be equipped with a thermometer D No, this is not necessary for this product	D
TV 3032	3.2, Table C You are on board a tank vessel of type N. There is no possibility of heating cargo. You are instructed to transport a cargo of UN No. 1779 FORMIC ACID. What is the external temperature below which your vessel may no longer transport this product? A 15° C B 12° C C 20° C D 10° C	B
TV 3033	3.2, Table C On your vessel, you are transporting UN No. 2215 MALEIC ANHYDRIDE, MOLTEN. Protection against explosion is not required for this substance. Under ADN, what is the **maximum** allowable temperature for carriage? A 15º C B 72º C C 88º C D 90º C	C

TRANSPORT BY TANK VESSELS
Examination objective 4: Measurement and sampling techniques

Number	Source	Correct answer
TV 4001	7.2.4.22.3	B

On a closed type N tank vessel, may the cargo tank sampling outlets be opened during loading?

A Yes, but only on cargo tanks loaded with substances presenting a lesser degree of danger, such as petrol for example, for which protection against explosion is as prescribed in column (13) of Table C of Chapter 3.2. No special requirements or conditions need be observed
B Yes, but in the case of cargo tanks loaded with dangerous substances for which marking with one or two blue cones or one or two blue lights is prescribed in column (19) of Table C of Chapter 3.2, only when loading has been interrupted for not less than 10 minutes
C Yes, but the sampling outlets may be opened only with the consent of the cargo transfer station. The person who opens the sampling outlets must be protected against the danger presented by the cargo
D No, opening of the sampling outlets is prohibited because all closed type N tank vessels must be equipped with a level indicator

TV 4002	7.2.4.22.3	C

After loading of a tank vessel marked with one blue cone or one blue light, a cargo sample must be taken. When, **at the earliest**, may the sampling outlet be opened?

A Once loading has been completed and the cargo tanks have been relieved of pressure
B Only when the loading documents are available
C Once loading has been interrupted for not less than 10 minutes and the cargo tanks have been relieved of pressure
D 30 minutes after loading has been completed

TRANSPORT BY TANK VESSELS
Examination objective 4: Measurement and sampling techniques

Number	Source	Correct answer
TV 4003	3.2, Table C	B

In accordance with Table C, what equipment should you have on board a tank vessel?

A A self-contained breathing apparatus
B A flammable gas detector
C A nitrogen-measuring device
D A rescue winch

TV 4004	3.2, Table C	A

In accordance with Part 8 and Table C of Chapter 3.2, what equipment should be on board tank vessels?

A A flammable gas detector
B A thermometer
C A nitrogen-measuring device
D An oxygen meter

TV 4005	7.2.3.1.4, 7.2.3.1.5, 7.2.3.1.6	B

Which of the apparatuses referred to below is not one of the devices used to measure gases or dangerous vapours before entry into cargo tanks, cofferdams and other closed spaces?

A The flammable gas detector
B The pyrometer
C The toximeter
D The oxygen meter

TV 4006	Basic general knowledge	B

The previous cargo of a cargo tank is not known. A measurement is taken with a flammable gas detector. The detector shows that there is no risk of explosion. May you enter the cargo tank **without** a self-contained breathing apparatus?

A Yes, because there is no risk of explosion
B No, because there may be toxic gases
C No, there might be insufficient nitrogen
D No, there might be too much oxygen

TRANSPORT BY TANK VESSELS
Examination objective 4: Measurement and sampling techniques

Number	Source	Correct answer
TV 4007	7.2.3.1.4, 7.2.3.1.5, 7.2.3.1.6	C
	A cargo tank is free of toxic gases. What is the value of the gas concentration below which you may enter the cargo tank? A 25% of the lower explosive limit B 33% of the lower explosive limit C 50% of the lower explosive limit D 70% of the lower explosive limit	
TV 4008	Basic general knowledge	A
	A cargo tank has been drained of petrol. Using a flammable gas detector, you are required to assess whether there is a risk of explosion. At what height should the measurement be taken? A At the bottom of the cargo tank B At the top of the cargo tank C Halfway up the cargo tank D Exactly above the sampling outlet	
TV 4009	Basic general knowledge	C
	A sample is being taken through a sampling outlet. Why, for safety reasons, must a nylon cord never be used? A Under the effect of the substance, the nylon cord may break B With a nylon cord, the test tube may slip and become detached C With a nylon cord, an electrostatic charge may be produced D ADN prohibits the use of nylon cords	
TV 4010	3.2, Table C	A
	After loading with UN No. 1203 MOTOR SPIRIT or GASOLINE or PETROL, a sample must be taken. What type of sampling device must be used **as a minimum**? A An open sampling device B A closed sampling device C A closed sampling device with expansion airlock D A partially closed sampling device	

TRANSPORT BY TANK VESSELS
Examination objective 4: Measurement and sampling techniques

Number	Source	Correct answer
TV 4011	3.2, Table C, 7.2.4.16.8, 8.1.5.1 You have loaded UN No. 1718 BUTYL ACID PHOSPHATE and you wish to take a cargo sample. In accordance with ADN, what personal protective equipment must you wear? A A pair of protective goggles, a pair of protective gloves, protective boots, a protective suit and an appropriate ambient-air-dependent breathing apparatus B A pair of protective goggles, a pair of protective gloves, protective boots and a protective suit C A protective suit and protective boots D An appropriate ambient-air-dependent breathing apparatus	A
TV 4012	3.2, Table C You are transporting UN No. 1203 MOTOR SPIRIT or GASOLINE or PETROL in two cargo tanks and UN No. 1202 GAS OIL or DIESEL FUEL or HEATING OIL (LIGHT) in six others. The vessel is equipped with a common vapour pipe to which all the cargo tanks are connected. The cargo tanks loaded with diesel fuel have no flame arresters in the sampling outlets. May you take a sample of the diesel fuel cargo through the sampling outlets? A Yes, because there are no diesel fuel vapours in the cargo tank B No, because when different substances are being transported samples may only be taken using a partially closed sampling device C No, because the diesel fuel vapours may escape in an uncontrolled manner D Yes, because a mixture of petrol and diesel fuel vapours is not dangerous	C

TRANSPORT BY TANK VESSELS
Examination objective 4: Measurement and sampling techniques

Number	Source	Correct answer
TV 4013	7.2.4.22.2	C

Your vessel was loaded most recently with UN No. 2282 HEXANOLS and you wish to open the cargo tank covers in order to clean the cargo tanks. In accordance with ADN, when, at the earliest, may the cargo tank covers be opened?

A After the cargo tanks have been relieved of pressure
B After the cargo tanks have been totally gas-freed and there is no explosive mixture
C After the cargo tanks have been gas-freed and the concentration of flammable gases in the tanks is less than 10% of the lower explosive limit
D After the cargo tanks have been gas-freed and the concentration of flammable gases in the tanks is less than 20% of the lower explosive limit

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