INF.8/Add.1

Economic and Social Council

Inland Transport Committee

28 December 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-third session
Geneva, 22-26 January 2024
Item 4 (b) of the provisional agenda
Implementation of the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN): special authorizations, derogations and equivalents

Request for a recommendation on the use of methanol as fuel for the propulsion of the tank vessel “Stolt Ijssel”

Transmitted by the Government of the Netherlands

Annexes to document ECE/TRANS/WP.15/AC.2/2024/34

Addendum

Annex V

(BIO)METHANOL BUNKERING:
Truck to ship

NOTIFICATION

This document is in development and thus has not been officially released by FinCo or its subsidiaries. The bunkering of methanol as a fuel is a relatively new activity and further coordination between various logistical partners and potential end-users is required.

This document is meant to serve as an example to initiate discussion. Under no circumstances can this document be used for the physical bunkering of methanol, unless this document has been definitively released by FinCo. This release can only be initiated by the relevant owner and authorizer within FinCo. Release will occur after further internal and external discussions have been concluded.

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1.0 **Purpose**

The documentation of standardized rules and instructions for truck drivers bunkering methanol into barges with inland waterway use. Additionally, this document structures the communication and interaction between the receiving ship and supplying truck.

2.0 **Regarding**

The safe transfer of (bio-)methanol from truck to ship. This document describes the parts of the process that are not explicitly covered by specific existing safety frameworks and regulations used by carriers (e.g. it does not cover activities covered by ADR)

3.0 **Reference**

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), United Nations, 2020.

4.0 **Definitions**

Bunker statement (Appendix 1): Form with declaration as referred to in the Dutch Article 19 *Decree on excise duties on mineral oils*, for the excise free onboarding of mineral oils that are intended for propulsion or other on ship applications.

Bunker checklist (Appendix 2): Form that confirms the amount and type of energy carrier to be bunkered and the agreements made between supplier and receiver relating to communication, safety and measurements.

Dry break coupling: A coupling system suitable for coupling and decoupling without loss of product under varying conditions, including (but not limited to) pressure differentials. Todo couplings are a specific example of a dry break coupling and are highly suitable for loading stations and bunkering terminals that handle potentially hazardous liquids. Todo couplings are standard practice in the chemical and petrochemical industries.

Cam lock coupling: A coupling system suitable for safely and efficiently coupling and decoupling vapour return lines.

5.0 **Procedure**

5.1 *General*

5.1.1 Relevant rules and regulations might differ from port to port. Use of specific bunker forms might be prescribed by local authorities. For newer alternative energy carriers, rules will often differ per location. Applicable rules and regulations will have to verified for each separate port and/or bunker location and need to be complied with.

5.1.2 During bunkering activities specific attention needs to be paid to quality, safety and the environment. Adequate attention will be ensured by specifc regulations and management systems which will include: ADR, ADN , VCA,- additional systems/frameworks specific to logistical partner(s).

5.1.3 In preparation for all bunker sessions, the truck driver and ship captain will be in possession of a Safety Data Sheet (SDS) for the product to be bunkered.

5.1.4 At least one crew member of the ship will be tasked with supervising the bunkering. This crew member will remain near the bunkering hose connection and will check (at least for a reasonable amount of time during the start of the pumping phase) for leakage. Safety measures will be taken in line with the SDS, including fitting PPE.

5.1.5 After a bunker, the delivery receipt and bunker statement will be offered to the captain. All forms must be filled out, properly readable and signed and stamped by the ship's captain.

5.2 **Specific to (bio-)methanol bunkering**

5.2.1 In ports where it is required, each bunkering of a ship needs to be registered in advance with the local port authorities, in line with local rules and regulations. During registration, at a minimum the following information needs to be shared:

- Name of the carrier responsible for truck
- License plate of the truck
- Name of the vessel
- Expected start of bunker session
- Type and amount of fuel to be bunkered

5.2.2 During arrival at the designated bunker terrain, the carrier will park the truck at a safe distance from the quay, free of obstacles and electrical equipment within its operational zoning area. Thereafter the truck driver will progress through the stages described below in order (i.e. starting at the top item in phase 0, ending at the final item in phase 3):

5.2.3 **Phase 0: Safe surroundings**

- Park truck at a safe distance from quay wall
- Place wedges
- Cordon off surrounding area (EX-zone): e.g. traffic cones, non-smoking signs.
- Utilize all PPE in the manner prescribed in the SDS
- Ground the truck using an earth spike (where available)

5.2.4 **Phase 1: Preparation phase**

- Establish and secure communication channels with captain (EX walkie-talkie)
- Captain and truck driver jointly appoint deck supervisor
- Agree on specific amount of fuel to be bunkered
- Captain and truck driver specify and agree on pumping speed
- Ground truck with ship
- Place drip tray under coupling with truck
- Plug in automatic overfill protection connector(s)
- Connect and check Camlock vapour return line
- Connect fuel hose, specific attention to gasket material and correct Todo dry break coupling
- Prepare relevant telematics for fuel bunkering
- Fill out ship checklist and bunker checklist
- Fill out ADN checklist (where applicable)

5.2.5 **Fase 2: Bunkering**

- Open valves
- Start pumping in low flow, check for lekkages
- Captain and drivers verify there are no deviations
- Start pumping in high flow
- Maintain continuous supervision
- When close to target volume, switch to low flow
- Stop pump
- Close valves

5.2.6 **Fase 3: Closing actions**

- Decouple vapour return line
- Disconnect fuel hose

- Decouple automatic overfill protection connector(s)
- Remove ground line connected to ship
- Remove drip tray
- Sign relevant documentation (bunker statement, telematics receipt(s))
- Return walkie-talkie
- Sign off with relevant local authorities (e.g. port authorities)

6.0 Overview of Appendices

Appendix 1	Example Bunker Statement
Appendix 2	Control Checklist Barge
Appendix 3	Protocol for registration at Port Authorities
Appendix 4	SDS Bio-methanol
Appendix 5	Arial photographs and truck routing

Appendix 1 Example Bunker Statement

finco bunkering

FinCo Bunkering B.V.
K.P. van der Mandelelaan 120
3062 MB Rotterdam
The Netherlands
+31 88 021 51 70
bunkering@fincofuel.com
fincofuel.com
KvK: 57836264

T2S BUNKER STATEMENT & DELIVERY NOTE NO. 2022-XXXX

Declaration for the supply of fuels used for propulsion of ships or as bunker supplies on board of ships under exemption of excise duties (art.19 Uitvoeringsbesluit accijns)

Name of captain **[name of captain]**

Declares as owner, or on behalf of the following owner:
Name: **[Name of owner]**

Address: **[owner's address]** City: **[owner's city]** Country: **[owner's country]**

to have procured on board, fuels exempt from excise duties for propulsion or as bunker supplies on board of the barge:

Name of barge: **[name of barge]** Voyage destination: **Voyage destination**

ENI registration number: **[Registration number]** Nationality / Flag: **[barge nationality/flag]**

Delivery location: **[delivery location]** Next port: **[next port of call]**

	Date	Time
Arrival bunker barge	[DD-MM-YYYY]	[hh:mm]
Hoses connected	[DD-MM-YYYY]	[hh:mm]
Bunkering commenced	[DD-MM-YYYY]	[hh:mm]
Bunkering completed	[DD-MM-YYYY]	[hh:mm]
Hoses disconnected	[DD-MM-YYYY]	[hh:mm]
Departure bunker truck	[DD-MM-YYYY]	[hh:mm]

Sealed sample numbers (SAMPLING ROUTE TO BE DEFINED IN FUTURE!):	
Barge	[sample number barge]
	Click or tap here to enter text.
Bunker truck (1)	[sample no 1 truck]
Bunker truck (2)	[sample no 2 truck]
Additional sample:	[additional sample no, if any]
Additional sample:	[additional sample no, if any]

Remarks: **[Please insert remarks/comments here, if any]**

Samples/sampling procedure applied (please tick boxes as appropriate: DRAFT SAMPLING ROUTE TO BE DEFINED):
☐ Samples taken and supplied in presence of captain or other barge's representative
Sampling Method: ☐ Continuous drip sample ☐ Composite sample ☐ Spot sample

Type of fuel	[Type of methanol delivered]		
Metric Tons	[Quantity delivered in MT]	Viscosity at 50 °C [cSt]	[viscosity]
Liters 15 °C	[Volume delivered in liters 15]	Flash Point [°C]	[flash point]
Liters .....°C	[Volume delivered in liters act]	Total Sulphur Content [% m/m]	[sulphur content]
Density at 15 °C [kg/m³]	[density at 15 deg C in kg/m3]	Water content [mass %]	[water content]

License plate bunker truck: **[License plate]**
Signature truck driver:

Place & date of delivery **[Place, DD-MM-YYYY]**

Signature captain:

Barge stamp:

Appendix 2 Control checklist barge

FinCo Bunkering B.V.
K.P. van der Mandelelaan 120
3062 MB Rotterdam
The Netherlands
+31 88 021 51 70
bunkering@fincofuel.com
fincofuel.com
KvK: 57836264

TRUCK-TO-SHIP BUNKER SAFETY CHECKLIST

Add-on ship checklist for the bunkering of biomethanol via Truck-to-Ship route. Compliance with (additional) safety requirements set by local authorities and regulations is required.

Name of captain: **[name of captain]**

Declares as owner, or on behalf of the following owner:
Name: **[Name of owner]**

Address: **[owner's address]** City: **[owner's city]** Country: **[owner's country]**

to correctly fill out this checklist.

Name of barge: **[name of barge]** ENI registration number: **[Registration number]**

Delivery location: **[delivery location]**

Number of bunker tank	1	2	3	4
Tank capacity	L	L	L	L
Content of tank before bunkering	L	L	L	L
Capacity available for bunkering	L	L	L	L
Agreed bunker quantity	L	L	L	L
Start pumping rate in (circle units below): L/min | m3/h | tons/h				
Max pumping rate in (circle units below): L/min | m3/h | tons/h				
Name of person responsible during receiving operations (ship):				
Name of person responsible during delivering operations (truck):				
Bunker tank contents are checked during bunkering at intervals of:			Every..... minutes	

Remarks: Click or tap here to enter text.

		YES	NO
1	Is the receiving ship securely moored and sufficient fendering in place?		
2	Is the truck securely parked?		
3	Are all of the bunker hoses in good condition and appropriate for the bunkering of methanol?		
4	Has a hazard zone been established around the truck and the ship where required?		
5	Has effective communication been established between both parties?		
6	Is there an effective watch on both the ship and the truck?		
7	Is enough lighting in place to monitor correct delivery?		
8	Are smoking, fire and other spark restrictions being observed?		
9	Has an emergency stop procedure been agreed?		
10	Has the gas hose been connected properly and check for tightness?		
11	Are adequate personal protection equipment worn by all people involved?		
12	Are the bunker hoses rigged within their limits of torsion and pulling?		
13	Is the radius of bending of the hoses above their minimum?		
14	Are spill containment arrangements in place?		
15	Is clean-up equipment available?		
16	Is the overfill protection connected properly?		

License plate bunker truck:

Signature truck driver:

Signature of barge captain:

Barge stamp:

Place & date of delivery:

Appendix 3 Protocol for registration at Port Authorities

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Appendix 4 SDS Bio-methanol

File size is substantial, will be added in final version.

Appendix 5 Arial photographs and truck routing

To be added after relevant location visits.

Annex VI

Cargo List

STOLT IJSSEL

LR 9932347

ENI 02339855

Preface

The above ship has been approved for the transport of the products in this list, provided all the operational requirements regarding the transport have been complied with and the remarks as far as applicable to the cargoes to be transported have been respected.

This cargo list is based on the list of products in Part 3 Table C of the ADN regulations which came into force on the 1st of January 2023.

New products may only be included in this cargo list by virtue of a special permit and may only be transported in case this new product has been included in this list or in case a written confirmation of Lloyd's Register EMEA ("Europe, Middle East and Africa Region") is on board. A copy of the special permit should always be on board.

This cargo list is an addendum to the Certificate of Class, issued by Lloyd's Register EMEA for the above mentioned vessel. This cargo list is valid as long as the Certificate of Class is valid or in case a new cargo list has been issued by Lloyd's Register EMEA. In this case this cargo list will lose its validity and will be superseded by this new cargo list.

All pages are numbered.

Input data

This cargo list is based on the data below.

Ship	
Name	STOLT IJSSEL
LR No.	9932347
ENI	02339855
Heeft een onderdekse pompkamer?	No
Temperature class	T4
Explosion group	IIB

Tank group 1	
Materials	316 L Nr. 1.4401 CrNiMo, EN 1.4462
Tank vessel type	C
Cargo tank design	(2) Closed cargo tank
Cargo tank type	(2) Integral cargo tank

Equipment	
Waterspray system	Yes
Inert gas installation	No
Quick valve to the shore	No
40 kPa pressure alarm	Yes
Pressure measurement on each tank	Yes
Spray prevention	Yes
Heated vapour return	Yes
Sampling device type	(1) Closed
Design specific gravity	1.60 ton/m^3
Opening pressure of high-velocity vent valve	50.0 kPa
Own heating system	Yes
Heating possibility without own heating system	No
Heating coils type	Filled with thermal oil
Tank refrigeration system	No

Ship specific remarks

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
1088	ACETAL	3	F1	II	3	97.0	PP, EX, A	
1090	ACETONE	3	F1	II	3	97.0	PP, EX, A	302
1092	ACROLEIN, STABILIZED	6.1	TF1	I	3, 6.1, unst., N1	95.0	PP, EP, EX, TOX, A	2, 3, 5, 23, 301, 303
1093	ACRYLONITRILE, STABILIZED	3	FT1	I	3, 6.1, unst., N2, CMR	95.0	PP, EP, EX, TOX, A	3, 5, 23, 301, 303
1098	ALLYL ALCOHOL	6.1	TF1	I	3, 6.1, N1	95.0	PP, EP, EX, TOX, A	
1105	PENTANOLS (n- PENTANOL)	3	F1	III	3	97.0	PP, EX, A	301
1106	AMYLAMINE (n-AMYLAMINE)	3	FC	II	3, 8	95.0	PP, EP, EX, A	
1107	AMYL CHLORIDES (1-CHLOROPENTANE)	3	F1	II	3	95.0	PP, EX, A	301, 304
1107	AMYL CHLORIDES (1-CHLORO-3-METHYLBUTANE)	3	F1	II	3	95.0	PP, EX, A	301, 303
1107	AMYL CHLORIDES (2-CHLORO-2-METHYLBUTANE)	3	F1	II	3	95.0	PP, EX, A	301, 303
1107	AMYL CHLORIDES (1-CHLORO-2,2-DIMETHYLPROPANE)	3	F1	II	3	95.0	PP, EX, A	301, 303
1114	BENZENE	3	F1	II	3, N3, CMR	95.0	PP, EP, EX, TOX, A	6: +10°C, 17, 23
1120	BUTANOLS (tert-BUTYL ALCOHOL)	3	F1	II	3	97.0	PP, EX, A	7, 17, 301
1120	BUTANOLS (sec-BUTYL ALCOHOL)	3	F1	III	3	97.0	PP, EX, A	301
1120	BUTANOLS (n- BUTYL ALCOHOL)	3	F1	III	3	97.0	PP, EX, A	301
1123	BUTYL ACETATES (sec-BUTYL ACETATE)	3	F1	II	3	97.0	PP, EX, A	
1123	BUTYL ACETATES (n-BUTYL ACETATE)	3	F1	III	3, N3	97.0	PP, EX, A	
1125	n-BUTYLAMINE	3	FC	II	3, 8, N3	95.0	PP, EP, EX, A	23, 301
1127	CHLOROBUTANES (1-CHLOROBUTANE)	3	F1	II	3	95.0	PP, EX, A	23, 301, 303
1127	CHLOROBUTANES (2-CHLOROBUTANE)	3	F1	II	3	95.0	PP, EX, A	23, 301, 303
1127	CHLOROBUTANES (1-CHLORO-2-METHYLPROPANE)	3	F1	II	3	95.0	PP, EX, A	23, 301, 304
1127	CHLOROBUTANES (2-CHLORO-2-METHYLPROPANE)	3	F1	II	3	95.0	PP, EX, A	23, 301, 303
1129	BUTYRALDEHYDE (n-BUTYRALDEHYDE)	3	F1	II	3, N3	95.0	PP, EX, A	15, 23, 301
1134	CHLOROBENZENE (phenyl chloride)	3	F1	III	3, N2, S	95.0	PP, EX, A	301, 303
1135	ETHYLENE CHLOROHYDRIN (2-CHLOROETHANOL)	6.1	TF1	I	3, 6.1, N2	95.0	PP, EP, EX, TOX, A	301, 303
1143	CROTONALDEHYDE or CROTONALDEHYDE, STABILIZED	6.1	TF1	I	3, 6.1, unst., N1	95.0	PP, EP, EX, TOX, A	3, 5, 15, 301, 303

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
1145	CYCLOHEXANE	3	F1	II	3, N1	95.0	PP, EX, A	6: +11°C, 17
1146	CYCLOPENTANE	3	F1	II	3, N2	97.0	PP, EX, A	
1148	DIACETONE ALCOHOL	3	F1	III	3	97.0	EX, A	302, 304
1150	1,2-DICHLOROETHYLENE (cis-1,2-DICHLOROETHYLENE)	3	F1	II	3, N2	95.0	PP, EX, A	23, 301, 303
1150	1,2-DICHLOROETHYLENE (trans-1,2-DICHLOROETHYLENE)	3	F1	II	3, N2	95.0	PP, EX, A	23, 301, 303
1153	ETHYLENE GLYCOL DIETHYL ETHER	3	F1	III	3	97.0	PP, EX, A	
1154	DIETHYLAMINE	3	FC	II	3, 8, N3	95.0	PP, EP, EX, A	23, 301
1157	DIISOBUTYL KETONE	3	F1	III	3, N3, F	97.0	PP, EX, A	
1159	DIISOPROPYL ETHER	3	F1	II	3, N2	95.0	PP, EX, A	
1160	DIMETHYLAMINE AQUEOUS SOLUTION	3	FC	II	3, 8, N3	95.0	PP, EP, EX, A	23, 301
1163	DIMETHYLHYDRAZINE, UNSYMMETRICAL	6.1	TFC	I	3, 6.1, 8, N2, CMR	95.0	PP, EP, EX, TOX, A	23
1165	DIOXANE	3	F1	II	3	97.0	PP, EX, A	6: +14°C, 17, 301, 303
1170	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), aqueous solution with more than 70% alcohol by volume	3	F1	II	3	97.0	PP, EX, A	301
1170	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), aqueous solution with more than 24% and not more than 70% alcohol by volume	3	F1	III	3	97.0	PP, EX, A	301
1171	ETHYLENE GLYCOL MONOETHYL ETHER	3	F1	III	3, CMR	97.0	PP, EP, EX, TOX, A	
1172	ETHYLENE GLYCOL MONOETHYL ETHER ACETATE	3	F1	III	3, N3, CMR	97.0	PP, EP, EX, TOX, A	
1173	ETHYL ACETATE	3	F1	II	3	97.0	PP, EX, A	
1175	ETHYLBENZENE	3	F1	II	3, N3	97.0	PP, EX, A	
1177	2-ETHYLBUTYL ACETATE	3	F1	III	3	97.0	PP, EX, A	
1179	ETHYL BUTYLETHER (ETHYL tert-BUTYLETHER)	3	F1	II	3, N3	97.0	PP, EX, A	
1184	ETHYLENE DICHLORIDE (1,2-dichloroethane)	3	FT1	II	3, 6.1, CMR	95.0	PP, EP, EX, TOX, A	301, 303
1188	ETHYLENE GLYCOL MONOMETHYL ETHER	3	F1	III	3, CMR	97.0	PP, EP, EX, TOX, A	
1191	OCTYL ALDEHYDES (2-ETHYLCAPRONALDEHYDE)	3	F1	III	3, F	95.0	PP, EX, A	

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
1191	OCTYL ALDEHYDES (n-OCTALDEHYDE)	3	F1	III	3, N3, F	97.0	PP, EX, A	304
1193	ETHYL METHYL KETONE (METHYL ETHYL KETONE)	3	F1	II	3	97.0	PP, EX, A	
1198	FORMALDEHYDE SOLUTION, FLAMMABLE	3	FC	III	3, 8, N3	97.0	PP, EP, EX, A	34, 301, 303
1199	FURALDEHYDES (a-FURALDEHYDE) or FURFURALDEHYDES (a-FURFURYLALDEHYDE)	6.1	TF1	II	3, 6.1	95.0	PP, EP, EX, TOX, A	15, 301
1202	GAS OIL or DIESEL FUEL or HEATING OIL (LIGHT) (flash-point not more than 60 °C)	3	F1	III	3 + (N1, N2, N3, CMR, F or S)	97.0	PP	22
1202	GAS OIL complying with standard EN 590:2013 + A1:2017 or DIESEL FUEL or HEATING OIL, LIGHT with flash-point as specified in EN 590:2013 + A1:2017	3	F1	III	3, N2, F	97.0	PP	22
1202	GAS OIL or DIESEL FUEL or HEATING OIL, LIGHT (flash-point more than 60°C but not more than 100°C)	3	F1	III	3 + (N1, N2, N3, CMR, F or S)	97.0	PP	22
1203	MOTOR SPIRIT or GASOLINE or PETROL	3	F1	II	3, N2, CMR, F	97.0	PP, EP, EX, TOX, A	14
1203	MOTOR SPIRIT or GASOLINE or PETROL WITH MORE THAN 10% BENZENE 60°C < BOILING POINT =< 85°C	3	F1	II	3, N2, CMR, F	95.0	PP, EP, EX, TOX, A	23
1203	MOTOR SPIRIT or GASOLINE or PETROL WITH MORE THAN 10% BENZENE 85°C < boiling point =< 115°C	3	F1	II	3, N2, CMR, F	95.0	PP, EP, EX, TOX, A	
1203	MOTOR SPIRIT or GASOLINE or PETROL WITH MORE THAN 10% BENZENE boiling point > 115°C	3	F1	II	3, N2, CMR, F	95.0	PP, EP, EX, TOX, A	
1203	MOTOR SPIRIT or GASOLINE or PETROL WITH MORE THAN 10% BENZENE (Flash point < 23°C with 60°C < BOILING POINT =< 85°C)	3	F1	II	3, N2, CMR, F	95.0	PP, EP, EX, TOX, A	22, 23
1203	MOTOR SPIRIT or GASOLINE or PETROL WITH MORE THAN 10% BENZENE (Flash point < 23°C with 85°C < BOILING POINT =< 115°C)	3	F1	II	3, N2, CMR, F	95.0	PP, EP, EX, TOX, A	22
1203	MOTOR SPIRIT or GASOLINE or PETROL WITH MORE THAN 10% BENZENE (Flash point < 23°C with BOILING POINT > 115°C)	3	F1	II	3, N2, CMR, F	95.0	PP, EP, EX, TOX, A	22
1206	HEPTANES	3	F1	II	3, N1	95.0	PP, EX, A	
1208	HEXANES	3	F1	II	3, N2	97.0	PP, EX, A	
1208	HEXANES	3	F1	II	3, N2	97.0	PP, EX, A	
1212	ISOBUTANOL)isobutyl alcohol)	3	F1	III	3	97.0	PP, EX, A	301

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
1213	ISOBUTYL ACETATE	3	F1	II	3, N3	97.0	PP, EX, A	
1214	ISOBUTYLAMINE	3	FC	II	3, 8, N3	95.0	PP, EP, EX, A	23
1216	ISOOCTENES	3	F1	II	3, N2	97.0	PP, EX, A	
1219	ISOPROPANOL (isopropyl alcohol)	3	F1	II	3	97.0	PP, EX, A	
1220	ISOPROPYL ACETATE	3	F1	II	3	97.0	PP, EX, A	
1223	KEROSENE	3	F1	III	3, N2, F	97.0	PP, EX, A	14
1224	KETONES, LIQUID, N.O.S. (Flash point < 23°C with 110 kPa<=vP50<150 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 301
1224	KETONES, LIQUID, N.O.S. (Flash point < 23°C with vP50<110 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 301
1224	KETONES, LIQUID, N.O.S. Flash point >= 23°C but <= 60°C	3	F1	III	3 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 301
1224	KETONES, LIQUID, N.O.S. (Flash point < 23°C with 110 kPa<=vP50<175 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, EX, TOX, A	14, 27, 301
1229	MESITYL OXIDE	3	F1	III	3	97.0	PP, EX, A	
1230	METHANOL	3	FT1	II	3, 6.1	95.0	PP, EP, EX, TOX, A	23
1231	METHYL ACETATE	3	F1	II	3	97.0	PP, EX, A	
1235	METHYLAMINE, AQUEOUS SOLUTION	3	FC	II	3, 8, N3	95.0	PP, EP, EX, A	301
1245	METHYL ISOBUTYL KETONE	3	F1	II	3	97.0	PP, EX, A	
1247	METHYL METHACRYLATE MONOMER, STABILIZED	3	F1	II	3, unst., N3	95.0	PP, EX, A	3, 5, 16, 301, 303
1262	OCTANES	3	F1	II	3, N1	95.0	PP, EX, A	
1264	PARALDEHYDE	3	F1	III	3	97.0	PP, EX, A	6: +16°C, 17
1265	PENTANES, liquid (n-PENTANE)	3	F1	II	3, N2	97.0	PP, EX, A	301
1265	PENTANES, liquid (Flash point < 23°C with 150 kPa<=vP50<175 kPa)	3	F1	I	3, N2	97.0	PP, EX, A	14, 22, 302, 304
1265	PENTANES, liquid (Flash point < 23°C with 150 kPa<=vP50<175 kPa)	3	F1	II	3, N2	97.0	PP, EX, A	14, 22, 302, 304
1265	PENTANES, liquid (Flash point < 23°C with 110 kPa<=vP50<150 kPa)	3	F1	I	3, N2	97.0	PP, EX, A	14, 22, 302, 304
1265	PENTANES, liquid (Flash point < 23°C with 110 kPa<=vP50<150 kPa)	3	F1	II	3, N2	97.0	PP, EX, A	14, 22, 302, 304
1265	PENTANES, liquid (Flash point < 23°C with 110 kPa<=vP50<150 kPa)	3	F1	I	3, N2	97.0	PP, EX, A	14, 22, 302, 304

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
1265	PENTANES, liquid (Flash point < 23°C with 110 kPa<=vP50<150 kPa)	3	F1	II	3, N2	97.0	PP, EX, A	14, 22, 302, 304
1265	PENTANES, liquid (Flash point < 23°C with vP50<110 kPa)	3	F1	I	3, N2	97.0	PP, EX, A	14, 22, 302, 304
1265	PENTANES, liquid (Flash point < 23°C with vP50<110 kPa)	3	F1	II	3, N2	97.0	PP, EX, A	14, 22, 302, 304
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE 60 °C < INITIAL BOILING POINT =< 85 °C	3	F1	II	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 23, 38, 301
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE 85 °C < INITIAL BOILING POINT =< 115 °C	3	F1	II	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 301
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE INITIAL BOILING POINT > 115 °C	3	F1	II	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 301
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE 60 °C < INITIAL BOILING POINT =< 85 °C	3	F1	III	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 23, 38, 301
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE 85 °C < INITIAL BOILING POINT =< 115 °C	3	F1	III	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 301
1267	PETROLEUM CRUDE OIL (Flash point < 23°C with 110 kPa<=vP50<175 kPa)	3	F1	I	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 301
1267	PETROLEUM CRUDE OIL (Flash point < 23°C with 110 kPa<=vP50<175 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 301
1267	PETROLEUM CRUDE OIL (Flash point < 23°C with 110 kPa<=vP50< 150 kPa)	3	F1	I	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 301
1267	PETROLEUM CRUDE OIL (Flash point < 23°C with 110 kPa<=vP50< 150 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 301
1267	PETROLEUM CRUDE OIL (Flash point < 23°C with vP50<110 kPa)	3	F1	I	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 301
1267	PETROLEUM CRUDE OIL (Flash point < 23°C with vP50<110 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 301
1267	PETROLEUM CRUDE OIL (Flash point >= 23°C but <= 60°C)	3	F1	III	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 301
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE INITIAL BOILING POINT > 115 °C	3	F1	III	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 301
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE (Flash point < 23°C with 60 °C < BOILING POINT =< 85 °C)	3	F1	I	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 23, 301

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE (Flash point < 23°C with 60 °C < BOILING POINT =< 85 °C)	3	F1	II	3, N1, N2, N3, CMR, F	95.0	PP, EP, EX, TOX, A	22, 23, 301
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE (60 °C < BOILING POINT =< 85 °C)	3	F1	III	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 23, 301
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE (Flash point < 23°C with 85 °C < BOILING POINT =< 115 °C)	3	F1	I	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 301
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE (Flash point < 23°C with 85 °C < BOILING POINT =< 115 °C)	3	F1	II	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 301
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE (85 °C < BOILING POINT =< 115 °C)	3	F1	III	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 301
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE (Flash point < 23°C with BOILING POINT > 115 °C)	3	F1	I	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 301
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE (Flash point < 23°C with BOILING POINT > 115 °C)	3	F1	II	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 301
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE (BOILING POINT > 115 °C)	3	F1	III	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 301
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE (According ADN 3.2.3.3 – Scheme A – Criteria for cargo tank equipment in vessels of Type C)	3	F1	I	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 23, 98, 301
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE (According ADN 3.2.3.3 – Scheme A – Criteria for cargo tank equipment in vessels of Type C)	3	F1	II	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 23, 98, 301
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. WITH MORE THAN 10% BENZENE INITIAL BOILING POINT > 115 °C	3	F1	II	3, N1, N2, N3, CMR, F	95.0	PP, EP, EX, TOX, A	302
1268	PETROLEUM DISTILLATES, N.O.S or PETROLEUM PRODUCTS, N.O.S. (NAPHTHA) 110 kPa < vp50 =< 175 kPa	3	F1	II	3, N2, CMR, F	97.0	PP, EP, EX, TOX, A	14, 302
1268	PETROLEUM DISTILLATES, N.O.S or PETROLEUM PRODUCTS, N.O.S. (NAPHTHA) 110 kPa < vp50 =< 150 kPa	3	F1	II	3, N2, CMR, F	97.0	PP, EP, EX, TOX, A	14, 302
1268	PETROLEUM DISTILLATES, N.O.S or PETROLEUM PRODUCTS, N.O.S. (NAPHTHA) vP50 =< 110 kPa	3	F1	II	3, N2, CMR, F	97.0	PP, EP, EX, TOX, A	14, 302

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
1268	PETROLEUM DISTILLATES, N.O.S, or PETROLEUM PRODUCTS, N.O.S. (BENZENE HEART CUT) vp50 =< 110 kPa	3	F1	II	3, N2, CMR, F	97.0	PP, EP, EX, TOX, A	14, 302
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. WITH MORE THAN 10% BENZENE 60 °C < INITIAL BOILING POINT =< 85 °C	3	F1	II	3, N1, N2, N3, CMR, F	95.0	PP, EP, EX, TOX, A	23, 38, 302
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. WITH MORE THAN 10% BENZENE 85 °C < INITIAL BOILING POINT =< 115 °C	3	F1	II	3, N1, N2, N3, CMR, F	95.0	PP, EP, EX, TOX, A	302
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S (Flash point < 23°C with 110 kPa<=vP50<175 kPa)	3	F1	I	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 301
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S (Flash point < 23°C with 110 kPa<=vP50<175 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 301
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S (Flash point < 23°C with 110 kPa<=vP50<150 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 301
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S (Flash point < 23°C with 110 kPa<=vP50<150 kPa)	3	F1	I	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 301
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S (Flash point < 23°C with vP50<110 kPa)	3	F1	I	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 301
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S (Flash point < 23°C with vP50<110 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 301
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S (Flash point >= 23°C but <= 60 °C)	3	F1	III	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 301
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. WITH MORE THAN 10% BENZENE (Flash point < 23°C with 60 °C < BOILING POINT =< 85 °C)	3	F1	I	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 23, 302
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. WITH MORE THAN 10% BENZENE (Flash point < 23°C with 60 °C < BOILING POINT =< 85 °C)	3	F1	II	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 23, 302

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. WITH MORE THAN 10% BENZENE (60 °C < BOILING POINT =< 85 °C)	3	F1	III	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 23, 302
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. WITH MORE THAN 10% BENZENE (85 °C < BOILING POINT =< 115 °C)	3	F1	III	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 302
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. WITH MORE THAN 10% BENZENE (Flash point < 23°C with 85 °C < BOILING POINT =< 115 °C)	3	F1	II	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 302
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. WITH MORE THAN 10% BENZENE (Flash point < 23°C with 85 °C < BOILING POINT =< 115 °C)	3	F1	I	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 302
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. WITH MORE THAN 10% BENZENE (Flash point < 23°C with BOILING POINT > 115 °C)	3	F1	I	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 302
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. WITH MORE THAN 10% BENZENE (Flash point < 23°C with BOILING POINT > 115 °C)	3	F1	II	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX	22, 302
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. WITH MORE THAN 10% BENZENE (BOILING POINT > 115 °C)	3	F1	III	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 302
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. WITH MORE THAN 10% BENZENE (According ADN 3.2.3.3 – Scheme A – Criteria for cargo tank equipment in vessels of Type C)	3	F1	I	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 23, 98, 302
1268	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. WITH MORE THAN 10% BENZENE (According ADN 3.2.3.3 – Scheme A – Criteria for cargo tank equipment in vessels of Type C)	3	F1	II	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 23, 98, 302
1274	n-PROPANOL (propyl acohol, normal)	3	F1	II	3	97.0	PP, EX, A	
1274	n-PROPANOL (propyl acohol, normal)	3	F1	III	3	97.0	PP, EX, A	
1275	PROPIONALDEHYDE	3	F1	II	3, N3	95.0	PP, EX, A	15, 23, 301
1276	n-PROPYL ACETATE	3	F1	II	3, N3	97.0	PP, EX, A	
1277	PROPYLAMINE (1-aminopropane)	3	FC	II	3, 8	95.0	PP, EP, EX, A	23, 301

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
1278	1-CHLOROPROPANE (propyl chloride)	3	F1	II	3	95.0	PP, EX, A	23, 301, 303
1279	1,2-DICHLOROPROPANE or PROPYL DICHLORIDE	3	F1	II	3, N2	95.0	PP, EX, A	301, 303
1282	PYRIDINE	3	F1	II	3, N3	97.0	PP, EX, A	
1288	SHALE OIL	3	F1	II	3, N3, CMR	97.0	PP, EP, EX, TOX, A	14, 23, 302, 304
1288	SHALE OIL	3	F1	III	3, N3, CMR	97.0	PP, EP, EX, TOX, A	14, 23, 302, 304
1289	SODIUM METHYLATE SOLUTION in alcohol	3	FC	III	3, 8	97.0	PP, EP, EX, A	34, 301
1294	TOLUENE	3	F1	II	3, N3	97.0	PP, EX, A	
1296	TRIETHYLAMINE	3	FC	II	3, 8, N3	95.0	PP, EP, EX, A	301
1300	TURPENTINE SUBSTITUTE	3	F1	III	3, N2, F	97.0	PP, EX, A	
1301	VINYL ACETATE, STABILIZED	3	F1	II	3, unst., N3	97.0	PP, EX, A	3, 5, 16
1307	XYLENES (o-XYLENE)	3	F1	III	3, N2	97.0	PP, EX, A	
1307	XYLENES (m-XYLENE)	3	F1	III	3, N2	97.0	PP, EX, A	
1307	XYLENES (p-XYLENE)	3	F1	III	3, N2	97.0	PP, EX, A	6: +17°C, 17
1307	XYLENES (mixture with melting point =< 0°C)	3	F1	II	3, N2	97.0	PP, EX, A	
1307	XYLENES (mixture with melting point =< 0°C)	3	F1	III	3, N2	97.0	PP, EX, A	
1307	XYLENES (mixture with melting point > 0°C < 13°C)	3	F1	III	3, N2	97.0	PP, EX, A	6: +17°C, 17
1541	ACETONE CYANOHYDRIN, STABILIZED	6.1	T1	I	6.1, unst., N1	95.0	PP, EP, TOX, A	3, 301, 303
1545	ALLYL ISOTHIOCYANATE, STABILIZED	6.1	TF1	II	3, 6.1, unst.	95.0	PP, EP, EX, TOX, A	2, 3, 301, 303
1547	ANILINE	6.1	T1	II	6.1, N1	95.0	PP, EP, TOX, A	
1591	o-DICHLOROBENZENE	6.1	T1	III	6.1, N1, S	95.0	PP, EP, TOX, A	301, 303
1593	DICHLOROMETHANE (methyl chloride)	6.1	T1	III	6.1	95.0	PP, EP, TOX, A	23, 301, 303
1594	DIETHYLSULPHATE	6.1	T1	II	6.1, N2, CMR	95.0	PP, EP, TOX, A	301
1595	DIMETHYL SULPHATE	6.1	TC1	I	6.1, 8, N3, CMR	95.0	PP, EP, TOX, A	301
1604	ETHYLENEDIAMINE	8	CF1	II	3, 8, N3	97.0	PP, EP, EX, A	6: +12°C, 17, 34, 301

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
1605	ETHYLENE DIBROMIDE	6.1	T1	I	6.1, N2, CMR	73.4	PP, EP, TOX, A	6: +14ºC, 17, 301, 304
1648	ACETONITRILE (methyl cyanide)	3	F1	II	3	97.0	PP, EX, A	
1662	NITROBENZENE	6.1	T1	II	6.1, N2	95.0	PP, EP, EX, TOX, A	6: +10 °C, 17
1663	NITROPHENOLS	6.1	T2	III	6.1, N3, S	95.0	PP, EP, EX, TOX, A	7, 17, 302, 304
1663	NITROPHENOLS	6.1	T2	III	6.1, N3, S	95.0	PP, EP, TOX, A	7, 17, 20: +65ºC, 302, 304
1664	NITROTOLUENES, LIQUID (o-NITROTOLUENE)	6.1	T1	II	6.1, N2, CMR, S	95.0	PP, EP, TOX, A	
1708	TOLUIDINES, LIQUID (o-TOLUIDINE)	6.1	T1	II	6.1, N1, CMR	95.0	PP, EP, TOX, A	
1708	TOLUIDINES, LIQUID (m-TOLUIDINE)	6.1	T1	II	6.1, N1	95.0	PP, EP, TOX, A	
1710	TRICHLOROETHYLENE	6.1	T1	III	6.1, N2, CMR	95.0	PP, EP, TOX, A	15, 301, 303
1715	ACETIC ANHYDRIDE	8	CF1	II	3, 8	97.0	PP, EP, EX, A	34, 301
1718	BUTYL ACIDE PHOSPHATE	8	C3	III	8, N3	97.0	PP, EP	34
1719	CAUSTIC ALKALI LIQUID, N.O.S.(vP50 <= 12,5 kPa)	8	C5	II	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 30, 34, 302, 304
1719	CAUSTIC ALKALI LIQUID, N.O.S.	8	C5	III	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
1719	CAUSTIC ALKALI LIQUID, N.O.S.(vP50 > 12,5 kPa)	8	C5	II	8 + (N1, N2, N3, CMR, F or S)	10.0	PP, EP, TOX, A	22, 27, 30, 34, 302, 304
1738	BENZYL CHLORIDE	6.1	TC1	II	3, 6.1, 8, N3, CMR, S	95.0	PP, EP, EX, TOX, A	301, 303
1742	BORON TRIFLUORIDE ACETIC ACID COMPLEX, LIQUID	8	C3	II	8	97.0	PP, EP	34, 302, 304
1760	CORROSIVE LIQUID, N.O.S.(vP50 > 12,5 kPa)	8	C9	I	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 30, 34, 302, 304
1760	CORROSIVE LIQUID, N.O.S.(vP50 > 12,5 kPa)	8	C9	II	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 30, 34, 302, 304
1760	CORROSIVE LIQUID, N.O.S.	8	C9	III	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
1760	CORROSIVE LIQUID, N.O.S. (SODIUM MERCAPTOBENZOTHIAZOLE, 50% AQUEOUS SOLUTION)	8	C9	II	8, N1, F	95.0	PP, EP	34, 302

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
1760	CORROSIVE LIQUID, N.O.S. (FATTY ALCOHOL, C12-C14)	8	C9	III	8, F	97.0	PP, EP	34, 302
1760	CORROSIVE LIQUID, N.O.S. (ETHYLENE DIAMINETETRAACETIC ACID, TETRASODIUM SALT, 40% AQUEOUS SOLUTION)	8	C9	III	8, N2	97.0	PP, EP	34, 302, 304
1760	CORROSIVE LIQUID, N.O.S.(vP50 <= 12,5 kPa)	8	C9	II	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 30, 34, 302, 304
1760	CORROSIVE LIQUID, N.O.S.(vP50 <= 12,5 kPa)	8	C9	I	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
1779	FORMIC ACID WITH MORE THAN 85% acid by mass	8	CF1	II	3, 8, N3	97.0	PP, EP, EX, A	6: +12°C, 17, 34, 301, 304
1783	HEXAMETHYLENEDIAMINE SOLUTION	8	C7	II	8, N3	97.0	PP, EP, EX, A	7, 17, 34
1783	HEXAMETHYLENEDIAMINE SOLUTION	8	C7	III	8, N3	97.0	PP, EP, EX, A	7, 17, 34
1805	PHOSPHORIC ACID, SOLUTION, WITH MORE THAN 80% (VOLUME) ACID	8	C1	III	8	95.0	PP, EP	7, 17, 22, 34, 301
1805	PHOSPHORIC ACID, SOLUTION, WITH 80% (VOLUME) ACID, OR LESS	8	C1	III	8	97.0	PP, EP	22, 34, 301
1814	POTASSIUM HYDROXIDE SOLUTION	8	C5	II	8, N3	97.0	PP, EP	30, 34, 301
1814	POTASSIUM HYDROXIDE SOLUTION	8	C5	III	8, N3	97.0	PP, EP	30, 34, 301
1824	SODIUM HYDROXIDE SOLUTION	8	C5	II	8, N3	97.0	PP, EP	30, 34, 301
1824	SODIUM HYDROXIDE SOLUTION	8	C5	III	8, N3	97.0	PP, EP	30, 34, 301
1830	SULPHURIC ACID with more than 92% acid	8	C1	II	8, N3	97.0	PP, EP	8, 22, 30, 34, 301
1830	SULPHURIC ACID with more than 98% acid	8	C1	II	8, N3	97.0	PP, EP	8, 22, 30, 34, 301
1831	SULPHURIC ACID, FUMING	8	CT1	I	6.1, 8	82.5	PP, EP, TOX, A	8, 301, 304
1846	CARBON TETRACHLORIDE	6.1	T1	II	6.1, N2, S	95.0	PP, EP, TOX, A	23, 301, 304
1848	PROPIONIC ACID with not less than 10% and less than 90% acid by mass	8	C3	III	8, N3	97.0	PP, EP	34, 301, 303
1863	FUEL, AVIATION, TURBINE ENGINE WITH MORE THAN 10% BENZENE 60 °C < INITIAL BOILING POINT =< 85 °C	3	F1	III	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	23, 38

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
1863	FUEL, AVIATION, TURBINE ENGINE WITH MORE THAN 10% BENZENE 85 °C < INITIAL BOILING POINT =< 115 °C	3	F1	III	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	
1863	FUEL, AVIATION, TURBINE ENGINE WITH MORE THAN 10% BENZENE INITIAL BOILING POINT > 115 °C	3	F1	III	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	
1863	FUEL, AVIATION, TURBINE ENGINE (Flash point < 23°C with 110 kPa<=vP50<175 kPa)	3	F1	I	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22
1863	FUEL, AVIATION, TURBINE ENGINE (Flash point < 23°C with 110 kPa<=vP50<175 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22
1863	FUEL, AVIATION, TURBINE ENGINE (Flash point < 23°C with 110 kPa<=vP50<150 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22
1863	FUEL, AVIATION, TURBINE ENGINE (Flash point < 23°C with 110 kPa<=vP50<150 kPa)	3	F1	I	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22
1863	FUEL, AVIATION, TURBINE ENGINE (Flash point < 23°C with vP50<110 kPa)	3	F1	I	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22
1863	FUEL, AVIATION, TURBINE ENGINE (Flash point < 23°C with vP50<110 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22
1863	FUEL, AVIATION, TURBINE ENGINE (Flash point >= 23°C but <= 60 °C)	3	F1	III	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22
1863	FUEL, AVIATION, TURBINE ENGINE WITH MORE THAN 10% BENZENE (Flash point < 23°C with 60 °C < BOILING POINT =< 85 °C)	3	F1	I	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 23
1863	FUEL, AVIATION, TURBINE ENGINE WITH MORE THAN 10% BENZENE (Flash point < 23°C with 60 °C < BOILING POINT =< 85 °C)	3	F1	II	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 23
1863	FUEL, AVIATION, TURBINE ENGINE WITH MORE THAN 10% BENZENE (60 °C < BOILING POINT =< 85 °C)	3	F1	III	CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22, 23
1863	FUEL, AVIATION, TURBINE ENGINE WITH MORE THAN 10% BENZENE (Flash point < 23°C with 85 °C < BOILING POINT =< 115 °C)	3	F1	I	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22
1863	FUEL, AVIATION, TURBINE ENGINE WITH MORE THAN 10% BENZENE (Flash point < 23°C with 85 °C < BOILING POINT =< 115 °C)	3	F1	II	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, A	22
1863	FUEL, AVIATION, TURBINE ENGINE WITH MORE THAN 10% BENZENE (85 °C < BOILING POINT =< 115 °C)	3	F1	III	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
1863	FUEL, AVIATION, TURBINE ENGINE WITH MORE THAN 10% BENZENE (Flash point < 23°C with BOILING POINT > 115 °C)	3	F1	I	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22
1863	FUEL, AVIATION, TURBINE ENGINE WITH MORE THAN 10% BENZENE (Flash point < 23°C with BOILING POINT > 115 °C)	3	F1	II	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22
1863	FUEL, AVIATION, TURBINE ENGINE WITH MORE THAN 10% BENZENE (BOILING POINT > 115 °C)	3	F1	III	3, CMR, F + (N1, N2, N3)	95.0	PP, EP, EX, TOX, A	22
1863	FUEL, AVIATION, TURBINE ENGINE WITH MORE THAN 10% BENZENE (According ADN 3.2.3.3 – Scheme A – Criteria for cargo tank equipment in vessels of Type C)	3	F1	I	3, N1, N2, N3, CMR, F	95.0	PP, EP, EX, TOX, A	22, 23, 98
1863	FUEL, AVIATION, TURBINE ENGINE WITH MORE THAN 10% BENZENE (According ADN 3.2.3.3 – Scheme A – Criteria for cargo tank equipment in vessels of Type C)	3	F1	II	3, N1, N2, N3, CMR, F	95.0	PP, EP, EX, TOX, A	22, 23, 98
1888	CHLOROFORM	6.1	T1	III	6.1, N2, CMR	95.0	PP, EP, TOX, A	23, 302, 303
1897	TETRACHLOROETHYLENE	6.1	T1	III	6.1, N2, S	95.0	PP, EP, TOX, A	301, 303
1915	CYCLOHEXANONE	3	F1	III	3	97.0	PP, EX, A	
1917	ETHYL ACRYLATE, STABILIZED	3	F1	II	3, unst., N3	95.0	PP, EX, A	3, 5, 301, 303
1918	ISOPROPYLBENZENE (cumene)	3	F1	III	3, N2	97.0	PP, EX, A	
1919	METHYL ACRYLATE, STABILIZED	3	F1	II	3, unst., N3	95.0	PP, EX, A	3, 5, 23, 301, 303
1920	NONANES	3	F1	III	3, N2, F	97.0	PP, EX, A	
1922	PYRROLIDINE	3	FC	II	3, 8	95.0	PP, EP, EX, A	301
1986	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. (Flash point < 23°C with 60 °C < boiling point =< 85 °C)	3	FT1	II	3, 6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, EX, TOX, A	22, 23, 27, 301
1986	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. (Flash point < 23°C with 85 °C < boiling point =< 115 °C)	3	FT1	II	3, 6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, EX, TOX, A	22, 27, 301
1986	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. (Flash point < 23°C with boiling point > 115 °C)	3	FT1	II	3, 6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, EX, TOX, A	22, 27, 301
1986	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. (60 °C < boiling point =< 85 °C)	3	FT1	III	3, 6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, EX, TOX, A	22, 23, 27, 301

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
1986	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. (85 °C < boiling point =< 115 °C)	3	FT1	III	3, 6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, EX, TOX, A	22, 27, 301
1986	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. (boiling point > 115 °C)	3	FT1	III	3, 6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, EX, TOX, A	22, 27, 301
1986	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. (Flash point < 23°C with 85 °C < boiling point =< 115 °C)	3	FT1	I	3, 6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, EX, TOX, A	22, 27, 301
1986	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. (Flash point < 23°C with 60 °C < boiling point =< 85 °C)	3	FT1	I	3, 6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, EX, TOX, A	22, 23, 27, 301
1986	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. (Flash point < 23°C with boiling point > 115 °C)	3	FT1	I	3, 6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, EX, TOX, A	22, 27, 301
1987	ALCOHOLS, N.O.S. (TERTBUTANOL 90 % (MASS)/METHANOL 10 % (MASS) MIXTURE)	3	F1	II	3	97.0	PP, EX, A	301
1987	ALCOHOLS, N.O.S. (Flash point >= 23°C but <= 60 °C)	3	F1	III	3 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 301
1987	ALCOHOLS, N.O.S. (CYCLOHEXANOL)	3	F1	III	3, N3, F	95.0	PP, EX, A	7, 17, 301
1987	ALCOHOLS, N.O.S. (CYCLOHEXANOL)	3	F1	III	3, N3, F	95.0	PP	7, 17, 20, 301
1987	ALCOHOLS, N.O.S.(Flash point < 23°C with 110 kPa<=vP50<175 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 301
1987	ALCOHOLS, N.O.S.(Flash point < 23°C with 110 kPa<=vP50<150 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 301
1987	ALCOHOLS, N.O.S.(Flash point < 23°C with vP50<110 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 301
1989	ALDEHYDES N.O.S.(Flash point >= 23°C but <= 60 °C)	3	F1	III	3 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, EX, TOX, A	14, 22, 27
1989	ALDEHYDES, FLAMMABLE, N.O.S.(Flash point < 23°C with 110 kPa<=vP50<175 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, EX, TOX, A	14, 22, 27
1989	ALDEHYDES, FLAMMABLE, N.O.S.(Flash point < 23°C with 110 kPa<=vP50<150 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, EX, TOX, A	14, 22, 27
1989	ALDEHYDES, FLAMMABLE, N.O.S.(Flash point < 23°C with vP50<110 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, EX, TOX, A	14, 22, 27

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
1991	CHLOROPRENE, STABILIZED	3	FT1	I	3, 6.1, unst., CMR	95.0	PP, EP, EX, TOX, A	3, 5, 23, 301, 303
1992	FLAMMABLE LIQUID, TOXIC, N.O.S. (Flash point < 23°C with 60 °C < boiling point =< 85 °C)	3	FT1	II	3, 6.1, N1, N2, N3, CMR, F or S	95.0	PP, EP, EX, TOX, A	22, 23, 27, 302, 304
1992	FLAMMABLE LIQUID, TOXIC, N.O.S. (Flash point < 23°C with 85 °C < boiling point =< 115 °C)	3	FT1	II	3, 6.1, N1, N2, N3, CMR, F or S	95.0	PP, EP, EX, TOX, A	22, 27, 302, 304
1992	FLAMMABLE LIQUID, TOXIC, N.O.S. (Flash point < 23°C with boiling point > 115°C)	3	FT1	II	3, 6.1, N1, N2, N3, CMR, F or S	95.0	PP, EP, EX, TOX, A	22, 27, 302, 304
1992	FLAMMABLE LIQUID, TOXIC, N.O.S. (60 °C < boiling point =< 85 °C)	3	FT1	III	3, 6.1, N1, N2, N3, CMR, F or S	95.0	PP, EP, EX, TOX, A	22, 23, 27, 302, 304
1992	FLAMMABLE LIQUID, TOXIC, N.O.S. (85 °C < boiling point =< 115 °C)	3	FT1	III	3, 6.1, N1, N2, N3, CMR, F or S	95.0	PP, EP, EX, TOX, A	27, 302, 304
1992	FLAMMABLE LIQUID, TOXIC, N.O.S.(boiling point > 115°C)	3	FT1	III	3, 6.1, N1, N2, N3, CMR, F or S	95.0	PP, EP, EX, TOX, A	22, 27, 302, 304
1992	FLAMMABLE LIQUID, TOXIC, N.O.S. (Flash point < 23°C with 60 °C < boiling point =< 85 °C)	3	FT1	I	3, 6.1, N1, N2, N3, CMR, F or S	95.0	PP, EP, EX, TOX, A	22, 23, 27, 302, 304
1992	FLAMMABLE LIQUID, TOXIC, N.O.S. (Flash point < 23°C with 85 °C < boiling point =< 115 °C)	3	FT1	I	3, 6.1, N1, N2, N3, CMR, F or S	95.0	PP, EP, EX, TOX, A	22, 27, 302, 304
1992	FLAMMABLE LIQUID, TOXIC, N.O.S. (Flash point < 23°C with boiling point > 115°C)	3	FT1	I	3, 6.1, N1, N2, N3, CMR, F or S	95.0	PP, EP, EX, TOX	22, 27, 302, 304
1993	FLAMMABLE LIQUID, N.O.S. WITH MORE THAN 10% BENZENE 60 °C < INITIAL BOILING POINT =< 85 °C	3	F1	II	3 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	23, 38, 302, 304
1993	FLAMMABLE LIQUID, N.O.S. WITH MORE THAN 10% BENZENE 85 °C < INITIAL BOILING POINT =< 115 °C	3	F1	II	3 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	302, 304
1993	FLAMMABLE LIQUID, N.O.S. WITH MORE THAN 10% BENZENE INITIAL BOILING POINT > 115 °C	3	F1	II	3 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	302, 304
1993	FLAMMABLE LIQUID, N.O.S.(Flash point >= 23°C but <= 60 °C)	3	F1	III	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 302, 304
1993	FLAMMABLE LIQUID, N.O.S. WITH MORE THAN 10% BENZENE 60 °C < INITIAL BOILING POINT =< 85 °C	3	F1	III	3 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	23, 38, 302, 304

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
1993	FLAMMABLE LIQUID, N.O.S. WITH MORE THAN 10% BENZENE 85 °C < INITIAL BOILING POINT =< 115 °C	3	F1	III	3 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	302, 304
1993	FLAMMABLE LIQUID, N.O.S. WITH MORE THAN 10% BENZENE INITIAL BOILING POINT > 115 °C	3	F1	III	3 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	302, 304
1993	FLAMMABLE LIQUID, N.O.S. (CYCLOHEXANONE/CYCLOHEXANOL MIXTURE)	3	F1	III	3, F	97.0	PP, EP, EX, TOX, A	302
1993	FLAMMABLE LIQUID, N.O.S.(Flash point < 23°C with 110 kPa<=vP50<175 kPa)	3	F1	I	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 302, 304
1993	FLAMMABLE LIQUID, N.O.S.(Flash point < 23°C with 110 kPa<=vP50<175 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 302, 304
1993	FLAMMABLE LIQUID, N.O.S.(Flash point < 23°C with 110 kPa<=vP50<150 kPa)	3	F1	I	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 302, 304
1993	FLAMMABLE LIQUID, N.O.S.(Flash point < 23°C with 110 kPa<=vP50<150 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 302, 304
1993	FLAMMABLE LIQUID, N.O.S.(Flash point < 23°C with vP50<110 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 302, 304
1993	FLAMMABLE LIQUID, N.O.S.(Flash point < 23°C with vP50<110 kPa)	3	F1	I	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 302, 304
1993	FLAMMABLE LIQUID, N.O.S. WITH MORE THAN 10% BENZENE (Flash point < 23°C with 60 °C < BOILING POINT =< 85 °C)	3	F1	I	3 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	22, 23, 27, 302, 304
1993	FLAMMABLE LIQUID, N.O.S. WITH MORE THAN 10% BENZENE (Flash point < 23°C with 60 °C < BOILING POINT =< 85 °C)	3	F1	II	3 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	22, 23, 27, 302, 304
1993	FLAMMABLE LIQUID, N.O.S. WITH MORE THAN 10% BENZENE (60 °C < BOILING POINT =< 85 °C)	3	F1	III	3 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	22, 23, 27, 302, 304
1993	FLAMMABLE LIQUID, N.O.S. WITH MORE THAN 10% BENZENE (Flash point < 23°C with 85 °C < BOILING POINT =< 115 °C)	3	F1	I	3 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	22, 27, 302, 304
1993	FLAMMABLE LIQUID, N.O.S. WITH MORE THAN 10% BENZENE (Flash point < 23°C with 85 °C < BOILING POINT =< 115 °C)	3	F1	II	3 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	22, 27, 302, 304
1993	FLAMMABLE LIQUID, N.O.S. WITH MORE THAN 10% BENZENE (85 °C < BOILING POINT =< 115 °C)	3	F1	III	3 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	22, 27, 302, 304

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
1993	FLAMMABLE LIQUID, N.O.S. WITH MORE THAN 10% BENZENE (Flash point < 23°C with BOILING POINT > 115 °C)	3	F1	I	3 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	22, 27, 302, 304
1993	FLAMMABLE LIQUID, N.O.S. WITH MORE THAN 10% BENZENE (Flash point < 23°C with BOILING POINT > 115 °C)	3	F1	II	3 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	22, 27, 302, 304
1993	FLAMMABLE LIQUID, N.O.S. WITH MORE THAN 10% BENZENE (BOILING POINT > 115 °C)	3	F1	III	3 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	22, 27, 302, 304
1993	FLAMMABLE LIQUID, N.O.S. WITH MORE THAN 10% BENZENE (According ADN 3.2.3.3 – Scheme A – Criteria for cargo tank equipment in vessels of Type C)	3	F1	I	3 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	22, 23, 27, 98, 302, 304
1993	FLAMMABLE LIQUID, N.O.S. WITH MORE THAN 10% BENZENE (According ADN 3.2.3.3 – Scheme A – Criteria for cargo tank equipment in vessels of Type C)	3	F1	II	3 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	22, 23, 27, 98, 302, 304
1999	TARS, LIQUID, including road oils and cutback bitumens	3	F1	III	3, S	97.0	PP, EX, A	301
2021	CHLOROPHENOLS, LIQUID (2-CHLOROPHENOL)	6.1	T1	III	6.1, N2	95.0	PP, EP, EX, TOX, A	6: +10°C, 17, 301, 303
2022	CRESILIC ACID	6.1	TC1	II	3, 6.1, 8, S	95.0	PP, EP, EX, TOX, A	6: +16°C, 17, 301
2023	EPICHLORHYDRIN	6.1	TF1	II	3, 6.1, N3	95.0	PP, EP, EX, TOX, A	5, 301, 304
2031	NITRIC ACID, other than red fuming, with not more than 65% acid	8	CO1	II	8, N3	97.0	PP, EP	34, 301
2031	NITRIC ACID, other than red fuming with more than 65% acid but not more than 70% acid	8	CO1	II	8, N3	97.0	PP, EP	34, 301, 304
2045	ISOBUTYRALDEHYDE (ISOBUTYL ALDEHYDE)	3	F1	II	3, N3	95.0	PP, EX, A	15, 23, 301
2046	CYMENES	3	F1	III	3, N2, F	97.0	PP, EX, A	
2047	DICHLOROPROPENES (2,3-DICHLOROPROP-1-ENE)	3	F1	II	3, N2, CMR	95.0	PP, EP, EX, TOX, A	301, 303
2047	DICHLOROPROPENES (MIXTURES OF 2,3-DICHLOROPROP-1-ENE AND 1,3-DICHLOROPROP-1-ENE)	3	F1	II	3, N1, N2, CMR	95.0	PP, EP, EX, TOX, A	301, 303
2047	DICHLOROPROPENES (MIXTURES OF 2,3-DICHLOROPROP-1-ENE AND 1,3-DICHLOROPROP-1-ENE)	3	F1	III	3, N1, N2, CMR	95.0	PP, EP, EX, TOX, A	301, 303
2047	DICHLOROPROPENES (1,3-DICHLOROPROP-1-ENE)	3	F1	III	3, N1, N2, CMR	95.0	PP, EP, EX, TOX, A	301, 303
2048	DICYCLOPENTADIENE	3	F1	III	3, N2, F	95.0	PP, EX, A	7, 17

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
2050	DIISOBUTYLENE, ISOMERIC COMPOUNDS	3	F1	II	3, N2, F	97.0	PP, EX, A	
2051	2-DIMETHYLAMINOETHANOL	8	CF1	II	3, 8, N3	97.0	PP, EP, EX, A	34, 301
2053	METHYL ISOBUTIL CARBINOL	3	F1	III	3	97.0	PP, EX, A	301
2054	MORPHOLINE	8	CF1	I	3, 8, N3	97.0	PP, EP, EX, A	34
2055	STYRENE MONOMER, STABILIZED	3	F1	III	3, unst., N3	97.0	PP, EX, A	3, 5, 16, 301, 303
2056	TETRAHYDROFURAN	3	F1	II	3	97.0	PP, EX, A	
2057	TRIPROPYLENE	3	F1	III	3, N1	95.0	PP, EX, A	
2057	TRIPROPYLENE	3	F1	II	3, N1	95.0	PP, EX, A	
2078	TOLUENE DIISOCYANATE (and isomeric mixtures)(2,4-TOLUENE DIISOCYANATE)	6.1	T1	II	6.1, N2, S	95.0	PP, EP, EX, TOX, A	2, 7, 8, 17, 301, 303
2079	DIETHYLENETRIAMINE	8	C7	II	8, N3	97.0	PP, EP	34, 301
2205	ADIPONITRILE	6.1	T1	III	6.1	95.0	PP, EP, EX, TOX, A	6, 17
2206	ISOCYANATES, TOXIC, N.O.S. (4-CHLOROPHENYL ISOCYANATE)	6.1	T1	II	6.1, S	95.0	PP, EP, TOX, A	7, 17, 301, 303
2209	FORMALDEHYDE SOLUTION with not less than 25% formaldehyde	8	C9	III	8, N3	97.0	PP, EP	15, 34, 301
2215	MALEIC ANHYDRIDE, MOLTEN	8	C3	III	8, N3	95.0	PP, EP, EX, A	7, 17, 34, 301
2218	ACRYLIC ACID, STABILIZED	8	CF1	II	3, 8, unst., N1	95.0	PP, EP, EX, A	3, 4, 5, 17, 301, 303
2227	n-BUTYL METHACRYLATE, STABILIZED	3	F1	III	3, unst., N3, F	95.0	PP, EX, A	3, 5, 301, 303
2238	CHLOROTOLUENES (m-CHLOROTOLUENE)	3	F1	III	3, N2, S	95.0	PP, EX, A	301, 303
2238	CHLOROTOLUENES (o-CHLOROTOLUENE)	3	F1	III	3, N2, S	95.0	PP, EX, A	301, 303
2238	CHLOROTOLUENES (p-CHLOROTOLUENE)	3	F1	III	3, N2, S	95.0	PP, EX, A	6: +11°C, 17, 301, 303
2241	CYCLOHEPTANE	3	F1	II	3, N2	97.0	PP, EX, A	
2247	n-DECANE	3	F1	III	3, F	95.0	PP, EX, A	
2248	DI-n-BUTYLAMINE	8	CF1	II	3, 8, N3	97.0	PP, EP, EX, A	34, 301
2259	TRIETHYLENETETRAMINE	8	C7	II	8, N2	97.0	PP, EP, EX, A	6: 16 °C, 34, 301
2263	DIMETHYLCYCLOHEXANES (trans-1,4-DIMETHYLCYCLOHEXANES)	3	F1	II	3	95.0	PP, EX, A	
2263	DIMETHYLCYCLOHEXANES (cis-1,4-DIMETHYLCYCLOHEXANES)	3	F1	II	3	95.0	PP, EX, A	

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
2264	N,N-DIMETHYLCYCLOHEXYLAMINE	8	CF1	II	3, 8, N2	97.0	PP, EP, EX, A	34
2265	N,N-DIMETHYLFORMAMIDE	3	F1	III	3, CMR	97.0	PP, EP, EX, TOX, A	
2266	DIMETHYL-N-PROPYLAMINE	3	FC	II	3, 8	95.0	PP, EP, EX, A	23, 301
2276	2-ETHYLHEXYLAMINE	3	FC	III	3, 8, N3	97.0	PP, EP, EX, A	34, 301
2278	n-HEPTENE	3	F1	II	3, N3	97.0	PP, EX, A	
2280	HEXAMETHYLENEDIAMINE, SOLID, MOLTEN	8	C8	III	8, N3	95.0	PP, EP, EX, A	7, 17, 34, 301
2280	HEXAMETHYLENEDIAMINE, SOLID, MOLTEN	8	C8	III	8, N3	95.0	PP, EP	7, 17, 20: +66°C, 34, 301
2282	HEXANOLS	3	F1	III	3, N3	97.0	PP, EX, A	301
2286	PENTAMETHYLHEPTANE	3	F1	III	3, F	97.0	PP, EX, A	
2288	ISOHEXENES	3	F1	II	3, unst., N3	95.0	PP, EX, A	3, 23
2289	ISOPHORONEDIAMINE	8	C7	III	8, N2	97.0	PP, EP, EX, A	6, 17, 34, 301
2302	5-METHYLHEXAN-2-ONE	3	F1	III	3	97.0	PP, EX, A	
2303	ISOPROPENYLBENZENE	3	F1	III	3, N2, F	97.0	PP, EX, A	301, 303
2309	OCTADIENE (1,7-OCTANDIENE)	3	F1	II	3, N2	97.0	PP, EX, A	
2311	PHENETIDINES	6.1	T1	III	6.1	95.0	PP, EP, TOX, A	6: +7°C, 17
2312	PHENOL, MOLTEN	6.1	T1	II	6.1, N3, S	95.0	PP, EP, EX, TOX, A	7, 17, 301
2312	PHENOL, MOLTEN	6.1	T1	II	6.1, N3, S	95.0	PP, EP, TOX, A	7, 17, 20: +67°C, 301
2320	TETRAETHYLENEPENTAMINE	8	C7	III	8, N2	97.0	PP, EP	34, 301
2323	TRIETHYL PHOSPHITE	3	F1	III	3	97.0	PP, EX, A	301
2324	TRIISOBUTYLENE	3	F1	III	3, N1, F	95.0	PP, EX, A	
2325	1,3,5-TRIMETHYLBENZENE	3	F1	III	3, N1	95.0	PP, EX, A	
2333	ALLYL ACETATE	3	FT1	II	3, 6.1	95.0	PP, EP, EX, TOX, A	301
2348	BUTYL ACRYLATES, STABILIZED (n-BUTYLACRYLATE, STABILIZED)	3	F1	III	3, unst., N3	95.0	PP, EX, A	3, 5, 301, 303
2350	BUTYL METHYL ETHER	3	F1	II	3	97.0	PP, EX, A	
2356	2-CHLOROPROPANE	3	F1	I	3	95.0	PP, EX, A	23, 301, 303
2357	CYCLOHEXYLAMINE	8	CF1	II	3, 8, N3	97.0	PP, EP, EX, A	34

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
2362	1,1-DICHLOROETHANE	3	F1	II	3, N2	95.0	PP, EX, A	23, 301, 303
2370	1-HEXENE	3	F1	II	3, N3	97.0	PP, EX, A	
2381	DIMÉTHYL DISULPHIDE	3	FT1	II	3, 6.1	95.0	PP, EP, EX, TOX, A	301
2382	DIMETHYLHYDRAZINE, SYMMETRICAL	6.1	TF1	I	3, 6.1, CMR	95.0	PP, EP, EX, TOX, A	
2383	DIPROPYLAMINE	3	FC	II	3, 8, N3	95.0	PP, EP, EX, A	301
2397	3-METHYLBUTAN-2-ONE	3	F1	II	3	97.0	PP, EX, A	
2398	METHYL tert-BUTYL ETHER	3	F1	II	3	97.0	PP, EX, A	
2404	PROPIONITRILE	3	FT1	II	3, 6.1	95.0	PP, EP, EX, TOX, A	
2414	THIOPHENE	3	F1	II	3, N3, S	97.0	PP, EX, A	
2430	ALKYLPHENOLS, SOLID, N.O.S. (NONYLPHENOL, ISOMERIC MIXTURE, MOLTEN)	8	C4	II	8, N1, F	95.0	PP, EP	7, 17, 20: +125°C, 301
2432	N,N-DIETHYLANILINE	6.1	T1	III	6.1, N2	95.0	PP, EP, TOX, A	301
2458	HEXADIENES	3	F1	II	3, N3	97.0	PP, EX, A	
2477	METHYL ISOTHIOCYANATE	6.1	TF1	I	3, 6.1, N1	95.0	PP, EP, EX, TOX, A	7, 17, 301, 303
2485	n-BUTYL ISOCYANATE	6.1	TF1	I	3, 6.1	95.0	PP, EP, EX, TOX, A	301, 303
2486	ISOBUTYL ISOCYANATE	6.1	TF1	I	3, 6.1	95.0	PP, EP, EX, TOX, A	301, 303
2487	PHENYL ISOCYANATE	6.1	TF1	I	3, 6.1	95.0	PP, EP, EX, TOX, A	301, 303
2490	DICHLOROISOPROPYL ETHER	6.1	T1	II	6.1	95.0	PP, EP, TOX, A	301, 303
2491	ETHANOLAMINE or ETHANOLAMINE SOLUTION	8	C7	III	8, N3	97.0	PP, EP, EX, A	6: +14°C, 17, 34, 301
2493	HEXAMETHYLENEIMINE	3	FC	II	3, 8, N3	97.0	PP, EP, EX, A	34, 301
2496	PROPIONIC ANHYDRIDE	8	C3	III	8, N3	97.0	PP, EP	34, 301
2518	1,5,9-CYCLODODECATRIENE	6.1	T1	III	6.1, F	95.0	PP, EP, TOX, A	301, 303
2527	ISOBUTYL ACRYLATE, STABILIZED	3	F1	III	3, unst.	95.0	PP, EX, A	3, 5, 301, 303
2528	ISOBUTYL ISOBUTYRATE	3	F1	III	3, N3	97.0	PP, EX, A	
2531	METHACRYLIC ACID, STABILIZED	8	C3	II	8, unst., N3	95.0	PP, EP, EX, A	3, 4, 5, 17, 301, 303
2574	TRICRESYL PHOSHATE with more than 3% ortho isomer	6.1	T1	II	6.1, N1, S	95.0	PP, EP, TOX, A	301

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
2579	PIPERAZINE, MOLTEN	8	C8	III	8, N2	95.0	PP, EP	7, 17, 34, 302
2586	ALKYLSULFONIC ACIDS, LIQUID or ARSULFONIC ACID, LIQUID with not more than 5% free sulphuric acid	8	C3	III	8	97.0	PP, EP	34, 301
2608	NITROPROPANES	3	F1	III	3	97.0	PP, EX, A	
2615	ETHYL PROPYL ETHER	3	F1	II	3	97.0	PP, EX, A	
2618	VINYLTOLUENES, STABILIZED	3	F1	III	3, unst., N2, F	95.0	PP, EX, A	3, 5, 301, 303
2651	4,4'-DIAMINODIPHENYLMETHANE	6.1	T2	III	6.1, N2, CMR, S	95.0	PP, EP, TOX, A	7, 17, 301, 304
2672	AMMONIA SOLUTION, relative density between 0.880 and 0.957 at 15 °C in water with more than 10% but not more than 35% ammonia (more than 25% but not more than 35% ammonia)	8	C5	III	8, N3	95.0	PP, EP	34
2683	AMMONIUM SULPHIDE SOLUTION	8	CFT	II	3, 6.1, 8	95.0	PP, EP, EX, TOX, A	15, 16, 301
2693	BISULPHITES, AQUEOUS SOLUTION, N.O.S.	8	C1	III	8	97.0	PP, EP	27, 34, 302, 304
2709	BUTYLBENZENES	3	F1	III	3, N1, F	97.0	PP, EX, A	
2709	BUTYLBENZENES (n-BUTYLBENZENE)	3	F1	III	3, N1, F	97.0	PP, EX, A	41
2733	AMINES, FLAMMABLE, CORROSIVE, N.O.S. or POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S. (2-AMINOBUTANE)	3	FC	II	3, 8, N1	95.0	PP, EP, EX, A	23, 301
2735	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.(vP50 > 12,5 kPa)	8	C7	I	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 301
2735	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.(vP50 > 6,0 kPa)	8	C7	III	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 301
2735	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.(vP50 > 12,5 kPa)	8	C7	II	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 301
2735	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.(vP50 <= 12,5 kPa)	8	C7	I	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 301
2735	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.(vP50 <= 12,5 kPa)	8	C7	II	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 301
2735	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.	8	C7	III	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 301

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
2754	N-ETHYLTOLUIDINES (N-ETHYL-o-TOLUIDINE)	6.1	T1	II	6.1, F	95.0	PP, EP, TOX, A	301
2754	N-ETHYLTOLUIDINESS (N-ETHYL-m-TOLUIDINE)	6.1	T1	II	6.1, F	95.0	PP, EP, TOX, A	301
2754	N-ETHYLTOLUIDINES (N-ETHYL-o-TOLUIDINE and N-ETHYL-m-TOLUIDINE MIXTURES)	6.1	T1	II	6.1, F	95.0	PP, EP, TOX, A	301
2754	N-ETHYLTOLUIDINESS (N-ETHYL-p-TOLUIDINE)	6.1	T1	II	6.1, F	95.0	PP, EP, TOX, A	7, 17, 301
2785	4-THIAPENTANAL (3-MÉTHYLMERCAPTOPROPIONALDÉHYDE)	6.1	T1	III	6.1	95.0	PP, EP, TOX, A	
2789	ACETIC ACID, GLACIAL or ACETIC ACID SOLUTION, more than 80% acid, by mass	8	CF1	II	3, 8	95.0	PP, EP, EX, A	7, 17, 34, 301
2790	ACETIC ACID SOLUTION, not less than 50% but not more than 80% acid, by mass	8	C3	II	8	97.0	PP, EP	34, 301
2790	ACETIC ACID SOLUTION, more than 10% and less than 50% acid, by mass	8	C3	III	8	97.0	PP, EP	34, 301
2810	TOXIC LIQUID, ORGANIC, N.O.S. 60 °C < boiling point =< 85 °C	6.1	T1	I	6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, TOX, A	22, 23, 27, 302, 304
2810	TOXIC LIQUID, ORGANIC, N.O.S. 85 °C < boiling point =< 115 °C	6.1	T1	I	6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, TOX, A	22, 27, 302, 304
2810	TOXIC LIQUID, ORGANIC, N.O.S. boiling point > 115 °C	6.1	T1	I	6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, TOX, A	22, 27, 302, 304
2810	TOXIC LIQUID, ORGANIC, N.O.S. 60 °C < boiling point =< 85 °C	6.1	T1	II	6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, TOX, A	22, 23, 27, 302, 304
2810	TOXIC LIQUID, ORGANIC, N.O.S. 85 °C < boiling point =< 115 °C	6.1	T1	II	6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, TOX, A	22, 27, 302, 304
2810	TOXIC LIQUID, ORGANIC, N.O.S. boiling point > 115 °C	6.1	T1	II	6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, TOX, A	22, 27, 302, 304
2810	TOXIC LIQUID, ORGANIC, N.O.S. 60 °C < boiling point =< 85 °C	6.1	T1	III	6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, TOX, A	22, 23, 27, 302, 304
2810	TOXIC LIQUID, ORGANIC, N.O.S 85 °C < boiling point =< 115 °C	6.1	T1	III	6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, TOX, A	22, 27, 302, 304

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
2810	TOXIC LIQUID, ORGANIC, N.O.S. boiling point > 115 °C	6.1	T1	III	6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, TOX, A	22, 27, 302, 304
2815	N-AMINOETHYLPIPERAZINE	8	C7	III	8, N2	97.0	PP, EP	34, 301
2820	BUTYRIC ACID	8	C3	III	8, N3	97.0	PP, EP	34
2829	CAPROIC ACID	8	C3	III	8, N3	97.0	PP, EP	34
2831	1,1,1-TRICHLOROETHANE	6.1	T1	III	6.1, N2	95.0	PP, EP, TOX, A	23, 301, 303
2850	PROPYLENE TETRAMER	3	F1	III	3, N1, F	97.0	PP	
2874	FURFURYL ALCOHOL	6.1	T1	III	6.1, N3	95.0	PP, EP, TOX, A	301
2904	PHENOLATES, LIQUID	8	C9	III	8	97.0	PP, EP	34, 301
2920	CORROSIVE LIQUID, FLAMMABLE, N.O.S. (AQUEOUS SOLUTION OF HEXADECYLTRIMETHYLAMMONIUM CHLORIDE (50%) and ETHANOL (35%)	8	CF1	II	3, 8, F	95.0	PP, EP, EX, A	6: +7°C, 17, 34, 302, 304
2922	CORROSIVE LIQUID, TOXIC, N.O.S. 60 °C < boiling point =< 85 °C	8	CT1	I	6.1, 8, N1, N2, N3, CMR, F or S	95.0	PP, EP, TOX, A	22, 23, 27, 302, 304
2922	CORROSIVE LIQUID, TOXIC, N.O.S. 85 °C < boiling point =< 115 °C	8	CT1	I	6.1, 8, N1, N2, N3, CMR, F or S	95.0	PP, EP, TOX, A	22, 27, 302, 304
2922	CORROSIVE LIQUID, TOXIC, N.O.S. boiling point > 115 °C	8	CT1	I	6.1, 8, N1, N2, N3, CMR, F or S	95.0	PP, EP, TOX, A	22, 27, 302, 304
2922	CORROSIVE LIQUID, TOXIC, N.O.S. 60 °C < boiling point =< 85 °C	8	CT1	II	6.1, 8, N1, N2, N3, CMR, F or S	95.0	PP, EP, TOX, A	22, 23, 27, 302, 304
2922	CORROSIVE LIQUID, TOXIC, N.O.S. 85 °C < boiling point =< 115 °C	8	CT1	II	6.1, 8, N1, N2, N3, CMR, F or S	95.0	PP, EP, TOX, A	22, 27, 302, 304
2922	CORROSIVE LIQUID, TOXIC, N.O.S. boiling point > 115 °C	8	CT1	II	6.1, 8, N1, N2, N3, CMR, F or S	95.0	PP, EP, TOX, A	22, 27, 302, 304
2922	CORROSIVE LIQUID, TOXIC, N.O.S. 60 °C < boiling point =< 85 °C	8	CT1	III	6.1, 8, N1, N2, N3, CMR, F or S	95.0	PP, EP, TOX, A	22, 23, 27, 302, 304
2922	CORROSIVE LIQUID, TOXIC, N.O.S. 85 °C < boiling point =< 115 °C	8	CT1	III	6.1, 8, N1, N2, N3, CMR, F or S	95.0	PP, EP, TOX, A	22, 27, 302, 304
2922	CORROSIVE LIQUID, TOXIC, N.O.S. boiling point > 115 °C	8	CT1	III	6.1, 8, N1, N2, N3, CMR, F or S	95.0	PP, EP, TOX, A	22, 27, 302, 304

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
2924	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Flash point < 23°C with 60 °C < boiling point =< 85 °C)	3	FC	II	3, 8, N1, N2, N3, CMR, F or S	95.0	PP, EP, EX, TOX, A	22, 23, 27, 302, 304
2924	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Flash point < 23°C with 85 °C < boiling point =< 115 °C)	3	FC	II	3, 8, N1, N2, N3, CMR, F or S	95.0	PP, EP, EX, TOX, A	22, 27, 302, 304
2924	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Flash point < 23°C with boiling point > 115°C)	3	FC	II	3, 8, N1, N2, N3, CMR, F or S	95.0	PP, EP, EX, TOX, A	22, 27, 302, 304
2924	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Flash point >= 23°C but <= 60°C)	3	FC	III	3, 8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, EX, TOX, A	22, 27, 34, 302, 304
2924	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (AQUEOUS SOLUTION OF DIALKYL-(C8-C18)-DIMETHYLAMMONIUM CHLORIDE and 2-PROPANOL)	3	FC	II	3, 8, F	95.0	PP, EP, EX, A	302, 304
2924	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Flash point < 23°C with boiling point > 115°C)	3	FC	I	3, 8, N1, N2, N3, CMR, F or S	95.0	PP, EP, EX, TOX, A	22, 27, 302, 304
2924	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Flash point < 23°C with 85 °C < boiling point =< 115 °C)	3	FC	I	3, 8, N1, N2, N3, CMR, F or S	95.0	PP, EP, EX, TOX, A	22, 27, 302, 304
2924	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Flash point < 23°C with 60 °C < boiling point =< 85 °C)	3	FC	I	3, 8, N1, N2, N3, CMR, F or S	95.0	PP, EP, EX, TOX, A	22, 23, 27, 302, 304
2927	TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. 60 °C < boiling point =< 85 °C	6.1	TC1	I	6.1, 8, N1, N2, N3, CMR, F or S	95.0	PP, EP, TOX, A	22, 23, 27, 302, 304
2927	TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. 85 °C < boiling point =< 115 °C	6.1	TC1	I	6.1, 8, N1, N2, N3, CMR, F or S	95.0	PP, EP, TOX, A	22, 27, 302, 304
2927	TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. boiling point > 115 °C	6.1	TC1	I	6.1, 8, N1, N2, N3, CMR, F or S	95.0	PP, EP, TOX, A	22, 27, 302, 304
2927	TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. 60 °C < boiling point =< 85 °C	6.1	TC1	II	6.1, 8, N1, N2, N3, CMR, F or S	95.0	PP, EP, TOX, A	22, 23, 27, 302, 304
2927	TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. 85 °C < boiling point =< 115 °C	6.1	TC1	II	6.1, 8, N1, N2, N3, CMR, F or S	95.0	PP, EP, TOX, A	22, 27, 302, 304
2927	TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. boiling point > 115 °C	6.1	TC1	II	6.1, 8, N1, N2, N3, CMR, F or S	95.0	PP, EP, TOX, A	22, 27, 302, 304
2929	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. (Flash point < 23°C with 60 °C < boiling point =< 85 °C)	6.1	TF1	I	3, 6.1, N1, N2, N3, CMR, F or S	95.0	PP, EP, EX, TOX, A	22, 23, 27, 302, 304

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
2929	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. (Flash point < 23°C with boiling point > 115°C)	6.1	TF1	I	3, 6.1, N1, N2, N3, CMR, F or S	95.0	PP, EP, EX, TOX, A	22, 27, 302, 304
2929	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. (Flash point < 23°C with 60 °C < boiling point =< 85 °C)	6.1	TF1	II	3, 6.1, N1, N2, N3, CMR, F or S	95.0	PP, EP, EX, TOX, A	22, 23, 27, 302, 304
2929	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. (Flash point < 23°C with 85 °C < boiling point =< 115 °C)	6.1	TF1	II	3, 6.1, N1, N2, N3, CMR, F or S	95.0	PP, EP, EX, TOX, A	22, 27, 302, 304
2929	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. (Flash point < 23°C with boiling point > 115°C)	6.1	TF1	II	3, 6.1, N1, N2, N3, CMR, F or S	95.0	PP, EP, EX, TOX, A	22, 27, 302, 304
2929	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. (Flash point < 23°C with 85 °C < boiling point =< 115 °C)	6.1	TF1	I	3, 6.1, N1, N2, N3, CMR, F or S	95.0	PP, EP, EX, TOX, A	22, 27, 302, 304
2966	THIOGLYCOL	6.1	T1	II	6.1	95.0	PP, EP, TOX, A	
3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., MOLTEN, (ALKYLAMINE (C12 to C18))	9	M7	III	9, F	95.0	PP	7, 17, 302, 304
3079	METHACRYLONITRILE, STABILIZED	6.1	TF1	I	3, 6.1, unst., N3	95.0	PP, EP, EX, TOX, A	3, 5, 301, 303
3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	9	M6	III	9 + (N1, N2, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 302, 304
3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BILGE WATER FREE OF SLUDGE)	9	M6	III	9, N2, F	97.0	PP	302, 304
3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE; LIQUID, N.O.S. (HEAVY HEATING OIL)	9	M6	III	9, CMR + (N1, N2, F or S)	97.0	PP	302, 304
3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BILGE WATER CONTAINS SLUDGE)	9	M6	III	9, N1, CMR	97.0	PP, EP, TOX, A	45, 302, 304
3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (OIL SLUDGE)	9	M6	III	9, N1, CMR	97.0	PP, EP, TOX, A	45, 302, 304
3092	1-METHOXY-2-PROPANOL	3	F1	III	3	97.0	PP, EX, A	
3145	ALKYLPHENOLS, LIQUID, N.O.S. (including C2-C12 homologues)	8	C3	II	8, N3	97.0	PP, EP	27, 34
3145	ALKYLPHENOLS, LIQUID, N.O.S. (including C2-C12 homologues)	8	C3	III	8, N3	97.0	PP, EP	27, 34
3175	SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S., MOLTEN, having a flash-point up to 60°C (2-PROPANOL and DIALKYL-(C12 TO C18)-DIMETHYLAMMONIUM CHLORIDE)	4.1	F1	II	4.1	95.0	PP, EX, A	7, 17, 302, 304

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
3256	ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. with flash-point above 60°C, at or above its flash-point. (Maximum transport temperature: T <= 80°C)	3	F2	III	3 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, EX, TOX, A	7, 17, 27, 302, 304
3256	ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. with flash-point above 61°C at or above its flash-point (CARBON BLACK REEDSTOCK)(PYROLYSIS OIL)	3	F2	III	3, F	95.0	PP, EX, A	7, 17, 302
3256	ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. with flash-point above 61°C at or above its flash-point (PYROLYSIS OIL A)	3	F2	III	3, F	95.0	PP, EX, A	7, 17, 302
3256	ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. with flash-point above 61 °C at or above its flash-point (RESIDUAL OIL)	3	F2	III	3, F	95.0	PP, EX, A	7, 17, 302
3256	ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. with flash-point above 61°C at or above its flash-point (MIXTURE OF CRUDE NAPHTHALINE)	3	F2	III	3, F	95.0	PP, EX, A	7, 17, 302
3256	ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. with flash-point above 61°C at or above its flash-point (CREOSOTE OIL)	3	F2	III	3, N1, F	95.0	PP, EX, A	7, 17, 302
3259	AMINES, SOLID, CORROSIVE, N.O.S. (MONOALKYL-(C12 TO C18)-AMINE ACETATE, MOLTEN	8	C8	III	8	95.0	PP, EP	7, 17, 34, 302, 304
3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(Melting point > 0°C. transported at elevated temperatures.	8	C1	III	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (AQUEOUS SOLUTION OF PHOSPHORIC ACID and CITRIC ACID)	8	C1	I	8	97.0	PP, EP	34, 302, 304
3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (AQUEOUS SOLUTION OF PHOSPHORIC ACID and CITRIC ACID)	8	C1	II	8	97.0	PP, EP	34, 302, 304
3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (AQUEOUS SOLUTION OF PHOSPHORIC ACID and CITRIC ACID)	8	C1	III	8	97.0	PP, EP	34, 302, 304
3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(with a degree of corrosiveness to steel or aluminium of 6.25 mm/year)	8	C1	III	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(vP50 >= 6 kPa)	8	C1	III	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(vP50 <= 12.5 kPa)	8	C1	I	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(vP50 <= 12.5 kPa)	8	C1	II	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(vP50 > 12.5 kPa)	8	C1	II	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(vP50 > 12.5 kPa)	8	C1	I	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(vP50 <= 12.5 kPa)	8	C3	I	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(vP50 > 12.5 kPa)	8	C3	II	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(Melting point > 0°C. transported at elevated temperatures)	8	C3	III	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(with a degree of corrosiveness to steel or aluminium >= 6.25 mm/year)	8	C3	III	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(vP50 >= 6 kPa)	8	C3	III	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(vP50 > 12.5 kPa)	8	C3	I	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(vP50 <= 12.5 kPa)	8	C3	II	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.(vP50 <= 12,5 kPa)	8	C5	I	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.(vP50 > 12,5 kPa)	8	C5	II	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	27, 34, 302, 304
3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.(vP50 > 12,5 kPa)	8	C5	I	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.(vP50 <= 12,5 kPa)	8	C5	II	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.(vP50 >= 6 kPa)	8	C5	III	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
3267	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.(vP50 > 12,5 kPa)	8	C7	I	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
3267	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.(vP50 <= 12,5 kPa)	8	C7	II	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
3267	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.(vP50 > 12,5 kPa)	8	C7	II	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
3267	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.(vP50 <= 12,5 kPa)	8	C7	I	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
3267	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.(vP50 >= 6 kPa)	8	C7	III	8 + (N1, N2, N3, F or S, CMR)	97.0	PP, EP, TOX, A	22, 27, 34, 302, 304
3271	ETHER, N.O.S.(Flash point < 23°C with vP50<110 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 302
3271	ETHERS, N.O.S. (tert-AMYLMETHYL ETHER)	3	F1	II	3, N1	95.0	PP, EP, EX, TOX, A	302
3271	ETHERS, N.O.S.(Flash point >= 23°C but <= 60°C)	3	F1	III	3 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 302
3271	ETHER, N.O.S.(Flash point < 23°C with 110 kPa<=vP50<150 kPa)	3	F1	II	8 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 302
3271	ETHER, N.O.S.(Flash point < 23°C with 110 kPa<=vP50<175 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 302
3272	ESTERS, N.O.S.(Flash point >= 23°C but <= 60 °C)	3	F1	III	3 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 302
3272	ESTERS, N.O.S.(Flash point < 23°C with 110 kPa<=vP50<175 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 302
3272	ESTERS, N.O.S.(Flash point < 23°C with 110 kPa<=vP50<150 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 302

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
3272	ESTERS, N.O.S.(Flash point < 23°C with vP50<110 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 302
3276	NITRILES, TOXIC, LIQUID, N.O.S. (2-METHYLGLUTARONITRILE)	6.1	T1	II	6.1	97.0	A	
3286	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (Flash point < 23°C with 60 °C < boiling point =< 85 °C)	3	FTC	II	3, 6.1, 8 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, EX, TOX, A	22, 23, 27, 302, 304
3286	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (Flash point < 23°C with 85 °C < boiling point =< 115 °C)	3	FTC	II	3, 6.1, 8 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, EX, TOX, A	22, 27, 302, 304
3286	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (Flash point < 23°C with boiling point > 115°C)	3	FTC	II	3, 6.1, 8 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, EX, TOX, A	22, 27, 302, 304
3286	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (Flash point < 23°C with 60 °C < boiling point =< 85 °C)	3	FTC	I	3, 6.1, 8 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, EX, TOX, A	22, 23, 27, 302, 304
3286	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (Flash point < 23°C with 85 °C < boiling point =< 115 °C)	3	FTC	I	3, 6.1, 8 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, EX, TOX	22, 27, 302, 304
3286	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (Flash point < 23°C with boiling point > 115°C)	3	FTC	I	3, 6.1, 8 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, EX, TOX	22, 27, 302, 304
3287	TOXIC LIQUID, INORGANIC, N.O.S. 60 °C < boiling point =< 85 °C	6.1	T4	I	6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, TOX, A	22, 23, 302, 304
3287	TOXIC LIQUID, INORGANIC, N.O.S. 85 °C < boiling point =< 115 °C	6.1	T4	I	6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, TOX, A	22, 27, 302, 304
3287	TOXIC LIQUID, INORGANIC, N.O.S. boiling point > 115 °C	6.1	T4	I	6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, TOX, A	22, 27, 302, 304
3287	TOXIC LIQUID, INORGANIC, N.O.S. 60 °C < boiling point =< 85 °C	6.1	T4	II	6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, TOX, A	22, 23, 27, 302, 304
3287	TOXIC LIQUID, INORGANIC, N.O.S. 85 °C < boiling point =< 115 °C	6.1	T4	II	6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, TOX, A	22, 27, 302, 304
3287	TOXIC LIQUID, INORGANIC, N.O.S. boiling point > 115 °C	6.1	T4	II	6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, TOX, A	22, 27, 302, 304
3287	TOXIC LIQUID, INORGANIC, N.O.S. 60 °C < boiling point =< 85 °C	6.1	T4	III	6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, TOX, A	22, 23, 27, 302, 304

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
3287	TOXIC LIQUID, INORGANIC, N.O.S. 85 °C < boiling point =< 115 °C	6.1	T4	III	6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, TOX, A	22, 27, 302, 304
3287	TOXIC LIQUID, INORGANIC, N.O.S. boiling point > 115 °C	6.1	T4	III	6.1 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, TOX, A	22, 27, 302, 304
3287	TOXIC LIQUID, INORGANIC, N.O.S. (SODIUM DICHROMATE SOLUTION)	6.1	T4	III	6.1, CMR	95.0	PP, EP, TOX, A	302
3289	TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S. boiling point > 115 °C	6.1	TC3	I	6.1, 8 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, TOX, A	22, 27, 302, 304
3289	TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S. boiling point > 115 °C	6.1	TC3	II	6.1, 8 + (N1, N2, N3, CMR, F or S)	95.0	PP, EP, TOX, A	22, 27, 302, 304
3295	HYDROCARBONS, LIQUID, N.O.S.(Flash point >= 23°C but <= 60 °C)	3	F1	III	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 301
3295	HYDROCARBONS, LIQUID, N.O.S. (1-OCTEN)	3	F1	II	3, N2, F	97.0	PP, EX, A	14, 301
3295	HYDROCARBONS, LIQUID, N.O.S. (POLYCYCLIC AROMATIC HYDROCARBONS MIXTURE)	3	F1	III	3, CMR, F	97.0	PP, EP, EX, TOX, A	14, 301
3295	HYDROCARBONS, LIQUID, N.O.S. WITH MORE THAN 10% BENZENE 60 °C < INITIAL BOILING POINT =< 85 °C	3	F1	II	3, N1, N2, N3, CMR, F	95.0	PP, EP, EX, TOX, A	23, 38, 301
3295	HYDROCARBONS, LIQUID, N.O.S. WITH MORE THAN 10% BENZENE 85 °C < INITIAL BOILING POINT =< 115 °C	3	F1	II	3, N1, N2, N3, CMR, F	95.0	PP, EP, EX, TOX, A	301
3295	HYDROCARBONS, LIQUID, N.O.S. WITH MORE THAN 10% BENZENE INITIAL BOILING POINT > 115°C	3	F1	II	3, N1, N2, N3, CMR, F	95.0	PP, EP, EX, TOX, A	301
3295	HYDROCARBONS, LIQUID, N.O.S. WITH MORE THAN 10% BENZENE 60 °C < INITIAL BOILING POINT =< 85 °C	3	F1	III	3, N1, N2, N3, CMR, F	95.0	PP, EP, EX, TOX, A	23, 38, 301
3295	HYDROCARBONS, LIQUID, N.O.S. WITH MORE THAN 10% BENZENE 85 °C < INITIAL BOILING POINT =< 115 °C	3	F1	III	3, N1, N2, N3, CMR, F	95.0	PP, EP, EX, TOX, A	301
3295	HYDROCARBONS, LIQUID, N.O.S. WITH MORE THAN 10% BENZENE INITIAL BOILING POINT > 115 °C	3	F1	III	3, N1, N2, N3, CMR, F	95.0	PP, EP, EX, TOX, A	301
3295	HYDROCARBONS, LIQUID, N.O.S. CONTAINING ISOPRENE AND PENTADIENE, STABILIZED	3	F1	I	3, unst., N2, CMR	95.0	PP, EX, A	3, 23, 301
3295	HYDROCARBONS, LIQUID, N.O.S.(Flash point < 23°C with 110 kPa<=vP50<175 kPa)	3	F1	I	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 301

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
3295	HYDROCARBONS, LIQUID, N.O.S.(Flash point < 23°C with 110 kPa<=vP50<175 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 301
3295	HYDROCARBONS, LIQUID, N.O.S.(Flash point < 23°C with 110 kPa<=vP50<150 kPa)	3	F1	I	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 301
3295	HYDROCARBONS, LIQUID, N.O.S.(Flash point < 23°C with 110 kPa<=vP50<150 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 301
3295	HYDROCARBONS, LIQUID, N.O.S.(Flash point < 23°C with vP50<110 kPa)	3	F1	II	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 301
3295	HYDROCARBONS, LIQUID, N.O.S.(Flash point < 23°C with vP50<110 kPa)	3	F1	I	3 + (N1, N2, N3, CMR, F)	97.0	PP, EP, EX, TOX, A	14, 22, 27, 301
3295	HYDROCARBONS, LIQUID, N.O.S. WITH MORE THAN 10% BENZENE (Flash point < 23°C with 60°C < BOILING POINT =< 85°C)	3	F1	I	3, N1, N2, N3, CMR	95.0	PP, EP, EX, TOX, A	22, 23, 27, 301
3295	HYDROCARBONS, LIQUID, N.O.S. WITH MORE THAN 10% BENZENE (Flash point < 23°C with 60°C < BOILING POINT =< 85°C)	3	F1	II	3, N1, N2, N3, CMR	95.0	PP, EP, EX, TOX, A	22, 23, 27, 301
3295	HYDROCARBONS, LIQUID, N.O.S. WITH MORE THAN 10% BENZENE (60°C < BOILING POINT =< 85°C)	3	F1	III	3, N1, N2, N3, CMR	95.0	PP, EP, EX, TOX, A	22, 23, 27, 301
3295	HYDROCARBONS, LIQUID, N.O.S. WITH MORE THAN 10% BENZENE (Flash point < 23°C with 85°C < BOILING POINT =< 115°C)	3	F1	I	3, N1, N2, N3, CMR	95.0	PP, EP, EX, TOX, A	22, 27, 301
3295	HYDROCARBONS, LIQUID, N.O.S. WITH MORE THAN 10% BENZENE (Flash point < 23°C with 85°C < BOILING POINT =< 115°C)	3	F1	II	3, N1, N2, N3, CMR	95.0	PP, EP, EX, TOX, A	22, 27, 301
3295	HYDROCARBONS, LIQUID, N.O.S. WITH MORE THAN 10% BENZENE (85°C < BOILING POINT =< 115°C)	3	F1	III	3, N1, N2, N3, CMR	95.0	PP, EP, EX, TOX, A	22, 27, 301
3295	HYDROCARBONS, LIQUID, N.O.S. WITH MORE THAN 10% BENZENE (Flash point < 23°C with BOILING POINT > 115°C)	3	F1	I	3, N1, N2, N3, CMR	95.0	PP, EP, EX, TOX, A	22, 27, 301
3295	HYDROCARBONS, LIQUID, N.O.S. WITH MORE THAN 10% BENZENE (Flash point < 23°C with BOILING POINT > 115°C)	3	F1	II	3, N1, N2, N3, CMR	95.0	PP, EP, EX, TOX, A	22, 27, 301
3295	HYDROCARBONS, LIQUID, N.O.S. WITH MORE THAN 10% BENZENE (BOILING POINT > 115°C)	3	F1	III	3, N1, N2, N3, CMR	95.0	PP, EP, EX, TOX	22, 27, 301

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
3295	HYDROCARBONS, LIQUID, N.O.S. WITH MORE THAN 10% BENZENE (According ADN 3.2.3.3 – Scheme A – Criteria for cargo tank equipment in vessels of Type C)	3	F1	I	3, N1, N2, N3, CMR	95.0	PP, EP, EX, TOX, A	22, 23, 27, 98, 301
3295	HYDROCARBONS, LIQUID, N.O.S. WITH MORE THAN 10% BENZENE (According ADN 3.2.3.3 – Scheme A – Criteria for cargo tank equipment in vessels of Type C)	3	F1	II	3, N1, N2, N3, CMR	95.0	PP, EP, EX, TOX, A	22, 23, 27, 98, 301
3412	FORMIC ACID with not less 10% but not more than 85% acid by mass	8	C3	II	8, N3	97.0	PP, EP	6: +12°C, 17, 34, 301
3412	FORMIC ACID with not less than 5% but less than 10% acid by mass	8	C3	III	8	97.0	PP, EP	6: +12°C, 17, 34, 301
3426	ACRYLAMIDE, SOLUTION	6.1	T1	III	6.1	95.0	PP, EP, TOX, A	3, 5, 16, 301, 303
3429	CHLOROTOLUIDINES, LIQUID	6.1	T1	III	6.1, S	95.0	PP, EP, EX, TOX, A	6: +6 °C, 17, 301, 303
3446	NITROTOLUENES, SOLID, MOLTEN (p-NITROTOLUENE, MOLTEN)	6.1	T2	II	6.1, N2, S	95.0	PP, EP, EX, TOX, A	7, 17
3451	TOLUIDINES, SOLID, MOLTEN (p-TOLUIDINE)	6.1	T2	II	6.1, N1	95.0	PP, EP, EX, TOX, A	7, 17
3451	TOLUIDINES, SOLID, MOLTEN (p-TOLUIDINE)	6.1	T2	II	6.1, N1	95.0	PP, EP, TOX, A	7, 17, 20: + 60 °C
3455	CRESOLS, SOLID, MOLTEN	6.1	TC2	II	6.1, 8, N3	95.0	PP, EP, EX, TOX, A	7, 17, 302
3455	CRESOLS, SOLID, MOLTEN	6.1	TC2	II	6.1, 8, N3	95.0	PP, EP, TOX, A	7, 17, 20: +66 °C, 302
3463	PROPIONIC ACID with not less than 90% acid by mass	8	CF1	II	3, 8, N3	97.0	PP, EP, EX, A	34, 301
3475	ETHANOL AND GASOLINE MIXTURE or ETHANOL AND MOTOR SPIRIT MIXTURE or ETHANOL AND PETROL MIXTURE, with more than 10% but not more than 90% ethanol	3	F1	II	3, N2, CMR, F	97.0	PP, EP, EX, TOX, A	301, 303
3475	ETHANOL AND GASOLINE MIXTURE or ETHANOL AND MOTOR SPIRIT MIXTURE or ETHANOL AND PETROL MIXTURE, with more than 90% ethanol	3	F1	II	3, N2, CMR, F	97.0	PP, EP, EX, TOX, A	301, 303
3494	PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC (Flash point < 23°C with boiling point > 115°C)	3	TF1	I	3, 6.1 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	14, 22, 302, 304

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
3494	PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC (Flash point < 23°C with 60 °C < boiling point =< 85 °C)	3	TF1	I	3, 6.1 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	14, 22, 23, 302, 304
3494	PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC (Flash point < 23°C with 85 °C < boiling point =< 115 °C)	3	TF1	I	3, 6.1 + (N1, N2, N3, F)	95.0	PP, EP, EX, TOX, A	14, 22, 302, 304
3494	PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC (Flash point < 23°C with 60 °C < boiling point =< 85 °C)	3	TF1	II	3, 6.1 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	14, 22, 23, 302, 304
3494	PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC (Flash point < 23°C with 85 °C < boiling point =< 115 °C)	3	TF1	II	3, 6.1 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	14, 22, 302, 304
3494	PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC (Flash point < 23°C with boiling point > 115°C)	3	TF1	II	3, 6.1 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	14, 22, 302, 304
3494	PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC (boiling point > 115°C)	3	TF1	III	3, 6.1 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	14, 22, 302, 304
3494	PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC (0 °C < boiling point =< 85 °C)	3	TF1	III	3, 6.1 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	14, 22, 23, 302, 304
3494	PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC (85 °C < boiling point =< 115 °C)	3	TF1	III	3, 6.1 + (N1, N2, N3, CMR, F)	95.0	PP, EP, EX, TOX, A	14, 22, 302, 304
9001	SUBSTANCE WITH A FLASH-POINT ABOVE 60 °C HEATED within a range of 15 K below the flashpoint	3	F4		3 + (N1, N2, N3, CMR, F or S)	97.0	PP, EP, EX, TOX, A	22, 27, 302, 304
9003	SUBSTANCES WITH A FLASH-POINT ABOVE 60°C BUT NOT MORE THAN 100°C or SUBSTANCES WHERE 60°C <°flash-point =< 100°C, which cannot be classified in other classes (N.O.S.)	9	M12		9 + (N1, N2, N3, CMR, F or S)	97.0	PP	22, 27, 302, 304
9003	SUBSTANCES WITH A FLASH-POINT ABOVE 60°C BUT NOT MORE THAN 100°C or SUBSTANCES WHERE 61°C <°flash-point =< 100°C, which cannot be classified in other classes (ETHYLENE GLYCOL MONOBUTYL ETHER)	9	M12		9, N3, F	97.0	PP	302, 304
9003	SUBSTANCES WITH A FLASH-POINT ABOVE 60°C BUT NOT MORE THAN 100°C or SUBSTANCES WHERE 61°C <°flash-point =< 100°C, which cannot be classified in other classes (2-ETHYLHEXYLACRYLATE)	9	M12		9, N3, F	97.0	PP	3, 5, 16, 302, 304
9004	DIPHENYLMETHANE-4,4'-DIISOCYANATE	9	M12		9, S	95.0	PP	7, 8, 17, 19, 302, 304

UN	Description	Class	Classification code	Packing group	Dangers	%	Equipment	Remarks
9005	ENVIROMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S, MOLTEN (Maximum transport temperature: T <= 80°C)	9	M12		9 + (N2, N3, CMR, F or S)	95.0	PP, EP, TOX, A	7, 22, 27, 200, 302, 304
9006	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Corrosive, Non-flammable substances)	9			9 + (N2, N3, CMR, F or S)	97.0	PP, EP, EX, A	22, 27, 200, 302, 304
9006	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.WITH A FLASH-POINT ABOVE 60°C BUT NOT MORE THAN 100°C	9			9 + (N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 200, 302, 304
9006	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. CMR	9			9 + (N2, N3, CMR, F or S)	97.0	PP, EP, TOX, A	22, 27, 200, 302, 304

Remarks

The following remarks are referened in the column "Remarks" in this list of dangerous goods.

The numbering of the remarks, with numbers below 100, comply with the numbering of the remarks in column 20 of the Product list in Part 3 Table C of the ADN. Only the applicable note(s) to the substances included on the list have been included on the next page(s).

The numbering of the remarks greater or equal to 100 provides details of the material compatibility of the used tank materials in relation to the cargoes to be carried. For this list the recommendations of the “Bundesanstalt für Materialforschung und prüfung” (BAM) in Berlin have been used. The recommendations are based on a maximum average temperature of the tank bulkhead of 30° Celsius. Short periods (during loading) a maximum temperature of 50° Celsius are allowed. The requirements are based on substances which are technically clean and in the conditions normally available. For mixtures, intermediates and waste products the material compatibility is to be specially considered. Substances which are an unstable mixture with water may not contain water.

The responsibility with regard to the suitability of the containment system for the cargo to be carried rests with the owner and/or the master of the ship. The contents of the column “notes” has therefore been provided for information only. Lloyd’s Register has no responsibility with regard to the correctness of the provided data with regard to the material compatibility. Due to the nature of some products, amongst others the so-called n.o.s. (not otherwise specified) positions, no data is available with regard to material compatibility and accordingly no relevant information can be provided for those substances.

Remarks on materials & coatings

n/a

No.	Remark
2	Before loading, air shall be removed and subsequently kept away to a sufficient extent from the cargo tanks and the accessory cargo piping by the means of inert gas (see also 7.2.4.18).
3	Arrangements shall be made to ensure that the cargo is sufficiently stabilized in order to prevent a reaction at any time during carriage. The transport document shall contain the following additional particulars: a) Name and amount of inhibitor added; b) Date on which inhibitor was added and expected duration of effectiveness under normal conditions; c) Any temperature limits having an effect on the inhibitor. When stabilization is ensured solely by blanketing with an inert gas it is sufficient to mention the name of the inert gas used in the transport document. When stabilization is ensured by another measurement, e.g. the special purity of the substance, this measurement shall be mentioned in the transport document.
4	The substance shall not be allowed to solidify; the transport temperature shall be maintained above the melting point. In instances where cargo heating installations are required, they must be so designed that polymerisation through heating is not possible in any part of the cargo tank. Where the temperature of steam-heated coils could give rise to overheating, lower-temperature indirect heating systems shall be provided.
5	This substance is liable to clog the venting piping and its fittings or the fittings of cargo tanks. Careful surveillance should be ensured. If a closed-type tank vessel cargo tank is required for the carriage of this substance and explosion protection is necessary or the substance for which explosion protection is necessary is carried in a closed cargo tank, the cargo tank shall conform to 9.3.2.22.4 or 9.3.3.22.4 or the venting piping shall conform to 9.3.2.22.5 (a) or 9.3.2.22.5 (b) or to 9.3.3.22.5 (a) or 9.3.3.22.5 (b). This requirement does not apply when the cargo tanks and the corresponding piping are inerted in accordance with 7.2.4.18.
6	When external temperatures are below or equal to that indicated in column (20), the substance may only be carried in tank vessels equipped with a possibility of heating the cargo. In addition, in the event of carriage in a closed cargo tank, the venting piping, the safety valves and the flame arresters shall be heatable. The temperature of the venting piping, safety valves and flame arresters shall be kept at least above the melting point of the substance.
7	If a closed cargo tank is required to carry this substance or if the substance is carried in a closed cargo tank, the venting piping, the safety valves and the flame arresters shall be heatable. The temperature of the venting piping, safety valves and flame arresters shall be kept at least above the melting point of the substance.
8	Double-hull spaces, double bottoms and heating coils shall not contain any water.
14	The following substances may not be carried in a type N vessel: -substances with self-ignition temperatures =< 200 °C; -mixtures containing halogenated hydrocarbons; -mixtures containing more than 10 % benzene; -substances and mixtures carried in a stabilized state. Note! This remark does not apply if the substance is carried in a tanker of Type G or Type C.
15	Provision shall be made to ensure that alkaline or acidic substances such as sodium hydroxide solution or sulphuric acid do not contaminate this cargo.

No.	Remark
16	If there is a possibility of a dangerous reaction such as polymerisation, decomposition, thermal instability or evolution of gases resulting from local overheating of the cargo in either the cargo tank or associated piping system, this cargo shall be loaded and carried adequately segregated from other substances the temperature of which is sufficiently high to initiate such reaction. Heating coils inside cargo tanks carrying this substance shall be blanked off or secured by equivalent means.
17	The melting point of the cargo shall be shown in the transport documents.
19	Provision shall be made to ensure that the cargo does not come into contact with water. The following additional requirements apply: Carriage of the cargo is not permitted in cargo tanks adjacent to slop tanks or cargo tanks containing ballast water, slops or any other cargo containing water. Pumps, piping and vent lines connected to such tanks shall be separated from similar equipment of tanks carrying these substances. Pipes from slop tanks or ballast water pipes shall not pass through cargo tanks containing this cargo unless they are encased in a tunnel.
20	The maximum permitted transport temperature given in column (20) shall not be exceeded.
22	The relative density of the cargo shall be shown in the transport document.
23	The instrument for measuring the pressure of the vapour phase in the cargo tank shall activate the alarm when the internal pressure reaches 40 kPa. The water-spray system shall immediately be activated and remain in operation until the internal pressure drops to 30 kPa.
27	The requirements of 3.1.2.8.1 are applicable.
30	When these substances are carried, the hold spaces of open type N tank vessels may contain auxiliary equipment.
34	For type N carriage, the flanges and stuffing boxes of the loading and unloading hoses must be fitted with a protection device to protect against splashing.
38	For an initial boiling point above 60° C and under or equal to 85° C as determined in accordance with ASTMD 86-01, the applicable conditions of transport are identical to those stipulated for an initial boling poin under or equal to 60° C.
41	n-BUTYLBENZENE is assigned to the entry UN No. 2709 BUTYLBENZENES (n-BUTYLBENZENE).
45	When this substance is received from seagoing vessels as waste related to the operation of the vessel, appropriate measures shall be taken on board the vessels to avoid or minimize, to the extent possible, the exposure of personnel on board to gas/air mixtures escaping from the cargo tanks of the receiving vessel during loading and to ensure the protection of personnel on board during such activities. Appropriate personal protective equipment shall be made available to the employees in question and shall be worn for the duration of the increased exposure.
98	Only allowed to be carried with a confirmation that the cargo tank internal pressure at a liquid temperature of 30 °C and gaseous phase temperature of 37.8 °C is less than or equal 50 kPa
200	The applicable requirements for this ship and her outfitting are for the carriage of this substance, depending on the properties of this substance, are to be determined using the flowchart in part 3.2.3 of the ADN regulations. Additional requirements may be applicable.
301	316 L Nr. 1.4401 CrNiMo - This material is compatible with this substance provided that the additional requirements and conditions are complied with. For more details please concult the additional information.

No.	Remark
302	316 L Nr. 1.4401 CrNiMo - For this material no particular data is available with regard to the material compatibility in respect of this substance. The loading of the tanks with this substance rests with the responsible person for loading the ship.
303	EN 1.4462 - This material is compatible with this substance provided that the additional requirements and conditions are complied with. For more details please concult the additional information.
304	EN 1.4462 - For this material no particular data is available with regard to the material compatibility in respect of this substance. The loading of the tanks with this substance rests with the responsible person for loading the ship.

Signed by:

Rotterdam Office
Lloyd's Register EMEA
LR030.2022

K.L. Vinke
Principal Specialist Chemical Tankers

Annex VII

SUBCHAPTER O—CERTAIN BULK DANGEROUS CARGOES

PART 150—COMPATIBILITY OF CARGOES

AUTHORITY: 46 U.S.C. 3306, 3703; Department of Homeland Security Delegation No. 0170.1. Section 150.105 issued under 44 U.S.C. 3507; Department of Homeland Security Delegation No. 0170.1.

SOURCE: CGD 75–59, 45 FR 70263, Oct. 23, 1980, unless otherwise noted.

EDITORIAL NOTE: Nomenclature changes to part 150 appear at 77 FR 59783, Oct. 1, 2012.

§ 150.105 OMB control numbers assigned pursuant to the Paperwork Reduction Act.

(a) *Purpose.* This section collects and displays the control numbers assigned to information collection and recordkeeping requirements in this subchapter by the Office of Management and Budget (OMB) pursuant to the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). The Coast Guard intends that this section comply with the requirements of 44 U.S.C. 3507(f) which requires that agencies display a current control number assigned by the Director of the OMB for each approved agency information collection requirement.

(b) *Display.*

46 CFR part or section where identified or described	Current OMB control No.
§ 150.01 15	1625 0007
§ 153.5	1625 0007
§ 153.905	1625 0094
§ 153.910	1625 0094
§ 153.968	1625 0094
Part 154	1625 0029
§ 154.12	1625 0007

[49 FR 38121, Sept. 27, 1984, as amended by CGD 77–069, 52 FR 31626, Aug. 21, 1987; USCG–2004–18884, 69 FR 58349, Sept. 30, 2004]

§ 150.110 Applicability.

This subpart prescribes rules for identifying incompatible hazardous materials and rules for carrying these materials in bulk as cargo in permanently attached tanks or in tanks that are loaded or discharged while aboard the vessel. The rules apply to all vessels that carry liquid dangerous cargoes in bulk that are subject to 46 U.S.C. Chapter 37.

[CGD 95–028, 62 FR 51209, Sept. 30, 1997]

§ 150.115 Definitions.

As used in this subpart: *Hazardous material* means:

(a) A flammable liquid as defined in § 30.10–22 or a combustible liquid as defined in § 30.10–15 of this chapter;

(b) A material listed in Table 151.05, Table 1 of part 153, or Table 4 of part 154 of this chapter; or

(c) A liquid, liquefied gas, or compressed gas listed in 49 CFR 172.101.

Person in charge means the master of a self-propelled vessel, or the person in charge of a barge.

§ 150.120 Definition of incompatible cargoes.

Except as described in § 150.150, a cargo of hazardous material is incompatible with another cargo listed in Table I if the chemical groups of the two cargoes have an ''X'' where their columns intersect in Figure 1 and are not shown as exceptions in Appendix I. (See also § 150.140.)

[CGD 83–047, 50 FR 33038, Aug. 16, 1985]

§ 150.130 Loading a cargo on vessels carrying cargoes with which it is incompatible.

Except as described in §150.160, the person in charge of a vessel shall ensure that the containment system for a cargo that is a hazardous material meets the following requirements:

(a) The containment system must separate the hazardous material or its residue from any cargo in table I with which it is incompatible by two barriers such as formed by a:

(1) Cofferdam;

(2) Empty tank;

(3) Void space;

(4) Cargo handling space;

(5) Tank containing a compatible cargo; or

(6) Piping tunnel.

(b) In this subpart, isolation across a cruciform joint is equivalent to isolation by two barriers.

(c) The containment system for the hazardous material must not have a piping or venting system that connects to a containment system carrying a cargo with which the hazardous material is incompatible. Any such piping or venting system must have been separated from the containment system carrying the incompatible cargo by:

(1) Removing a valve or spool piece and blanking off the exposed pipe ends, or

(2) Installing two spectacle flanges in series with a means of detecting leakage into the pipe between the spectacle flanges.

§ 150.140 Cargoes not listed in Table I or II.

A cargo of hazardous material not listed in Table I or II must be handled as if incompatible with all other cargoes until the Commandant CG–ENG–5) (Telephone 202–372–1420) assigns the hazardous material to a compatibility group. (Table I lists cargoes alphabetically while Table II lists cargoes by compatibility group).

[CGD 83–047, 50 FR 33038, Aug. 16, 1985, CGD 86–100, 52 FR 21037, June 4, 1987; CGD 95–072, 60 FR 50465, Sept. 29, 19955; CGD 96–041, 61 FR 50731, Sept. 27, 1996; USCG–2006–25697, 71 FR 55746, Sept. 25, 2006]

§ 150.150 Exceptions to the compatibility chart.

The Commandant (CG–ENG–5) authorizes, on a case by case basis, exceptions to the rules in this subpart under the following conditions:

(a) When two cargoes shown to be incompatible in Figure 1 meet the standards for a compatible pair in Appendix III, or

(b) When two cargoes shown to be compatible in Figure 1 meet the standards for an incompatible pair in Appendix III.

Appendix I contains cargoes which have been found to be exceptions to Figure 1, the Compatibility Chart.

[CGD 83–047, 50 FR 33038, Aug. 16, 1985, as amended at CGD 95–072, 60 FR 50465, Sept. 29, 1995; CGD 96–041, 61 FR 50731, Sept. 27, 1996]

§ 150.160 Carrying a cargo as an exception to the compatibility chart.

The Operator of a vessel having on board a cargo carried as an exception under §150.150 but not listed in Appendix I, Exceptions to the Chart, shall make sure that:

(a) The Commandant (CG–ENG–5) has authorized by letter or message the cargo pair as an exception to the compatibility chart; and

(b) A copy of the letter or message is on the vessel.

[CGD 75–59, 45 FR 70263, Oct. 23, 1980, as amended by CGD 82–063b, 48 FR 4781, Feb. 3, 1983; CGD 83–047, 50 FR 33038, Aug. 16, 1985; CGD 95–072, 60 FR 50465, Sept. 29, 19955; CGD 96–041, 61 FR 50731, Sept. 27, 1996]

§ 150.170 Right of appeal.

Any person directly affected by a decision or action taken under this part, by or on behalf of the Coast Guard, may appeal therefrom in accordance with subpart 1.03 of this chapter.

[CGD 88–033, 54 FR 50381, Dec. 6, 1989]

FIGURE 1 TO PART 150—COMPATIBILITY CHART

Figure 1 - Compatibility chart

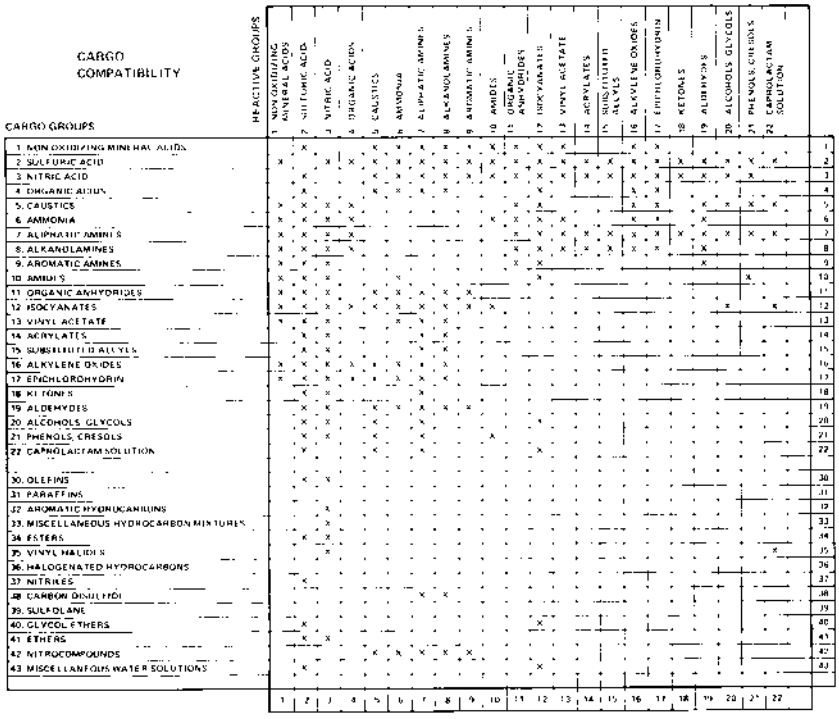

TABLE I TO PART 150—ALPHABETICAL LIST OF CARGOES

Chemical name	Group No.	Footnote	CHRIS Code	Related CHRIS Codes
Acetaldehyde	19	.....	AAD	
Acetic acid	4	2	AAC	
Acetic anhydride	11	.....	ACA	
Acetochlor	10	.....	ACG	
Acetone	18	2	ACT	
Acetone cyanohydrin	0	1, 2	ACY	
Acetonitrile	37	.....	ATN	
Acetophenone	18	.....	ACP	
Acrolein	19	2	ARL	
Acrylamide solution	10	.....	AAM	
Acrylic acid	4	2	ACR	
Acrylonitrile	15	2	ACN	
Acrylonitrile-Styrene copolymer dispersion in Polyether polyol	20	.....	ALE	
Adiponitrile	37	.....	ADN	
Alachlor	33	.....	ALH	
Alcohols (C13+)	20	.....	ALY	
Including:				
Oleyl alcohol (octadecenol)				
Pentadecanol				
Tallow alcohol				
Tetradecanol				
Tridecanol				
Alcoholic beverages	20	.....		
Alcohol polyethoxylates	20	.....		APU/APV/APW/AET

Chemical name	Group No.	Footnote	CHRIS Code	Related CHRIS Codes
Alcohol polyethoxylates, secondary	20	.....		AEA/AEB
Alkanes (C6-C9)	31	1	ALK	
Including:				
Heptanes				
Hexanes				
Nonanes				
Octanes				
n-Alkanes (C10+)	31	1	ALJ	
Including:				
Decanes				
Dodecanes				
Heptadecanes				
Tridecanes				
Undecanes				
iso- & cyclo-Alkanes (C10-C11)	31	1	AKI	
iso- & cyclo-Alkanes (C12+)	31	1	AKJ	
Alkane (C14-C17) sulfonic acid, sodium salt solution	34	.....	AKA	
Alkaryl polyether (C9-C20)	41	.....	AKP	
Alkenyl(C11+)amide	11	.....	AKM	
Alkenyl(C16-C20)succinic anhydride	11	.....	AAH	
Alkyl acrylate-Vinyl pyridine copolymer in Toluene	32		AAP	
Alkyl(C8+)amine, Alkenyl (C12+) acid ester mixture	34	.....	AAA	
Alkylaryl phosphate mixtures (more than 40% Diphenyl tolyl phosphate, less than 0.02% ortho-isomer).	34	.....	APD	
Alkyl(C3-C4)benzenes	32		AKC	
Including:				
Butylbenzenes				
Cumene				
Propylbenzenes				
Alkyl(C5-C8)benzenes	32		AKD	
Including:				
Amylbenzenes				
Heptylbenzenes				
Hexylbenzenes				
Octylbenzenes				
Alkyl(C9+)benzenes	32		AKB	
Including:				
Decylbenzenes				
Dodecylbenzenes				
Nonylbenzenes				
Tetradecylbenzenes				
Tetrapropylbenzenes				
Tridecylbenzenes				
Undecylbenzenes				
Alkylbenzene, Alkylindane, Alkylindene mixture (each C12-C17)	32		AIH	
Alkylbenzenesulfonic acid	0	1, 2		ABS/ABN
Alkylbenzenesulfonic acid, sodium salt solutions	33	.....	ABT	
Alkyl dithiothiadiazole (C6-C24)	33	.....	ADT	
Alkyl ester copolymer (C4-C20)	34	.....	AES	
Alkyl(C7-C9) nitrates	34	2	AKN	ONE
Alkyl(C7-C11) phenol poly(4-12)ethoxylate	40	.....	APN	
Alkyl(C8-C40) phenol sulfide	34	.....	AKS	
Alkyl(C8-C9) phenylamine in aromatic solvents	9	.....	ALP	
Alkyl(C9-C15) phenyl propoxylate	40	.....		
Alkyl phthalates	34	.....		
Alkyl(C10-C20, saturated and unsaturated) phosphite	34	.....	AKL	
Alkyl polyglucoside solutions	43	.....		AGL/AGN/AGO/AGP/AGM
Alkyl sulfonic acid ester of phenol	34	.....		
Allyl alcohol	15	2	ALA	
Allyl chloride	15	1	ALC	
Aluminium chloride, Hydrochloric acid solution	0	1	AHS	
Aluminum sulfate solution	43	2	ASX	ALM
2-(2-Aminoethoxy)ethanol	8	.....	AEX	
Aminoethyldiethanolamine, Aminoethylethanolamine solution	8	.....		
Aminoethylethanolamine	8	.....	AEE	
N-Aminoethylpiperazine	7	.....	AEP	
2-Amino-2-hydroxymethyl-1,3-propanediol solution	43	.....	AHL	
2-Amino-2-methyl-1-propanol	8	.....	APQ	APR
Ammonia, anhydrous	6	.....	AMA	
Ammonia, aqueous (28% or less Ammonia) (*IMO cargo name*), *see* Ammonium hydroxide.	6	.....		AMH
Ammonium bisulfite solution	43	2	ABX	ASU

Chemical name	Group No.	Footnote	CHRIS Code	Related CHRIS Codes
Ammonium hydrogen phosphate solution	0	1	AMI	
Ammonium hydroxide (28% or less Ammonia)	6		AMH	
Ammonium lignosulfonate solution, *see also* Lignin liquor	43			
Ammonium nitrate solution	0	1	ANR	AND/AMN
Ammonium nitrate, Urea solution (containing Ammonia)	6		UAS	
Ammonium nitrate, Urea solution (not containing Ammonia)	43		ANU	UAT
Ammonium polyphosphate solution	43		AMO	APP
Ammonium sulfate solution	43		AME	AMS
Ammonium sulfide solution	5		ASS	ASF
Ammonium thiocyanate, Ammonium thiosulfate solution	0	1	ACS	
Ammonium thiosulfate solution	43		ATV	ATF
Amyl acetate	34		AEC	IAT/AML/AAS/AYA
Amyl alcohol	20		AAI	IAA/AAN/ASE/APM
Amylene, see Pentene			AMZ	PTX
tert-Amyl methyl ether (*see also,* Methyl tert-pentyl ether)	41		AYE	
Amyl methyl ketone, see Methyl amyl ketone			AMK	MAK
Aniline	9		ANL	
Animal and Fish oils, n.o.s.	34		AFN	
Including:				
Cod liver oil				
Lanolin				
Neatsfoot oil				
Pilchard oil				
Sperm oil				
Animal and Fish acid oils and distillates, n.o.s.	34		AFA	
Including:				
Animal acid oil				
Fish acid oil				
Lard acid oil				
Mixed acid oil				
Mixed general acid oil				
Mixed hard acid oil				
Mixed soft acid oil				
Anthracene oil (Coal tar fraction), *see* Coal tar	33		AHO	COR
Apple juice	43			
Aryl polyolefin (C11-C50)	30		AYF	
Asphalt	33		ASP	ACU
Asphalt blending stocks, roofers flux	33		ARF	
Asphalt blending stocks, straight run residue	33		ASR	
Asphalt emulsion (*ORIMULSION*)	33		ASQ	
Aviation alkylates	33		AVA	GAV
Barium long chain alkaryl(C11-C50) sulfonate	34		BCA	
Barium long chain alkyl(C8-C14)phenate sulfide	34		BCH	
Behenyl alcohol	20			
Benzene	32		BNZ	
Benzene hydrocarbon mixtures (having 10% Benzene or more)	32		BHB	BHA
Benzenesulfonyl chloride	0	1, 2	BSC	
Benzene, Toluene, Xylene mixtures	32	2	BTX	
Benzene tricarboxylic acid, trioctyl ester	34			
Benzylacetate	34		BZE	
Benzyl alcohol	21		BAL	
Benzyl chloride	36		BCL	
Brake fluid base mixtures	20		BFX	
Bromochloromethane	36		BCM	
Butadiene	30		BDI	
Butadiene, Butylene mixtures (cont. Acetylenes)	30		BBM	
Butane	31	1	BMX	IBT/BUT
1,4-Butanediol, see Butylene glycol			BDO	BUG
2-Butanone, see Methyl ethyl ketone				
Butene, see Butylene				IBL/BTN
Butene oligomer	30		BOL	
Butyl acetate	34		BAX	IBA/BCN/BTA/BYA
Butyl acrylate	14	1	BAR	BAI/BTC
Butyl alcohol	20	2	BAY	IAL/BAN/BAS/BAT
Butylamine	7		BTY	IAM/BAM/BTL/BUA
Butylbenzene, *see* Alky(C3-C4)benzenes	32		BBE	AKC
Butyl benzyl phthalate	34		BPH	
Butyl butyrate	34		BBA	BUB/BIB
Butylene	30		BTN	IBL
Butylene glycol	20	2	BUG	BDO
1,3-Butylene glycol, see Butylene glycol				BUG
Butylene oxide	16	1	BTO	
Butyl ether	41		BTE	

Chemical name	Group No.	Footnote	CHRIS Code	Related CHRIS Codes
Butyl formate	34			BFI/BFN
Butyl heptyl ketone	18		BHK	
Butyl methacrylate	14	1	BMH	BMI/BMN
Butyl methacrylate, Decyl methacrylate, Cetyl-Eicosyl methacrylate mixture.	14	1	DER	
Butyl methyl ketone, see Methyl butyl ketone				MBK
Butyl phenol, Formaldehyde resin in Xylene	32			
n-Butyl propionate	34		BPN	
Butyl stearate	34			
Butyl toluene	32		BUE	
Butyraldehyde	19		BAE	BAD/BTR
Butyric acid	4		BRA	IBR
gamma-Butyrolactone	0	1, 2	BLA	
C9 Resinfeed (DSM)	32	2	CNR	
Calcium alkyl(C9)phenol sulfide, polyolefin phosphorosulfide mixture	34		CPX	
Calcium alkyl salicylate, see Calcium long chain alkyl salicylate (C13+)				CAK
Calcium bromide solution, see Drilling brines				DRB
Calcium bromide, Zinc bromide solution, see Drilling brine (containing Zinc salts).				DZB
Calcium carbonate slurry	34			
Calcium chloride solution	43		CCS	CLC
Calcium hydroxide slurry	5		COH	
Calcium hypochlorite solutions	5			CHZ/CHU/CHY
Calcium lignosulfonate solution, *see also* Lignin liquor	43			
Calcium long chain alkaryl sulfonate (C11-C50)	34		CAY	
Calcium long chain alkyl phenates	34			CAN/CAW
Calcium long chain alkyl phenate sulfide (C8-C40)	34		CPI	
Calcium long chain alkyl salicylate (C13+)	34		CAK	
Calcium long chain alkyl phenolic amine (C8-C40)	9		CPQ	
Calcium nitrate solution	34		CNU	
Calcium nitrate, Magnesium nitrate, Potassium chloride solution	34			
Calcium sulfonate, Calcium carbonate, Hydrocarbon solvent mixture	33			
Camphor oil	18		CPO	
Canola oil, see rapeseed oil under oils, edible.				
Caprolactam solution	22		CLS	
Caramel solutions	43			
Carbolic oil	21		CBO	
Carbon disulfide	38		CBB	
Carbon tetrachloride	36	2	CBT	
Cashew nut shell oil (untreated)	4		OCN	
Catoxid feedstock	36	2	CXF	
Caustic potash solution	5	2	CPS	
Caustic soda solution	5	2	CSS	
Cetyl alcohol (hexadecanol), see Alcohols (C13+)				ALY
Cetyl-Eicosyl methacrylate mixture	14	1	CEM	
Cetyl-Stearyl alcohol, *see* Alcohols (C13+)				ALY
Chlorinated paraffins (C10-C13)	36		CLH	
Chlorinated paraffins (C14-C17) (with 52% Chlorine)	36		CLJ	
Chlorine	0	1	CLX	
Chloroacetic acid solution	4		CHM	CHL/MCA
Chlorobenzene	36		CRB	
Chlorodifluoromethane (*monochlorodifluoromethane*)	36		MCF	
Chloroform	36		CRF	
Chlorohydrins	17	1	CHD	
4-Chloro-2-methylphenoxyacetic acid, Dimethylamine salt solution	9		CDM	
Chloronitrobenzene	42		CNO	
1-(4-Chlorophenyl)-4,4-dimethyl pentan-3-one	18	2	CDP	
Chloropropionic acid	4		CPM	CLA/CLP
Chlorosulfonic acid	0	1	CSA	
Chlorotoluene	36		CHI	CTM/CTO/CRN
Choline chloride solutions	20		CCO	
Citric acid	4		CIS	CIT
Clay slurry, *see also* Kaolin clay slurry	43			
Coal tar	33		COR	OCT
Coal tar distillate	33		CDL	
Coal tar, high temperature	33		CHH	
Coal tar pitch	33		CTP	
Cobalt naphthenate in solvent naphtha	34		CNS	
Coconut oil, fatty acid	34		CFA	
Copper salt of long chain (C17+) alkanoic acid	34		CUS	CFT
Corn syrup	43		CSY	
Cottonseed oil, fatty acid	34		CFY	
Creosote	21	2	CCT	CCW/CWD

Chemical name	Group No.	Footnote	CHRIS Code	Related CHRIS Codes
Cresols	21		CRS	CRL/CSL/CSO
Cresylate spent caustic	5		CSC	
Cresylic acid	21		CRY	
Cresylic acid, dephenolized	21		CAD	
Cresylic acid, sodium salt solution (*IMO cargo name*), *see* Cresylate spent caustic.	5			CSC
Cresylic acid tar	21		CRX	
Crotonaldehyde	19	2	CTA	
Cumene (isopropyl benzene), see Propylbenzene			CUM	PBY
1,5,9-Cyclododecatriene	30		CYT	
Cycloheptane	31	1	CYE	
Cyclohexane	31	1	CHX	
Cyclohexanol	20		CHN	
Cyclohexanone	18		CCH	
Cyclohexanone, Cyclohexanol mixtures	18	2	CYX	
Cyclohexyl acetate	34		CYC	
Cyclohexylamine	7		CHA	
1,3-Cyclopentadiene dimer	30		CPD	DPT
Cyclopentadiene, Styrene, Benzene mixture	30		CSB	
Cyclopentane	31	1	CYP	
Cyclopentene	30		CPE	
Cymene	32		CMP	
Decahydronaphthalene	33		DHN	
Decaldehyde	19			IDA/DAL
Decane, see n-Alkanes (C10+)			DCC	ALJ
Decanoic acid	4		DCO	
Decene	30		DCE	
Decyl acetate	34		DYA	
Decyl acrylate	14	1	DAT	IAI/DAR
Decyl alcohol	20	2	DAX	ISA/DAN
Decylbenzene, *see* Alkyl(C9+) benzenes	32		DBZ	AKB
Decyloxytetrahydro-thiophene dioxide	0	1, 2	DHT	
Degummed C9 (DOW)	33		DGC	
Dextrose solution, *see* Glucose solution	43		DTS	GLU
Diacetone alcohol	20	2	DAA	
Dialkyl(C10-C14) benzenes, *see* Alkyl(C9+) benzenes	32		DAB	AKB
Dialkyl(C8-C9) diphenylamines	9		DAQ	
Dialkyl(C7-C13) phthalates *Including:* *Diisodecyl phthalate* *Diisononyl phthalate* *Dinonyl phthalate* *Ditridecyl phthalate* *Diundecyl phthalate*	34		DAH	
Dibromomethane	36		DBH	
Dibutylamine	7		DBA	
Dibutyl carbinol, see Nonyl alcohol				NNS
Dibutyl hydrogen phosphonate	34		DHD	
Dibutylphenols	21			DBT/DBV, DBW
Dibutyl phthalate	34		DPA	
Dichlorobenzene	36		DBX	DBM/DBO/DBP
3,4-Dichloro-1-butene	36		DCD	DCB
Dichlorodifluoromethane	36		DCF	
1,1-Dichloroethane	36		DCH	
2,2′-Dichloroethyl ether	41		DEE	
1,6-Dichlorohexane	36		DHX	
2,2′-Dichloroisopropyl ether	36		DCI	
Dichloromethane	36		DCM	
2,4-Dichlorophenol	21		DCP	
2,4-Dichlorophenoxyacetic acid, Diethanolamine salt solution	43		DDE	
2,4-Dichlorophenoxyacetic acid, Dimethylamine salt solution	0	1, 2	DAD	DDA/DSX
2,4-Dichlorophenoxyacetic acid, Triisopropano-lamine salt solution	43	2	DTI	
Dichloropropane	36		DPX	DPB/DPP/DPC/DPL
1,3-Dichloropropene	15	1	DPS	DPU/DPF
Dichloropropene, Dichloropropane mixtures	15	1	DMX	
2,2-Dichloropropionic acid	4		DCN	
Dicyclopentadiene, *see also* 1,3-Cyclopentadiene dimer	30		DPT	CPD
Diethanolamine	8		DEA	
Diethanolamine salt of 2,4-Dichlorophenoxyacetic acid solution, see 2,4-Dichlorophenoxyacetic acid, Diethanolamine salt solution.				DDE
Diethylamine	7		DEN	
Diethylaminoethanol (*IMO cargo name*), *see* Diethylethanolamine	8			DAE
2,6-Diethylaniline	9		DMN	

Chemical name	Group No.	Footnote	CHRIS Code	Related CHRIS Codes
Diethylbenzene	32		DEB	
Diethylene glycol	40	2	DEG	
Diethylene glycol butyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether.	.....	.....	DME	PAG
Diethylene glycol butyl ether acetate, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether acetate.	.....	.....	DEM	PAF
Diethylene glycol dibenzoate	34	.....	DGZ	
Diethylene glycol dibutyl ether	40	.....	DIG	
Diethylene glycol diethyl ether	40	.....		
Diethylene glycol ethyl ether, see Poly(2-8)alkylene glycol monoalkyl (C1-C6) ether.	.....	.....	DGE	PAG
Diethylene glycol ethyl ether acetate, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether acetates.	.....	.....	DGA	PAF
Diethylene glycol n-hexyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether.	.....	.....	DHE	PAG
Diethylene glycol methyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether.	.....	.....	DGM	PAG
Diethylene glycol methyl ether acetate, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether acetate.	.....	.....	DGR	PAF
Diethylene glycol phenyl ether	40	.....	DGP	
Diethylene glycol phthalate	34	.....	DGL	
Diethylene glycol propyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether.	.....	.....	DGO	PAG
Diethylenetriamine	7	2	DET	
Diethylenetriamine pentaacetic acid, pentasodium salt solution	43	.....		
Diethylethanolamine	8	.....	DAE	
Diethyl ether (*IMO cargo name*), *see* Ethyl ether	41	.....		EET
Diethyl hexanol, see Decyl alcohol	.....	.....		DAX
Di-(2-ethylhexyl)adipate	34	.....	DEH	
Di-(2-ethylhexyl)phosphoric acid	1	1	DEP	
Di-(2-ethylhexyl)phthalate, see Dioctyl phthalate	34	.....	DIE	DOP
Diethyl phthalate	34	.....	DPH	
Diethyl sulfate	34	.....	DSU	
Diglycidyl ether of Bisphenol A	41	.....	BDE	BPA
Diglycidyl ether of Bisphenol F	41	.....	DGF	
Diheptyl phthalate	34	.....	DHP	
Di-n-hexyl adipate	34	.....	DHA	
Dihexyl phthalate	34	.....		
1,4-Dihydro-9,10-dihydroxy anthracene, disodium salt solution	5	.....	DDH	
Diisobutylamine	7	.....	DBU	
Diisobutyl carbinol (*commercial cargo name*), *see* Nonyl alcohol	20	.....	DBC	NNS
Diisobutylene	30	.....	DBL	
Diisobutyl ketone	18	.....	DIK	
Diisobutyl phthalate	34	.....	DIT	
Diisodecyl phthalate, see Dialkyl(C7-C13) phthalates	.....	.....	DID	DAH
Diisononyl adipate	34	.....	DNY	
Diisononyl phthalate, see Dialkyl(C7-C13) phthalates	.....	.....	DIN	DAH
Diisooctyl phthalate	34	.....	DIO	
Diisopropanolamine	8	.....	DIP	
Diisopropylamine	7	.....	DIA	
Diisopropylbenzene	32		DIX	
Diisopropyl naphthalene	32		DII	
N,N-Dimethylacetamide	10	.....	DAC	
N,N-Dimethylacetamide solution	10	.....	DLS	
Dimethyl adipate	34	.....	DLA	
Dimethylamine	7	.....	DMA	
Dimethylamine solution	7	.....		DMG/DMY/DMC
Dimethylamine salt of 4-Chloro-2-methylphenoxyacetic acid solution, see 4-Chloro-2-methylphenoxyacetic acid, Dimethylamine salt solution.	.....	.....		CDM
Dimethylamine salt of 2,4-Dichlorophenoxyacetic acid solution, see 2,4-Dichlorophenoxyacetic acid, Dimethylamine salt solution.	.....	.....		DAD/(DDA/DSX)
2,6-Dimethylaniline	9	.....	DMM	
Dimethylbenzene, see Xylenes	.....	.....		XLX
Dimethylcyclicsiloxane hydrolyzate	34	.....		
N,N-Dimethylcyclohexylamine	7	.....	DXN	
N,N-Dimethyldodecylamine (*IMO cargo name), see* Dodecyldimethylamine	7	.....	DDY	
Dimethylethanolamine	8	.....	DMB	
Dimethylformamide	10	.....	DMF	
Dimethyl furan	41	.....		
Dimethyl glutarate	34	.....	DGT	
Dimethyl hydrogen phosphite	34	2	DPI	
Dimethyl naphthalene sulfonic acid, sodium salt solution	34	2	DNS	
Dimethyloctanoic acid	4	.....	DMO	

Chemical name	Group No.	Footnote	CHRIS Code	Related CHRIS Codes
Dimethyl phthalate	34		DTL	
Dimethylpolysiloxane, *see* Polydimethylsiloxane	34		DMP	
2,2-Dimethylpropane-1,3-diol	20		DDI	
Dimethyl succinate	34		DSE	
Dinitrotoluene	42		DNM	DTT/DNL/DNU
Dinonyl phthalate, see Dialkyl(C7-C13) phthalates			DIF	DAH
Dioctyl phthalate	34		DOP	DIE
1,4-Dioxane	41		DOX	
Dipentene	30		DPN	
Diphenyl	32		DIL	
Diphenylamine (molten)	9		DAG	DAM/LRM
Diphenylamines, alkylated	7		DAJ	
Diphenylamine, reaction product with 2,2,4-trimethylpentene	7		DAK	
Diphenyl, Diphenyl ether mixture	33		DDO	DTH
Diphenyl ether	41		DPE	
Diphenyl ether, Diphenyl phenyl ether mixture	41		DOB	
Diphenylmethane diisocyanate	12		DPM	
Diphenylol propane-Epichlorohydrin resins	0	1	DPR	
Diphenyl oxide, see as diphenyl ether				
Di-n-propylamine	7		DNA	
Dipropylene glycol	40		DPG	
Dipropylene glycol butyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether.			DBG	PAG
Dipropylene glycol dibenzoate	34		DGY	
Dipropylene glycol methyl ether, see Poly (2-8)alkylene glycol monoalkyl(C1-C6) ether.			DPY	PAG
Distillates, flashed feed stocks	33		DFF	
Distillates, straight run	33		DSR	
Dithiocarbamate ester (C7-C35)	34		DHO	
Ditridecyl adipate	34			
Ditridecyl phthalate, see Dialkyl(C7-C13) phthalates			DTP	DAH
Diundecyl phthalate, see Dialkyl(C7-C13) phthalates			DUP	DAH
Dodecane	31	1	DOC	ALJ
tert-Dodecanethiol	0	2	DDL	
Dodecanol	20		DDN	LAL
Dodecene	30		DOZ	DDC/DOD
2-Dodecenylsuccinic acid, dipotassium salt solution	34			DSP
Dodecyl alcohol (*IMO cargo name*), *see* Dodecanol				DDN
Dodecylamine, Tetradecylamine mixture	7		DTA	
Dodecylbenzene, *see* Alkyl(C9+)benzenes	32	2	DDB	AKB
Dodecylbenzenesulfonic acid	0	1, 2	DSA	
Dodecyldimethylamine, Tetradecyldimethylamine mixture	7		DOT	
Dodecyl diphenyl ether disulfonate solution	43		DOS	
Dodecyl hydroxypropyl sulfide	0	1	DOH	
Dodecyl methacrylate	14	1	DDM	
Dodecyl-Octadecyl methacrylate mixture	14	1	DOM	
Dodecyl-Pentadecyl methacrylate mixtures	14	1	DDP	
Dodecyl phenol	21		DOL	
Dodecyl xylene	32	2	DXY	
Drilling brine (containing Calcium, Potassium or Sodium salts)	43			DRB
Drilling brine (containing Zinc salts)	43		DZB	
Drilling mud (low toxicity) (*if flammable or combustible*)	33			DRM
Drilling mud (low toxicity) (*if non-flammable or non-combustible*)	43			DRM
Epichlorohydrin	17	1	EPC	
Epoxy resin	18			
ETBE, see Ethyl tert-butyl ether				EBE
Ethane	31	1	ETH	
Ethanolamine (*monoethanolamine*)	8		MEA	
2-Ethoxyethanol, see Ethylene glycol monoalkyl ethers			EEO	EGC
2-Ethoxyethyl acetate	34		EEA	
Ethoxylated alcohols, C11-C15, see the alcohol poylethoxylates				
Ethoxylated long chain (C16+) alkyloxyalkanamine	8		ELA	
Ethoxy triglycol	40		ETG	
Ethyl acetate	34		ETA	
Ethyl acetoacetate	34		EAA	
Ethyl acrylate	14	1	EAC	
Ethyl alcohol	20	2	EAL	
Ethylamine	7	2	EAM	
Ethylamine solution	7		EAN	
Ethyl amyl ketone	18		EAK	ELK
Ethylbenzene	32		ETB	
Ethyl butanol	20		EBT	
N-Ethyl-n-butylamine	7		EBA	

Chemical name	Group No.	Footnote	CHRIS Code	Related CHRIS Codes
Ethyl tert-butyl ether	41	2	EBE	
Ethyl butyrate	34		EBR	
Ethyl chloride	36		ECL	
Ethyl cyclohexane	31	1	ECY	
N-Ethylcyclohexylamine	7		ECC	
Ethylene	30		ETL	
Ethyleneamine EA 1302	7	2	EMX	EDA
Ethylene carbonate	34			
Ethylene chlorohydrin	20		ECH	
Ethylene cyanohydrin	20		ETC	
Ethylenediamine	7	2	EDA	EMX
Ethylenediaminetetraacetic acid, tetrasodium salt solution	43		EDS	
Ethylene dibromide	36		EDB	
Ethylene dichloride	36	2	EDC	
Ethylene glycol	20	2	EGL	
Ethylene glycol acetate	34		EGO	
Ethylene glycol butyl ether, see Ethylene glycol monoalkyl ethers			EGM	EGC
Ethylene glycol tert-butyl ether, see Ethylene glycol monoalkyl ethers				EGC
Ethylene glycol butyl ether acetate	34		EMA	
Ethylene glycol diacetate	34		EGY	
Ethylene glycol dibutyl ether	40		EGB	
Ethylene glycol ethyl ether, see Ethyl glycol monoalkyl ethers			EGE	EGC/EEO
Ethylene glycol ethyl ether acetate, see 2-Ethoxyethyl acetate			EGA	EEA
Ethylene glycol hexyl ether	40		EGH	
Ethylene glycol isopropyl ether, see Ethylene glycol monoalkyl ethers			EGI	EGC
Ethylene glycol methyl butyl ether, see Ethylene glycol monoalkyl ethers	40		EMB	EGC
Ethylene glycol methyl ether, see Ethylene glycol monoalkyl ethers			EME	EGC
Ethylene glycol methyl ether acetate	34		EGT	
Ethylene glycol monoalkyl ethers	40		EGC	
Including:				
Ethylene glycol butyl ether				
Ethylene glycol isobutyl ether				
Ethylene glycol tert-butyl ether				
Ethylene glycol ethyl ether				
Ethylene glycol hexyl ether				
Ethylene glycol methyl ether				
Ethylene glycol propyl ether				
Ethylene glycol isopropyl ether				
Ethylene glycol phenyl ether	40		EPE	
Ethylene glycol phenyl ether, Diethylene glycol phenyl ether mixture	40		EDX	
Ethylene glycol propyl ether, see Ethylene glycol monoalkyl ethers			EGP	EGC
Ethylene glycol iso-propyl ether, see Ethylene glycol monoalkyl ethers			EGI	EGC
Ethylene oxide	0	1	EOX	
Ethylene oxide, Propylene oxide mixture	16	1	EPM	
Ethylene-Propylene copolymer	30			
Ethylene-Vinyl acetate copolymer emulsion	43			
Ethyl ether	41		EET	
Ethyl-3-ethoxypropionate	34		EEP	
2-Ethylhexaldehyde, see Octyl aldehydes			HA	OAL
2-Ethylhexanoic acid, see Octanoic acids			EHO	OAY
2-Ethylhexanol, see Octanol			EHX	OCX
2-Ethylhexyl acrylate	14	1	EAI	
2-Ethylhexylamine	7		EHM	
Ethyl hexyl phthalate	34		EHE	
Ethyl hexyl tallate	34		EHT	
2-Ethyl-1-(hydroxymethyl)propane-1,3-diol, C8-C10 ester	34		EHD	
Ethylidene norbornene	30	2	ENB	
Ethyl methacrylate	14	1	ETM	
N-Ethylmethylallylamine	7		EML	
2-Ethyl-6-methyl-N-(1′-methyl-2-methoxyethyl)aniline	9		EEM	
o-Ethyl phenol	21		EPL	
Ethyl propionate	34		EPR	
2-Ethyl-3-propylacrolein	19	2	EPA	
Ethyl toluene	32		ETE	
Fatty acids (saturated, C13+), *see* Fatty acids (saturated, C14+)				
Fatty acids (saturated, C14+)	34		FAD	SRA
Ferric chloride solution	1	1	FCS	FCL
Ferric hydroxyethylethylenediaminetriacetic acid, trisodium salt solution	43	2	FHX	STA
Ferric nitrate, Nitric acid solution	3		FNN	
Fish solubles (*water based fish meal extracts*)	43		FSO	
Fluorosilicic acid	1	1	FSJ	
Formaldehyde, Methanol mixtures	19	2	MTM	
Formaldehyde solution	19	2	FMS	

Chemical name	Group No.	Foot-note	CHRIS Code	Related CHRIS Codes
Formamide	10		FAM	
Formic acid	4	2	FMA	
Fructose solution	43			
Fumaric adduct of Rosin, water dispersion	43		FAR	
Furfural	19		FFA	
Furfuryl alcohol	20	2	FAL	
Gas oil, cracked	33		GOC	
Gasoline blending stock, alkylates	33		GAK	
Gasoline blending stock, reformates	33		GRF	
Gasolines:				
Automotive (*not over 4.23 grams lead per gal.*)	33		GAT	
Aviation (*not over 4.86 grams lead per gal*)	33		GAV	AVA
Casinghead (*natural*)	33		GCS	
Polymer	33		GPL	
Straight run	33		GSR	
Glucose solution	43		GLU	DTS
Glutaraldehyde solution	19		GTA	
Glycerine	20	2	GCR	
Glycerine, Dioxanedimethanol mixture	20		GDM	
Glycerol monooleate	20		GMO	
Glycerol polyalkoxylate	34			
Glyceryl triacetate	34			
Glycidyl ester of C10 trialkyl acetic acid (*IMO cargo name*), *see* Glycidyl ester of tridecyl acetic acid.	34			GLT
Gylcidyl ester of tridecylacetic acid	34		GLT	
Glycidyl ester of Versatic acid, see Gylcidyl ester of tridecylacetic acid				GLT
Glycine, sodium salt solution	7			
Glycol diacetate, see Ethylene glycol diacetate				EGY
Glycolic acid solution	4		GLC	
Glyoxal solutions	19		GOS	
Glyoxylic acid	4		GAC	
Glyphosate solution (not containing surfactant) (See also ROUNDUP)	7		GIO	
Heptadecane, see n-Alkanes (C10+)				ALJ
Heptane	31	1	HMX	ALK (HPI/HPT)
n-Heptanoic acid	4		HEP	
Heptanol	20		HTX	HTN
Heptene	30		HPX	HTE
Heptyl acetate	34		HPE	
Herbicide (C15-H22-NO2-Cl), see Metolachlor				MCO
Hexadecanol (cetyl alcohol), see Alcohols (C13+)				ALY
1-Hexadecylnaphthalene, 1,4-bis(Hexadecyl)naphthalene mixture	32			
Hexaethylene glycol, see Polyethylene glycol				
Hexamethylene glycol	20			
Hexamethylenediamine	7		HME	HMD/HMC
Hexamethylenediamine solution	7		HMC	HMD/HME
Hexamethylenediamine adipate solution	43		HAM	
Hexamethylene diisocyanate	12		HDI	
Hexamethylenetetramine	7		HMT	
Hexamethylenetetramine solutions	7		HTS	
Hexamethylenimine	7		HMI	
Hexane	31	2	HXS	ALK (IHA/HXA)
Hexanoic acid	4		HXO	
Hexanol	20		HXN	
Hexene	30		HEX	HXE/HXT/MPN/MTN
Hexyl acetate	34		HAE	HSA
Hexylene glycol	20		HXG	
HiTec 321	7		HIT	
Hog grease, see Lard				
Hydrochloric acid	1	1	HCL	
Hydrofluorosilicic acid, see Fluorosilicic acid			HFS	FSJ
bis(Hydrogenated tallow alkyl)methyl amines	7		HTA	
Hydrogen peroxide solutions	0	1		HPN/HPS/HPO
2-Hydroxyethyl acrylate	14	2	HAI	
N-(Hydroxyethyl)ethylenediamine triacetic acid, trisodium salt solution	43		HET	FHX
N,N-bis(2-Hydroxyethyl) oleamide	10		HOO	
2-Hydroxy-4-(methylthio)butanoic acid	4		HBA	
Hydroxy terminated polybutadiene (*IMO cargo name*), *see* Polybutadiene, hydroxy terminated.	20			
alpha-hydro-omega-Hydroxytetradeca(oxytetramethylene), see Poly(tetramethylene ether) glycols (mw 950-1050).				HTO
Icosa(oxypropane-2,3-diyl)s	20		IOP	
Isophorone	18	2	IPH	
Isophorone diamine	7		IPI	

Chemical name	Group No.	Footnote	CHRIS Code	Related CHRIS Codes
Isophorone diisocyanate	12		IPD	
Isoprene	30		IPR	
Isoprene concentrate (Shell)	30		ISC	
Isopropylbenzene (cumene), see Propylbenzene				PBY
Jet fuels:				
JP-4	33		JPF	
JP-5	33		JPV	
JP-8	33		JPE	
Kaolin clay slurry	43			
Kerosene	33		KRS	
Ketone residue	18		KTR	
Kraft black liquor	5			KPL
Kraft pulping liquors (*Black, Green, or White*)	5		KPL	
Lactic acid	0	1, 2	LTA	
Lactonitrile solution	37		LNI	
Lard	34			
Latex (ammonia inhibited)	30		LTX	
Latex, liquid synthetic	43		LLS	LTX
Lauric acid	34		LRA	
Lauryl polyglucose, see Alkyl(C12 -C14) polyglucoside solution (55% or less).			LAP	AGM
Lecithin	34		LEC	
Lignin liquor	43			
Lignin sulfonic acid, sodium salt solution, see Sodium lignosulfonate solution.				
d-Limonene, see Dipentene				
Liquid Streptomyces solubles	43			
Long chain alkaryl polyether (C11-C20)	41		LCP	
Long chain alkaryl sulfonic acid (C16-C60)	0	1, 2	LCS	
Long chain alkylphenate/Phenol sulfide mixture	21		LPS	
Long chain polyetheramine in alkyl(C2-C4)benzenes	7		LCE	
l-Lysine solution	43		LYS	
Magnesium chloride solution	0	1, 2		
Magnesium hydroxide slurry	5			
Magnesium long chain alkaryl sulfonate (C11-C50)	34		MAS	MSE
Magnesium long chain alkyl phenate sulfide (C8-C20)	34		MPS	
Magnesium long chain alkyl salicylate (C11+)	34		MLS	
Magnesium nonyl phenol sulfide, see Magnesium long chain alkyl phenate sulfide (C8-C20).				MPS
Magnesium sulfonate, see Magnesium long chain alkaryl sulfonate (C11-C50).			MSE	MAS
Maleic anhydride	11		MLA	
Mercaptobenzothiazol, sodium salt solution (*IMO cargo name*), *see* Sodium-2-mercaptobenzothiazol solution.	5			SMB
Mesityl oxide	18	2	MSO	
Metam sodium solution	7		MSS	SMD
Methacrylic acid	4		MAD	
Methacrylic resin in Ethylene dichloride	14	1	MRD	
Methacrylonitrile	15	2	MET	
Methane	31	1	MTH	
3-Methoxy-1-butanol	20			
3-Methoxybutyl acetate	34		MOA	
N-(2-Methoxy-1-methyl ethyl)-2-ethyl-6-methyl chloroacetanilide (*IMO cargo name*), *see* Metolachlor.	34			MCO
1-Methoxy-2-propyl acetate	34		MPO	
Methoxy triglycol	*40*		*MTG*	
Methyl acetate	34		MTT	
Methyl acetoacetate	34		MAE	
Methyl acetylene, Propadiene mixture	30		MAP	
Methyl acrylate	14	1	MAM	
Methyl alcohol	20	2	MAL	
Methylamine solutions	7		MSZ	
Methyl amyl acetate	34		MAC	
Methyl amyl alcohol	20		MAA	MIC
Methyl amyl ketone	18		MAK	
Methyl bromide	36		MTB	
Methyl butanol, see the amyl alcohols				AAI
Methyl butenol	20		MBL	
Methyl butenes (tert-amylenes), see Pentene				PTX
Methyl tert-butyl ether	41	2	MBE	
Methyl butyl ketone	18	2	MBK	
Methylbutynol, *see* 2-Methyl-2-hydroxy-3-butyne	20		MBY	MHB
3-Methyl butyraldehyde	19			

Chemical name	Group No.	Footnote	CHRIS Code	Related CHRIS Codes
Methyl butyrate	34		MBU	
Methyl chloride	36		MTC	
Methylcyclohexane	31	1	MCY	
Methylcyclopentadiene dimer	30		MCK	
Methyl diethanolamine	8		MDE	MAB
Methylene chloride, see Dichloromethane				DCM
2-Methyl-6-ethylaniline	9		MEN	
Methyl ethyl ketone	18	2	MEK	
2-Methyl-5-ethylpyridine	9		MEP	
Methyl formate	34		MFM	
N-Methylglucamine solution	43		MGC	
Methyl heptyl ketone	18		MHK	
2-Methyl-2-hydroxy-3-butyne	20		MHB	
Methyl isoamyl ketone	18			MAK
Methyl isobutyl carbinol, see Methyl amyl alcohol			MIC	MAA
Methyl isobutyl ketone	18	2	MIK	
Methyl methacrylate	14	1	MMM	
3-Methyl-3-methoxybutanol	20			
3-Methyl-3-methoxybutyl acetate	34			
Methyl naphthalene	32		MNA	
Methylolureas	19		MUS	
2-Methyl pentane	31	1		IHA
2-Methyl-1-pentene, see Hexene			MPN	HEX
4-Methyl-1-pentene, see Hexene			MTN	HEX
Methyl tert-pentyl ether (*IMO cargo name*), *see* tert-Amyl methyl ether	41			AYE
2-Methyl-1,3-propanediol	20		MDL	
Methyl propyl ketone	18		MKE	
Methylpyridine	9			MPR/MPE/MPF
N-Methyl-2-pyrrolidone	9	2	MPY	
Methyl salicylate	34		MES	
alpha-Methylstyrene	30		MSR	
3-(Methylthio)propionaldehyde	19		MTP	
Metolachlor	34		MCO	
Milk	43			
Mineral spirits	33		MNS	
Molasses	20			
Molasses residue	0	1		
Monochlorodifluoromethane	36		MCF	
Monoethanolamine, see Ethanolamine				
Monoisopropanolamine, see Propanolamine				
Morpholine	7	2	MPL	
Motor fuel antiknock compounds containing lead alkyls	0	1	MFA	
MTBE, see Methyl tert-butyl ether				MBE
Myrcene	30		MRE	
Naphtha:				
Aromatic	33			
Coal tar solvent	33		NCT	
Heavy	33			
Paraffinic	33			
Petroleum	33		PTN	
Solvent	33		NSV	
Stoddard solvent	33		NSS	
Varnish Makers and Painters	33		NVM	
Naphthalene	32		NTM	
Naphthalene still residue	32	2	NSR	
Naphthalene sulfonic acid-formaldehyde copolymer, sodium salt solution	0	1	NFS	
Naphthalene sulfonic acid, sodium salt solution	34		NSA	
Naphthenic acid	4		NTI	
Naphthenic acid, sodium salt solution	43		NTS	
Neodecanoic acid	4		NEA	
NIAX POLYOL APP 240C	0	1, 2	NXP	
Nitrating acid	0	1	NIA	
Nitric acid (70% or less)	3		NCD	
Nitric acid (greater than 70%)	0	1		NAC
Nitrobenzene	42		NTB	
o-Nitrochlorobenzene, see Chloronitrobenzene				CNO
Nitroethane	42		NTE	
Nitroethane, 1-Nitropropane mixtures	42		NNO	
o-Nitrophenol	0	1, 2	NTP	NIP/NPH
Nitropropane	42		NPM	NPN/NPP
Nitropropane, Nitroethane mixture	42			NNO (NNM/NNL)
Nitrotoluene	42		NIT	NIE/NTT/NTR
Nonane	31	1	NAX	ALK (NAN)

Chemical name	Group No.	Footnote	CHRIS Code	Related CHRIS Codes
Nonanoic acid	4		NNA	NAI/NIN
Nonanoic, Tridecanoic acid mixture	4		NAT	
Nonene	30		NOO	NON/NNE
Nonyl acetate	34		NAE	
Nonyl alcohol	20	2	NNS	NNI/NNN/DBC
Nonylbenzene, see Alkyl(C9+)benzenes				AKB
Nonyl methacrylate	14	1	NMA	
Nonyl phenol	21		NNP	
Nonyl phenol poly(4+)ethoxylates	40		NPE	
Nonyl phenol sulfide solution, see Alkyl phenol sulfide (C8-C40)				AKS/NPS
Noxious Liquid Substance, n.o.s. (NLS s)	0	1		
1-Octadecene, see the olefin or alpha-olefin entries				
Octadecenoamide	10		ODD	
Octadecenol (oleyl alcohol), see Alcohols (C13+)				ALY
Octane	31	1	OAX	ALK (IOO/OAN)
Octanoic acid	4		OAY	OAA/EHO
Octanol	20	2	OCX	IOA/OTA/EHX
Octene	30		OTX	OTE
n-Octyl acetate	34		OAF	OAE
Octyl alcohol, see Octanol				OCX
Octyl aldehyde	19		OAL	IOC/OLX/EHA
Octyl decyl adipate	34		ODA	
Octyl nitrate, see Alkyl(C7-C9) nitrates			ONE	AKN
Octyl phenol	21			
Octyl phthalate, see Dioctyl phthalate				DOP
Oil, edible:				
Beechnut	34		OBN	VEO
Castor	34		OCA	VEO
Cocoa butter	34		OCB	VEO
Coconut	34	2	OCC	VEO
Cod liver	34		OCL	AFN
Corn	34		OCO	VEO
Cottonseed	34		OCS	VEO
Fish	34	2	OFS	AFN
Groundnut	34		OGN	VEO
Hazelnut	34		OHN	VEO
Lard	34		OLD	AFN
Maize	34			VEO (OCO)
Nutmeg butter	34		ONB	VEO
Olive	34		OOL	VEO
Palm	34	2	OPM	VEO
Palm kernel	34		OPO	VEO
Peanut	34		OPN	VEO
Poppy	34		OPY	VEO
Poppy seed	34			VEO
Raisin seed	34		ORA	VEO
Rapeseed	34		ORP	VEO
Rice bran	34		ORB	VEO
Safflower	34		OSF	VEO
Salad	34		OSL	VEO
Sesame	34		OSS	VEO
Soya bean	34		OSB	VEO
Sunflower seed	34		OSN	VEO
Tucum	34		OTC	VEO
Vegetable	34		OVG	VEO
Walnut	34		OWN	VEO
Oil, fuel:				
No. 1	33		OON	
No. 1-D	33		OOD	
No. 2	33		OTW	
No. 2-D	33		OTD	
No. 4	33		OFR	
No. 5	33		OFV	
No. 6	33		OSX	
Oil, misc:				
Aliphatic	33			
Animal	34		OMA	AFN
Aromatic	33			
Clarified	33		OCF	
Coal	33			
Coconut oil, fatty acid methyl ester	34		OCM	
Cotton seed oil, fatty acid	34		CFY	
Crude	33		OIL	

Chemical name	Group No.	Footnote	CHRIS Code	Related CHRIS Codes
Diesel	33		ODS	
Gas, high pour	33			
Gas, low pour	33			
Gas, low sulfur	33			
Heartcut distillate	33			
Lanolin	34		OLL	AFN
Linseed	33		OLS	
Lubricating	33		OLB	
Mineral	33		OMN	
Mineral seal	33		OMS	
Motor	33		OMT	
Neatsfoot	33		ONF	AFN
Oiticica	34		OOI	
Palm oil, fatty acid methyl ester	34		OPE	
Penetrating	33		OPT	
Perilla	34		OPR	
Pilchard	34		OPL	AFN
Pine	33		OPI	PNL
Residual	33			
Road	33		ORD	
Rosin	33		ORN	
Seal	34			
Soapstock	34		OIS	
Soybean (epoxidized)	34			EVO
Sperm	33		OSP	AFN
Spindle	33		OSD	
Tall	34		OTL	
Tall, fatty acid	34	2	TOF	
Transformer	33		OTF	
Tung	34		OTG	
Turbine	33		OTB	
Wood	34			
Olefin/Alkyl ester copolymer (molecular weight 2000+)	34		OCP	
Olefin mixtures	30			OFX/OFY
alpha-Olefins (C6-C18) mixtures	30		OAM	
Olefins (C13+)	30			
Oleic acid	34		OLA	
Oleum	0	1, 2	OLM	
Oleyl alcohol (octadecenol), see Alcohols (C13+)				ALY
Oleylamine	7		OLY	
ORIMULSION, see Asphalt emulsion				ASQ
Oxyalkylated alkyl phenol formaldehyde	33			
Palm kernel acid oil	34		PNO	
Palm kernel acid oil, methyl ester	34		PNF	
Palm kernel oil, fatty acid, see Palm kernel acid oil				PNO
Palm kernel oil, fatty acid methyl ester, see Palm kernel acid oil, methyl ester.				PNF
Palm stearin	34		PMS	
n-Paraffins (C10-C20), see n-Alkanes (C10+)			PFN	ALJ
Paraldehyde	19		PDH	
Paraldehyde-Ammonia reaction product	9		PRB	
Pentachloroethane	36		PCE	
Pentacosa(oxypropane-2,3-diyl)s	20		POY	
Pentadecanol, see Alcohols (C13+)			PDC	ALY
1,3-Pentadiene	30		PDE	PDN
Pentaethylene glycol, see Polyethylene glycols				
Pentaethylene glycol methyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether.				PAG
Pentaethylenehexamine	7		PEN	
Pentaethylenehexamine, Tetraethylenepentamine mixture	7		PEP	
Pentane	31	1	PTY	IPT/PTA
Pentanoic acid	4		POC	
n-Pentanoic acid, 2-Methyl butryic acid mixture	4		POJ	POC
Pentasodium salt of Diethylenetriamine pentaacetic acid solution, see Diethylenetriamine pentaacetic acid, pentasodium salt solution.				
Pentene	30		PTX	PTE
Pentyl aldehyde	19			
n-Pentyl propionate	34		PPE	
Perchloroethylene	36	2	PER	TTE
Petrolatum	33		PTL	
Phenol	21		PHN	
1-Phenyl-1-xylyl ethane	32		PXE	
Phosphate esters, alkyl(C12-C14)amine	7		PEA	

Chemical name	Group No.	Footnote	CHRIS Code	Related CHRIS Codes
Phosphoric acid	1	1	PAC	
Phosphorus	0	1	PPW	PPR/PPB
Phthalate based polyester polyol	0	1, 2	PBE	
Phthalic anhydride	11		PAN	
alpha-Pinene	30		PIO	PIN
beta-Pinene	30		PIP	PIN
Pine oil	33		PNL	OPI
Polyalkyl(C18-C22) acrylate in Xylene	14	1	PIX	
Polyalkylene glycol butyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether.			PGB	PAG
Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	40		PAG	
Including:				
Diethylene glycol butyl ether				
Diethylene glycol ethyl ether				
Diethylene glycol n-hexyl ether				
Diethylene glycol methyl ether				
Diethylene glycol n-propyl ether				
Dipropylene glycol butyl ether				
Dipropylene glycol methyl ether				
Polyalkylene glycol butyl ether				
Polyethylene glycol monoalkyl ether				
Polypropylene glycol methyl ether				
Tetraethylene glycol methyl ether				
Triethylene glycol butyl ether				
Triethylene glycol ethyl ether				
Triethylene glycol methyl ether				
Tripropylene glycol methyl ether				
Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether acetate	34		PAF	
Including:				
Diethylene glycol butyl ether acetate				
Diethylene glycol ethyl ether acetate				
Diethylene glycol methyl ether acetate				
Polyalkylene glycols, Polyalkylene glycol monoalkyl ethers mixtures	40		PPX	
Polyalkylene oxide polyol	20		PAO	
Polyalkyl methacrylate (C1-C20)				
Polyalkyl(C10-C20)methacrylate	14	1	PMT	
Polyalkyl(C10-C18)methacrylate/Ethylene propylene copolymer mixture	14	1	PEM	
Polyaluminum chloride solution	1	1		
Polybutadiene, hydroxyl terminated	20			
Polybutene	30		PLB	
Polybutenyl succinimide	10		PBS	
Poly(2+)cyclic aromatics	32		PCA	
Polydimethylsiloxane	34			
Polyether (molecular weight 2000+)	41		PYR	
Polyethylene glycol	40			
Polyethylene glycol dimethyl ether	40			
Polyethylene glycol monoalkyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether.			PEE	PAG
Polyethylene polyamines	7	2	PEB	
Polyferric sulfate solution	34		PSS	
Polyglycerine, Sodium salts solution (containing less than 3% Sodium hydroxide).	20	2	PGT	
Polyglycerol	20			GCR
Polyisobutenamine in aliphatic (C10-C14) solvent	7		PIB	
Polyisobutenyl anhydride adduct	11			
Poly(4+)isobutylene	30			
Polymethylene polyphenyl isocyanate	12		PPI	
Polymethylsiloxane	34			
Polyolefin (molecular weight 300+)	30			
Polyolefin amide alkeneamine (C17+)	33		POH	
Polyolefin amide alkeneamine (C28+)	33		POD	
Polyolefin amide alkeneamine borate (C28-C250)	33		PAB	
Polyolefin amide alkeneamine/Molybdenum oxysulfide mixture	7			
Polyolefin amide alkeneamine polyol	20		PAP	
Poly(C17+)olefin amine	7		POG	
Polyolefinamine (C28-C250)	33		POM	
Polyolefinamine in alkyl(C2-C4)benzenes	32		POF	
Polyolefin aminoester salt	34		PAE	
Polyolefin anhydride	11		PAR	
Polyolefin ester (C28-C250)	34		POS	
Polyolefin phenolic amine (C28-C250)	7		PPH	
Polyolefin phosphorosulfide, barium derivative (C28-C250)	34		PPS	
Poly(20)oxyethylene sorbitan monooleate	34		PSM	

Chemical name	Group No.	Footnote	CHRIS Code	Related CHRIS Codes
Poly(5+)propylene	30		PLQ	PLP
Polypropylene glycol	40		PGC	
Polypropylene glycol methyl ether, see Propylene glycol monoalkyl ether			PGM	PGE
Polysiloxane	34			DMP
Poly(tetramethylene ether) glycols (mw 950-1050) (*alpha-hydro-omega-Hydroxytetradeca(oxytetramethylene*)).	40		HTO	
Polytetramethylene ether glycol	40			
Potassium chloride solution	43		PCS	(DRB)
Potassium formate solution	34		PFR	
Potassium hydroxide solution (*IMO cargo name*), *see* Caustic potash solution.	5	2		CPS
Potassium oleate	34		POE	
Potassium salt of polyolefin acid	34			
Potassium thiosulfate solution	43		PTF	
Propane	31	1	PRP	
Propanolamine	8		PAX	MPA/PLA
Propionaldehyde	19		PAD	
Propionic acid	4		PNA	
Propionic anhydride	11		PAH	
Propionitrile	37		PCN	
n-Propoxypropanol, see Propylene glycol monoalkyl ether			PXP	PGE
Propyl acetate	34			IAC/PAT
Propyl alcohol	20	2		IPA/PAL
Propylamine	7			IPP/PRA
iso-Propylamine solution	7			IPO/IPQ
Propylbenzene	32	2	PBY	PBZ/CUM
n-Propyl chloride	36		PRC	
iso-Propylcyclohexane	31	1	IPX	
Propylene	30		PPL	
Propylene-butylene copolymer	30		PBP	
Propylene carbonate	34			
Propylene dimer	30		PDR	
Propylene glycol	20	2	PPG	
Propylene glycol n-butyl ether, see Propylene glycol monoalkyl ether			PGD	PGE
Propylene glycol ethyl ether, see Propylene glycol monoalkyl ether			PGY	PGE
Propylene glycol methyl ether, see Propylene glycol monoalkyl ether			PME	PGE
Propylene glycol methyl ether acetate	34		PGN	
Propylene glycol monoalkyl ether *Including:* *n-Propoxypropanol* *Propylene glycol n-butyl ether* *Propylene glycol ethyl ether* *Propylene glycol methyl ether* *Propylene glycol propyl ether*	40		PGE	
Propylene glycol phenyl ether	40		PGP	
Propylene glycol propyl ether, see Propylene glycol monoalkyl ether				PGE
Propylene oxide	16	1	POX	
Propylene, Propane, MAPP gas mixture	30	2	PPM	
Propylene tetramer	30		PTT	
Propylene trimer	30		PTR	
Propyl ether	41			IPE/PRE
Pseudocumene, see Trimethylbenzene				TME/TRE
Pyridine	9		PRD	
Pyridine bases, see Paraldehyde-Ammonia reaction product				PRB
Roehm monomer 6615	14	1	RMN	
Rosin oil	33		ORN	
Rosin soap (disproportionated) solution	43		RSP	
ROUNDUP (See also Glyphosate solution)	7		RUP	
Rum, see Alcoholic beverages				
SAP 7001	0	1	SON	
Sewage sludge	43			
Silica slurry	43			
Sludge, treated	43			
Sodium acetate, Glycol, Water mixture (not containing Sodium hydroxide)	34	2	SAO	SAP
Sodium acetate, Glycol, Water mixture (containing Sodium hydroxide)	5		SAP	SAO
Sodium acetate solution	34		SAN	AKP
Sodium alkyl sulfonate solution	43		SSU	
Sodium alkyl (C14-C17) sulfonates 60-65% solution (*IMO cargo name*), *see* Alkane (C14-C17) sulfonic acid, sodium salt solution.	34		AKA	
Sodium aluminate solution	5		SAU	
Sodium aluminosillicate slurry	34			
Sodium benzoate solution	34		SBN	
Sodium borohydride, Sodium hydroxide solution	5		SBX	SBH/SBI

Chemical name	Group No.	Footnote	CHRIS Code	Related CHRIS Codes
Sodium carbonate solutions	5		SCE	
Sodium chlorate solution	0	1, 2	SDD	SDC
Sodium cyanide solution	5		SCS	SCN
Sodium dichromate solution	0	1, 2	SDL	SCR
Sodium dimethyl naphthalene sulfonate solution, see Dimethyl naphthalene sulfonic acid, sodium salt solution.				DNS
Sodium hydrogen sulfide, Sodium carbonate solution	0	1, 2	SSS	
Sodium hydrogen sulfite solution	43		SHX	
Sodium hydrosulfide solution	5	2	SHR	
Sodium hydrosulfide, Ammonium sulfide solution	5	2	SSA	
Sodium hydroxide solution (*IMO cargo name*), *see* Caustic soda solution	5	2		CSS
Sodium hypochlorite solution	5			SHP/SHQ/(SHC)
Sodium lignosulfonate solution, *see also* Lignin liquor	43			
Sodium long chain alkyl salicylate (C13+)	34		SLS	
Sodium 2-mercaptobenzothiazol solution	5		SMB	
Sodium N-methyl dithio carbamate solution, see Metam sodium solution				MSS
Sodium naphthalene sulfonate solution, see Naphthalene sulfonic acid, sodium salt solution.			SNS	NSA
Sodium naphthenate solution, see Naphthenic acid, sodium salt solution				NTS
Sodium nitrite solution	5		SNI	SNT
Sodium petroleum sulfonate	33		SPS	
Sodium polyacrylate solution	43	2		
Sodium salt of Ferric hydroxyethylethylenediaminetriacetic acid solution, see Ferric hydroxyethylethylenediaminetriacetic acid, trisodium salt solution.			STA	FHX
Sodium silicate solution	43	2	SSN	SSC
Sodium sulfide, Hydrosulfide solution	0	1, 2		SSH/SSI/SSJ
Sodium sulfide solution	43		SDR	
Sodium sulfite solution	43		SUP	SUS
Sodium tartrates, Sodium succinates solution	43		STM	
Sodium thiocyanate solution	0	1, 2	STS	SCY
Sorbitol solutions	20			SBT
Soyabean oil (expoxidized)	34			OSC/EVO
Stearic acid, see Fatty acids (saturated, C14+)			SRA	FAD
Stearyl alcohol	20			
Styrene	30		STY	STX
Styrene monomer	30		STY	STX
Sulfohydrocarbon (C3-C88)	33		SFO	
Sulfohydrocarbon, long chain (C18+) alkylamine mixture	7		SFX	
Sulfolane	39		SFL	
Sulfonated polyacrylate solutions	43	2		
Sulfur	0	1	SXX	
Sulfuric acid	2	2	SFA	
Sulfuric acid, spent	2		SAC	
Sulfurized fat (C14-C20)	33		SFT	
Sulfurized polyolefinamide alkene(C28-C250) amine	33		SPO	
Tall oil	34		OTL	
Tall oil fatty acid (*Resin acids less than 20%*)	34	2	TOF	
Tall oil fatty acid, barium salt	0	1, 2	TOB	
Tall oil soap (disproportionated) solution	43		TOS	
Tallow	34	2	TLO	
Tallow fatty acid	34	2	TFD	
Tallow fatty alcohol, see Alcohols (C13+)			TFA	ALY
Tallow nitrile	37		TAN	
TAME, see tert-Amyl methyl ether				AYE
1,1,2,2-Tetrachloroethane	36		TEC	
Tetrachloroethylene, see Perchloroethylene			TTE	PER
Tetradecanol, see Alcohols (C13+)			TTN	ALY
Tetradecene, see the olefins entries			TTD	
Tetradecylbenzene, *see* Alkyl(C9+) benzenes	32		TDB	AKB
Tetraethylene glycol	40		TTG	
Tetraethylene glycol methyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether.				PAG
Tetraethylenepentamine	7	2	TTP	
Tetrahydrofuran	41		THF	
Tetrahydronaphthalene	32		THN	
1,2,3,5-Tetramethylbenzene, see Tetramethylbenzene			TTB	TTC
Tetramethylbenzene	32		TTC	TTB
Tetrapropylbenzene, see Alkyl(C9+)benzenes				AKB
Tetrasodium salt of EDTA solution, see Ethylenediaminetetraacetic acid, tetrasodium salt solution.				EDS
Titanium dioxide slurry	43		TDS	
Titanium tetrachloride	2		TTT	

Chemical name	Group No.	Footnote	CHRIS Code	Related CHRIS Codes
Toluene	32		TOL	
Toluenediamine	9		TDA	
Toluene diisocyanate	12		TDI	
o-Toluidine	9		TLI	
Triarylphosphate, see Triisopropylated phenyl phosphates			TRA	TPL
Tributyl phosphate	34		TBP	
1,2,4-Trichlorobenzene	36		TCB	
1,1,1-Trichloroethane	36	2	TCE	
1,1,2-Trichloroethane	36		TCM	
Trichloroethylene	36	2	TCL	
1,2,3-Trichloropropane	36	2	TCN	
1,1,2-Trichloro-1,2,2-trifluoroethane	36		TTF	
Tricresyl phosphate	34			TCO/TCP
Tridecane, see n-Alkanes (C10+)			TRD	ALJ
Tridecanoic acid	34		TDO	
Tridecanol, see Alcohols (C13+)			TDN	ALY
Tridecene, see Olefins (C13+)			TDC	
Tridecyl acetate	34		TAE	
Tridecylbenzene, *see* Alkyl(C9+) benzenes	32	2	TRB	AKB
Triethanolamine	8	2	TEA	
Triethylamine	7		TEN	
Triethylbenzene	32	2	TEB	
Triethylene glycol	40		TEG	
Triethylene glycol butyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether.				PAG
Triethylene glycol butyl ether mixture	40			
Triethylene glycol dibenzoate	34		TGB	
Triethylene glycol di-(2-ethylbutyrate)	34		TGD	
Triethylene glycol ether mixture	40			
Triethylene glycol ethyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether.			TGE	PAG
Triethylene glycol methyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether.			TGY	PAG
Triethylenetetramine	7	2	TET	
Triethyl phosphate	34		TPS	
Triethyl phosphite	34	2	TPI	
Triisobutylene	30		TIB	
Triisooctyl trimellitate	34			
Triisopropanolamine	8		TIP	
Triisopropanolamine salt of 2,4-Dichlorophenoxyacetic acid solution, see 2,4-Dichlorophenoxyacetic acid, Triisopropanolamine salt solution.				DTI
Triisopropylated phenyl phosphates	34		TPL	
Trimethylacetic acid	4		TAA	
Trimethylamine solution	7		TMT	
Trimethylbenzene	32	2	TRE	TME/TMB/TMD
Trimethylhexamethylenediamine (2,2,4- and 2,4,4-)	7		THA	
Trimethylhexamethylene diisocyanate (2,2,4- and 2,4,4-)	12		THI	
Trimethyl nonanol, see Dodecanol				DDN
Trimethylol propane polyethoxylate	20		TPR	
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	34		TMQ	
2,2,4-Trimethyl-1,3-pentanediol-1-isobutyrate	34		TMP	
2,2,4-Trimethyl-3-pentanol-1-isobutyrate	34			
Trimethyl phosphite	34	2	TPP	
1,3,5-Trioxane	41	2	TRO	
Triphenylborane, Caustic soda solution	5		TPB	
Tripropylene, see Propylene trimer				PTR
Tripropylene glycol	40		TGC	
Tripropylene glycol methyl ether, see Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether.			TGM	PAG
Trisodium nitrilotriacetate	34			
Trisodium phosphate solution	5		TSP	
Trisodium salt of N-(Hydroxyethyl)ethylenediaminetriacetic acid solution, see N-(Hydroxyethyl)ethylenediaminetriacetic acid, trisodium salt solution.				HET
Trixylyl phosphate (*IMO cargo name*), *see* Trixylenyl phosphate	34			TRP
Trixylenyl phosphate	34		TRP	
Turpentine	30		TPT	
Ucarsol CR Solvent 302 SG	8		UCS	
Undecanoic acid	4		UDA	
Undecanol, see Undecyl alcohol				UND
Undecene	30		UDC	
Undecyl alcohol	20		UND	
Undecylbenzene, *see* Alkyl(C9+) benzenes			UDB	AKB

Chemical name	Group No.	Footnote	CHRIS Code	Related CHRIS Codes
Urea, Ammonium mono- and di-hydrogen phosphate, Potassium chloride solution.	0	1	UPX	
Urea, Ammonium nitrate solution (containing Ammonia)	6	.....	UAS	
Urea, Ammonium nitrate solution (not containing Ammonia)	43	.....	UAT	ANU
Urea, Ammonium phosphate solution	43	.....	UAP	
Urea solution	43	.....		URE
Valeraldehyde	19	.....	VAK	IVA/VAL
Vanillin black liquor	5	.....	VBL	
Vegetable oils, n.o.s.	34	.....	VEO	
Including:				
Beechnut oil				
Castor oil				
Cocoa butter				
Coconut oil				
Corn oil				
Cottonseed oil				
Groundnut oil				
Hazelnut oil				
Linseed oil				
Nutmeg butter				
Oiticica oil				
Olive oil				
Palm kernel oil				
Palm oil				
Peel oil (oranges and lemons)				
Perilla oil				
Poppy oil				
Raisin seed oil				
Rapeseed oil				
Rice bran oil				
Safflower oil				
Salad oil				
Sesame oil				
Soya bean oil				
Sunflower seed oil				
Tucum oil				
Tung oil				
Walnut oil				
Vegetable acid oils and distillates, n.o.s.	34	.....	VAO	
Including:				
Corn acid oil				
Cottonseed acid oil				
Dark mixed acid oil				
Groundnut acid oil				
Mixed acid oil				
Mixed general acid oil				
Mixed hard acid oil				
Mixed soft acid oil				
Rapeseed acid oil				
Safflower acid oil				
Soya acid oil				
Sunflower seed acid oil				
Vegetable protein solution	43	.....		
Vinyl acetate	13	1	VAM	
Vinyl chloride	35	.....	VCM	
Vinyl ethyl ether	13	1	VEE	
Vinylidene chloride	35	.....	VCI	
Vinyl neodecanate	13	1	VND	
Vinyltoluene	13	1	VNT	
Water	43	.....		
Waxes:	.....	.....	WAX	
Candelilla	34	.....	WDC	
Carnauba	34	.....	WCA	
Paraffin	31	1	WPF	
Petroleum	33	.....		
Wine, see Alcoholic beverages	.....	.....		
White spirit (low (15-20%) aromatic)	33	.....	WSL	WSP
Xylene	32		XLX	XLM/XLO/XLP
Xylenes, Ethylbenzene mixture	32		XEB	
Xylenols	21	.....	XYL	
Zinc alkaryl dithiophosphate (C7-C16)	34	.....	ZAD	
Zinc alkenyl carboxamide	10	.....	ZAA	
Zinc alkyl dithiophosphate (C3-C14)	34	.....	ZAP	

Chemical name	Group No.	Footnote	CHRIS Code	Related CHRIS Codes
Zinc bromide, Calcium bromide solution, see Drilling brine (containing Zinc salts).	.....	.....		DZB

1. Because of very high reactivity or unusual conditions of carriage or potential compatibility problems, this commodity is not assigned to a specific group in the Compatibility Chart. For additional compatibility information, contact Commandant (CG ENG 5), Hazardous Materials Division, U.S. Coast Guard, 2100 2nd Street, SW., Stop 7126, Washington, DC 20593 7126. Telephone 202 372 1420; email: *hazmatstandards@uscg.mil.*
2. See Appendix I Exceptions to the Chart.

[USCG 2000–7079, 65 FR 67162, Nov. 8, 2000, as amended by USCG–2006–25697, 71 FR 55746, Sept. 25, 2006; USCG–2008–0906, 73 FR 56510, Sept. 29, 2008; USCG–2009–0702, 74 FR 49236, Sept. 25, 2009; USCG–2010–0759, 75 FR 60003, Sept. 29, 2010; USCG–2012–0832, 77 FR 59783, Oct. 1, 2012]

TABLE II TO PART 150—GROUPING OF CARGOES

0. UNASSIGNED CARGOES

Acetone cyanohydrin [1,2]
Alkylbenzenesulfonic acid [1,2]
Aluminium chloride, Hydrochloric acid solution [1]
Ammonium hydrogen phosphate solution [1]
Ammonium nitrate solution [1]
Ammonium thiocyanate, Ammonium thiosulfate solution [1]
Benzenesulfonyl chloride [1,2]
gamma-Butyrolactone [1,2]
Chlorine [1]
Chlorosulfonic acid [1]
Decyloxytetrahydro-thiophene dioxide [2]
tert-Dodecanethiol [2]
2,4-Dichlorophenoxyacetic acid, Dimethylamine salt solution [1,2]
Dimethylamine salt of 2,4-Dichlorophenoxyacetic acid solution [1,2]
Diphenylol propane-Epichlorohydrin resins [1]
Dodecylbenzenesulfonic acid [1,2]
Dodecyl hydroxypropyl sulfide [2]
Ethylene oxide [1]
Hydrogen peroxide solutions [1]
Lactic acid [2]
Long chain alkaryl sulfonic acid (C16–C60) [2]
Magnesium chloride solution [1,2]
Molasses residue [1]
Motor fuel antiknock compounds containing Lead alkyls [1]
Naphthalene sulfonic acid-formaldehyde copolymer, sodium salt solution [1]
NIAX POLYOL APP 240C [1,2]
Nitrating acid [1]
Nitric acid (greater than 70%) [1]
o-Nitrophenol [1,2]
Noxious Liquid Substance, n.o.s. (NLS's) [1]
Oleum [1,2]
Phosphorus [1]
Phthalate based polyester polyol [2]
SAP 7001 [1]
Sodium chlorate solution [1,2]
Sodium dichromate solution [1,2]
Sodium hydrogen sulfide, Sodium carbonate solution [1,2]
Sodium sulfide, Hydrosulfide solution [1,2]
Sodium thiocyanate solution [1,2]
Sulfur [1]
Tall oil fatty acid, barium salt [2]
Urea, Ammonium mono- and di-hydrogen phosphate, Potassium chloride solution

1. NON-OXIDIZING MINERAL ACIDS

Di-(2-ethylhexyl)phosphoric acid
Ferric chloride solution
Fluorosilicic acid
Hydrochloric acid
Phosphoric acid
Polyaluminum chloride solution

2. SULFURIC ACIDS

Sulfuric acid [2]
Sulfuric acid, spent
Titanium tetrachloride

3. NITRIC ACID

Ferric nitrate, Nitric acid solution
Nitric acid (70% or less)

4. ORGANIC ACIDS

Acetic acid [2]
Acrylic acid [2]
Butyric acid
Cashew nut shell oil (untreated)
Citric acid
Chloroacetic acid solution
Chloropropionic acid
Decanoic acid
2,2-Dichloropropionic acid
2,2-Dimethyloctanoic acid
2-Ethylhexanoic acid
Formic acid [2]
Glycolic acid
Glyoxylic acid
n-Heptanoic acid
Hexanoic acid
2-Hydroxy-4-(methylthio)butanoic acid
Methacrylic acid
Naphthenic acid
Neodecanoic acid
Nonanoic acid
Nonanoic, Tridecanoic acid mixture
Octanoic acid
n-Pentanoic acid, 2-Methyl butryic acid mixture
Pentanoic acid
Propionic acid
Trimethylacetic acid

Undecanoic acid

5. CAUSTICS

Ammonium sulfide solution
Calcium hypochlorite solutions
Caustic potash solution[2]
Caustic soda solution[2]
Cresylate spent caustic
Cresylic acid, sodium salt solution
Kraft black liquor
Kraft pulping liquors
Mercaptobenzothiazol, sodium salt solution
Potassium hydroxide solution[2]
Sodium acetate, Glycol, Water mixture (containing Sodium hydroxide)
Sodium aluminate solution
Sodium borohydride, Sodium hydroxide solution
Sodium carbonate solutions
Sodium cyanide solution
Sodium hydrosulfide solution[2]
Sodium hydrosulfide, Ammonium sulfide solution[2]
Sodium hydroxide solution[2]
Sodium hypochlorite solution
Sodium 2-mercaptobenzothiazol solution
Sodium naphthenate solution
Sodium nitrite solution
Triphenylborane, Caustic soda solution
Trisodium phosphate solution
Vanillin black liquor

6. AMMONIA

Ammonia, anhydrous
Ammonia, aqueous
Ammonium hydroxide (28% or less Ammonia)
Ammonium nitrate, Urea solution (containing Ammonia)
Urea, Ammonium nitrate solution (containing Ammonia)

7. ALIPHATIC AMINES

N-Aminoethylpiperazine
Butylamine
Cyclohexylamine
Dibutylamine
Diethylamine[2]
Diethylenetriamine[2]
Diisobutylamine
Diisopropylamine
Dimethylamine
Dimethylamine solution
N,N-Dimethylcyclohexylamine
N,N-Dimethyldodecylamine
Di-n-propylamine
Diphenylamine, reaction product with 2,2,4-Trimethylpentene
Diphenylamines, alkylated
Dodecylamine, Tetradecylamine mixture[2]
Dodecyldimethylamine, Tetradecyldimethylamine mixture
Ethylamine[2]
Ethylamine solution
Ethyleneamine EA 1302[2]
N-Ethyl-n-butylamine
N-Ethyl cyclohexylamine
Ethylenediamine[2]
2-Ethyl hexylamine
N-Ethylmethylallylamine
Glyphosate solution (not containing surfactant)
Hexamethylenediamine
Hexamethylenediamine solution
Hexamethylenetetramine
Hexamethylenetetramine solutions
Hexamethylenimine
HiTec 321
bis-(Hydrogenated tallow alkyl)methyl amines
Isophorone diamine
Long chain polyetheramine in alkyl(C2–C4)benzenes
Metam sodium solution
Methylamine solutions
Morpholine[2]
Oleylamine
Pentaethylenehexamine
Pentaethylenehexamine, Tetraethylenepentamine mixture
Phosphate esters, alkyl (C12–C14) amine
Polyethylene polyamines[2]
Polyolefin amide alkeneamine (C28+)
Polyisobutenamine in aliphatic (C10–C14) solvent
Poly (C17+) olefin amine
Polyolefin amide alkeneamine/Molybdenum oxysulfide mixture
Propanil, Mesityl oxide, Isophorone mixture
Propylamine
iso-Propylamine solution
Roundup
Sulfohydrocarbon, long chain (C18+) alkylamine mixture
Tetraethylenepentamine[2]
Triethylamine
Triethylenetetramine[2]
Trimethylamine solution
Trimethylhexamethylene diamine (2,2,4- and 2,4,4-)

8. ALKANOLAMINES

2-(2-Aminoethoxy)ethanol
Aminoethyldiethanolamine, Aminoethylethanolamine solution
Aminoethylethanolamine
2-Amino-2-methyl-1-propanol
Diethanolamine
Diethylaminoethanol
Diethylethanolamine
Diisopropanolamine
Dimethylethanolamine
Ethanolamine
Ethoxylated long chain (C16+) alkyloxyalkanamine
Methyl diethanolamine
Propanolamine
Triethanolamine[2]
Triisopropanolamine
Ucarsol CR Solvent 302 SG

9. AROMATIC AMINES

Alkyl (C8–C9) phenylamine in aromatic solvents
Aniline
Calcium long chain alkyl phenolic amine (C8–C40)
4-Chloro-2-methylphenoxyacetic acid, Dimethylamine salt solution
Dialkyl (C8–C9) diphenylamines
2,6-Diethylaniline
Dimethylamine salt of 4-Chloro-2-methylphenoxyacetic acid solution
2,6-Dimethylaniline
Diphenylamine
2-Ethyl-6-methyl-N-(1′-methyl-2-methoxyethyl)aniline
2-Methyl-6-ethyl aniline
2-Methyl-5-ethyl pyridine
Methyl pyridine
3-Methylpyridine
N-Methyl-2-pyrrolidone[2]
Paraldehyde-Ammonia reaction product
Pyridine
Pyridine bases
Toluenediamine
p-Toluidine

10. AMIDES

Acetochlor
Acrylamide solution
Alkenyl(C11+)amide
N,N-Dimethylacetamide
N,N-Dimethylacetamide solution
Dimethylformamide
Formamide
N,N-bis(2-Hydroxyethyl) oleamide
Octadecenoamide
Zinc alkenyl carboxamide

11. ORGANIC ANHYDRIDES

Acetic anhydride
Alkenylsuccinic anhydride
Maleic anhydride
Phthalic anhydride
Polyisobutenyl anhydride adduct
Polyolefin anhydride
Propionic anhydride

12. ISOCYANATES

Diphenylmethane diisocyanate
Hexamethylene diisocyanate
Isophorone diisocyanate
Polymethylene polyphenyl isocyanate
Toluene diisocyanate
Trimethylhexamethylene diisocyanate (2,2,4- and 2,4,4-)

13. VINYL ACETATE

Vinyl acetate
Vinyl ethyl ether
Vinyl neodecanate
Vinyl toluene

14. ACRYLATES

Butyl acrylate
Butyl methacrylate
Butyl methacrylate, Decyl methacrylate, Cetyl-Eicosyl methacrylate mixture
Cetyl-Eicosyl methacrylate mixture
Decyl acrylate
Dodecyl methacrylate
Dodecyl-Octadecyl methacrylate mixture
Dodecyl-Pentadecyl methacrylate mixture
Ethyl acrylate
2-Ethylhexyl acrylate
Ethyl methacrylate
2-Hydroxyethyl acrylate[2]
Methacrylic resin in Ethylene dichloride
Methyl acrylate
Methyl methacrylate
Nonyl methacrylate
Polyalkyl(C18 - C22) acrylate in Xylene
Polyalkyl (C10–C18) methacrylate/Ethylene
Polyalkyl (C10–C20) methacrylate
Propylene copolymer mixture
Roehm monomer 6615

15. SUBSTITUTED ALLYLS

Acrylonitrile[2]
Allyl alcohol[2]
Allyl chloride
1,3-Dichloropropene
Dichloropropene, Dichloropropane mixtures
Methacrylonitrile

16. ALKYLENE OXIDES

Butylene oxide
Ethylene oxide, Propylene oxide mixtures
Propylene oxide

17. EPICHLOROHYDRIN

Chlorohydrins
Epichlorohydrin

18. KETONES

Acetone[2]
Acetophenone
Amyl methyl ketone
Butyl heptyl ketone
Camphor oil
1-(4-Chlorophenyl)-4,4-dimethyl pentan-3-one[2]
Cyclohexanone
Cyclohexanone, Cyclohexanol mixtures[2]
Diisobutyl ketone
Ethyl amyl ketone
Epoxy resin
Ketone residue
Isophorone[2]
Mesityl oxide[2]
Methyl amyl ketone
Methyl butyl ketone
Methyl butyl ketone
Methyl ethyl ketone[2]
Methyl heptyl ketone
Methyl isoamyl ketone
Methyl isobutyl ketone[2]
Methyl propyl ketone
Trifluralin in Xylene

19. ALDEHYDES

Acetaldehyde
Acrolein[2]
Butyraldehyde
Crotonaldehyde[2]
Decaldehyde
Ethylhexaldehyde
2-Ethyl-3-propylacrolein[2]
Formaldehyde, Methanol mixtures[2]
Formaldehyde solution[2]
Furfural
Glutaraldehyde solution
Glyoxal solutions
3-Methyl butyraldehyde
Methylolureas
3-(Methylthio)propionaldehyde
Octyl aldehyde
Paraldehyde
Pentyl aldehyde
Propionaldehyde
Valeraldehyde

20. ALCOHOLS, GLYCOLS

Acrylonitrile-Styrene copolymer dispersion in Polyether polyol
Alcoholic beverages
Alcohol polyethoxylates
Alcohol polyethoxylates, secondary
Alcohols (C13+)
Amyl alcohol
Behenyl alcohol
Brake fluid base mixtures
1,4-Butanediol
Butyl alcohol[2]
Butylene glycol[2]
Cetyl-Stearyl alcohol
Choline chloride solutions
Cyclohexanol
Decyl alcohol[2]
Diacetone alcohol[2]
Diethyl hexanol
Diisobutyl carbinol
2,2-Dimethylpropane-1,3-diol
Dodecanol
Dodecyl alcohol
Ethoxylated alcohols, C11-C15
2-Ethoxyethanol
Ethyl alcohol[2]
Ethyl butanol
Ethylene chlorohydrin
Ethylene cyanohydrin
Ethylene glycol[2]
2-Ethylhexanol
Furfuryl alcohol[2]
Glycerine[2]
Glycerine, Dioxanedimethanol mixture
Glycerol monooleate
Heptanol
Hexamethylene glycol
Hexanol
Hexylene glycol
Hydroxy terminated polybutadiene
Icosa(oxypropane-2,3-diyl)s
Lauryl polyglucose (50% or less)
3-Methoxy-1-butanol
Methyl alcohol[2]
Methyl amyl alcohol
Methyl butenol
Methylbutynol
2-Methyl-2-hydroxy-3-butyne
Methyl isobutyl carbinol
3-Methyl-3-methoxybutanol
2-Methyl-1,3-propanediol
Molasses
Nonyl alcohol[2]
Octanol[2]
Octyl alcohol[2]
Penacosa(oxypropane-2,3-diyl)s
Pentadecanol
Polyalkylene oxide polyol
Polybutadiene, hydroxy terminated
Polyglycerol
Polyglycerine, Sodium salts solution (containing less than 3% Sodium hydroxide)[2]
Polyolefin amide alkeneamine polyol
Propyl alcohol[2]
Propylene glycol[2]
Rum
Sorbitol solutions
Stearyl alcohol
Tallow fatty alcohol
Tetradecanol
Tridecanol
Trimethyl nonanol
Trimethylol propane polyethoxylate
Undecanol
Undecyl alcohol

21. PHENOLS, CRESOLS

Benzyl alcohol
Carbolic oil
Creosote[2]
Cresols
Cresylic acid
Cresylic acid dephenolized
Cresylic acid, tar
Dibutylphenols
2,4-Dichlorophenol
Dodecyl phenol
o-Ethylphenol
Long chain alkylphenate/phenol sulfide mixture
Nonyl phenol
Octyl phenol
Phenol
Xylenols

22. CAPROLACTAM SOLUTIONS

Caprolactam solution

23–29. UNASSIGNED

30. OLEFINS

Amylene
Aryl polyolefin (C11–C50)
Butadiene
Butadiene, Butylene mixtures (cont. Acetylenes)
Butene
Butene oligomer
Butylene
1,5,9-Cyclododecatriene

1,3-Cyclopentadiene dimer
Cyclopentadiene, Styrene, Benzene mixture
Cyclopentene
Decene
Dicyclopentadiene
Diisobutylene
Dipentene
Dodecene
Ethylene
Ethylene-Propylene copolymer
Ethylidene norbornene[2]
1-Heptene
Hexene
Isoprene
Isoprene concentrate (Shell)
Latex (ammonia (1% or less) inhibited)
Methyl acetylene, Propadiene mixture
Methyl butene
Methylcyclopentadiene dimer
2-Methyl-1-pentene
4-Methyl-1-pentene
alpha-Methyl styrene
Myrcene
Nonene
1-Octadecene
Octene
Olefin mixtures
alpha-Olefins (C6 - C18) mixtures
alpha-Olefins (C13+)
1,3-Pentadiene
Pentene
alpha-Pinene
beta-Pinene
Polybutene
Poly(4+)isobutylene
Polyolefin (molecular weight 300+)
Polypropylene
Poly(5+)propylene
Propylene
Propylene-butylene copolymer
Propylene dimer
Propylene, Propane, MAPP gas mixture
Propylene tetramer
Propylene trimer
Styrene monomer
Tetradecene
Tridecene
Triisobutylene
Tripropylene
Turpentine
Undecene

31. PARAFFINS

Alkanes (C6–C9)
n-Alkanes (C10+)
iso- & cyclo-Alkanes (C10–C11)
iso- & cyclo-Alkanes (C12+)
Butane
Cycloheptane
Cyclohexane
Cyclopentane
Decane
Dodecane
Ethane
Ethyl cyclohexane
Heptane
Hexane[2]
Methane
Methylcyclohexane
2-Methyl pentane
Nonane
Octane
Pentane
Propane
iso-Propylcyclohexane
Tridecane
Waxes:
Paraffin

32. AROMATIC HYDROCARBONS

Alkyl(C3–C4)benzenes
Alkyl(C5–C8)benzenes
Alkyl(C9+)benzenes
Alkyl acrylate-Vinyl pyridine copolymer in Toluene
Alkylbenzene, Alkylindane, Alkylindene mixture (each C12–C17)
Benzene
Benzene hydrocarbon mixtures (having 10% Benzene or more)
Benzene, Toluene, Xylene mixtures
Butylbenzene
Butyl phenol, Formaldehyde resin in Xylene
Butyl toluene
Cumene
Cymene
Decylbenzene
Dialkyl(C10 - C14) benzenes
Diethylbenzene
Diisopropylbenzene
Diisopropyl naphthalene
Diphenyl
Dodecylbenzene
Dodecyl xylene
Ethylbenzene
Ethyl toluene
1-Hexadecylnaphthalene, 1,4-bis(Hexadecyl)
Isopropylbenzene
Methyl naphthalene
Naphthalene
Naphthalene mixture
Naphthalene still residue
1-Phenyl-1-xylyl ethane
Poly(2+)cyclic aromatics
Polyolefin amine in alkylbenzenes (C2–C4)
Propylbenzene
Pseudocumene
C9 Resinfeed (DSM)[2]
Tetradecylbenzene
Tetrahydronaphthalene
1,2,3,5-Tetramethylbenzene
Toluene
Tridecylbenzene
Triethylbenzene
Trimethylbenzene
Undecylbenzene
Xylene
Xylenes, Ethylbenzene mixture

33. MISCELLANEOUS HYDROCARBON MIXTURES

Alachlor

Alkylbenzenesulfonic acid, sodium salt solutions
Alkyl dithiothiadiazole (C6–C24)
Asphalt blending stocks, roofers flux
Asphalt blending stocks, straight run residue
Asphalt emulsion
Aviation alkylates
Calcuim sulfonate, Calcium carbonate, Hydrocarbon solvent mixture
Coal tar
Coal tar distillate
Coal tar, high temperature
Coal tar pitch
Decahydronaphthalene
Degummed C9 (DOW)
Diphenyl, Diphenyl ether
Distillates, flashed feed stocks
Distillates, straight run
Drilling mud (low toxicity) (*if flammable or combustible*)
Gas oil, cracked
Gasoline blending stock, alkylates
Gasoline blending stock, reformates
Gasolines:
  Automotive (*not over 4.23 grams lead per gal.*)
  Aviation (*not over 4.86 grams lead per gal.*)
  Casinghead (*natural*)
  Polymer
  Straight run
Jet Fuels:
  JP-4
  JP-5
  JP-8
Kerosene
Mineral spirits
Naphtha:
  Coal tar solvent
  Petroleum
  Solvent
  Stoddard solvent
  Varnish Makers' and Painters'
Oil, fuel:
  No. 1
  No. 1-D
  No. 2
  No. 2-D
  No. 4
  No. 5
  No. 6
Oil, misc:
  Aliphatic
  Aromatic
  Clarified
  Coal
  Crude
  Diesel
  Gas, high pour
  Heartcut distillate
  Linseed
  Lubricating
  Mineral
  Mineral seal
  Motor
  Neatsfoot
  Penetrating
  Pine
  Rosin
  Sperm
  Spindle
  Turbine
  Residual
  Road
  Transformer
Oxyalkylated alkyl phenol formaldehyde
Petrolatum
Pine oil
Polyolefin amine (C28–C250)
Polyolefin amide alkeneamine (C17+)
Polyolefin amide alkeneamine borate (C28–C250)
Sodium petroleum sulfonate
Sulfohydrocarbon (C3–C88)
Waxes:
  Petroleum
Sulfurized fat (C14–C20)
Sulfurized polyolefinamide alkeneamines (C28–C250)
White spirit (low (15-20%) aromatic)

34. ESTERS

Alkane (C14–C17) sulfonic acid, sodium salt solution
Alkyl(C8+)amine, Alkenyl (C12+) acid ester mixture
Alkyl ester copolymer (C6–C18)
Alkyl(C7–C9) nitrates[2]
Alkyl (C8–C40) phenol sulfide
Alkyl (C10–C20, saturated and unsaturated) phosphite
Alkyl sulfonic acid ester of phenol
Alkylaryl phosphate mixtures (more than 40%
Amyl acetate
Animal and Fish oils, n.o.s.
Animal and Fish acid oils and distillates, n.o.s.
Barium long chain alkaryl (C11–C50) sulfonate
Barium long chain alkyl(C8–C14)phenate sulfide
Benzene tricarboxylic acid trioctyl ester
Benzyl acetate
Butyl acetate
Butyl benzyl phthalate
n-Butyl butyrate
Butyl formate
iso-Butyl isobutyrate
n-Butyl propionate
Calcium alkyl(C9)phenol sulfide, polyolefin phosphorosulfide mixture
Calcium long chain alkaryl sulfonate (C11–C50)
Calcium long chain alkyl phenate sulfide (C8–C40)
Calcium long chain alkyl phenates
Calcium long chain alkyl salicylate (C13+)
Calcium nitrate, Magnesium nitrate, Potassium chloride solution
Calcium nitrate solution
Cobalt naphthenate in solvent naphtha
Coconut oil, fatty acid
Copper salt of long chain alkanoic acids

Cottonseed oil, fatty acid
Cyclohexyl acetate
Decyl acetate
Dialkyl(C7 - C13) phthalates
Dibutyl hydrogen phosphonate
Dibutyl phthalate
Diethylene glycol butyl ether acetate
Diethylene glycol dibenzoate
Diethylene glycol ethyl ether acetate
Diethylene glycol methyl ether acetate
Diethylene glycol phthalate
Di-(2-ethylhexyl)adipate
Di-(2-ethylhexyl)phthalate
Diethyl phthalate
Diethyl sulfate
Diheptyl phthalate
Dihexyl phthalate
Di-n-hexyl adipate
Diisobutyl phthalate
Diisodecyl phthalate
Diisononyl adipate
Diisononyl phthalate
Diisooctyl phthalate
Dimethyl adipate
Dimethylcyclicsiloxane hydrolyzate
Dimethyl glutarate
Dimethyl hydrogen phosphite[2]
Dimethyl naphthalene sulfonic acid, sodium salt solution[2]
Dimethyl phthalate
Dimethyl polysiloxane
Dimethyl succinate
Dinonyl phthalate
Dioctyl phthalate
Diphenyl tolyl phosphate, less than 0.02% ortho-isomer)
Dipropylene glycol dibenzoate
Dithiocarbamate ester (C7–C35)
Ditridecyl adipate
Ditridecyl phthalate
2-Dodecenylsuccinic acid, dipotassium salt solution
Diundecyl phthalate
2-Ethoxyethyl acetate
Ethyl acetate
Ethyl acetoacetate
Ethyl butyrate
Ethylene carbonate
Ethylene glycol acetate
Ethylene glycol butyl ether acetate
Ethylene glycol diacetate
Ethylene glycol ethyl ether acetate
Ethylene glycol methyl ether acetate
Ethyl-3-ethoxypropionate
Ethyl hexyl phthalate
Ethyl propionate
Ethyl propionate
Fatty acids (saturated, C14+)
Glycerol polyalkoxylate
Glyceryl triacetate
Glycidyl ester of C10 trialkyl acetic acid
Gylcidyl ester of tridecylacetic acid
Heptyl acetate
Hexyl acetate
Lauric acid
Lecithin
Magnesium long chain alkaryl sulfonate (C11–C50)
Magnesium long chain alkyl phenate sulfide (C8–C20)
Magnesium long chain alkyl salicylate (C11+)
3-Methoxybutyl acetate
1-Methoxy-2-propyl acetate
Methyl acetate
Methyl acetoacetate
Methyl amyl acetate
Methyl butyrate
Methyl formate
3-Methyl-3-methoxybutyl acetate
Methyl salicylate
Metolachlor
Naphthalene sulfonic acid, sodium salt solution (40% or less)
Nonyl acetate
n-Octyl acetate
Octyl decyl adipate
Oil, edible:
  Beechnut
  Castor
  Cocoa butter
  Coconut[2]
  Cod liver
  Corn
  Cotton seed
  Fish[2]
  Groundnut
  Hazelnut
  Lard
  Lanolin
  Nutmeg butter
  Olive
  Palm[2]
  Palm kernel
  Peanut
  Poppy
  Poppy seed
  Raisin seed
  Rapeseed
  Rice bran
  Safflower
  Salad
  Sesame
  Soya bean
  Sunflower
  Sunflower seed
  Tucum
  Vegetable
  Walnut
Oil, misc:
  Animal
  Coconut oil, fatty actid methyl ester
  Cotton seed oil, fatty acid
  Lanolin
  Palm kernel oil, fatty acid methyl ester
  Palm oil, methyl ester
  Pilchard
  Perilla
  Soapstock
  Soyabean (epoxidized)
  Tall
  Tall, fatty acid[2]
  Tung
Olefin/Alkyl ester copolymer (molecular weight 2000+)

Oleic acid
Palm kernel acid oil
Palm kernel acid oil, methyl ester
Palm stearin
n-Pentyl propionate
Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether acetate
Polydimethylsiloxane
Polyferric sulfate solution
Polymethylsiloxane
Poly(20)oxyethylene sorbitan monooleate
Polysiloxane
Polyolefin aminoester salt
Polyolefin ester (C28–C250)
Polyolefin phosphorosulfide, barium derivative (C28–C250)
Potassium formate solution
Potassium oleate
Potassium salt of polyolefin acid
Propyl acetate
Propylene carbonate
Propylene glycol methyl ether acetate
Sodium acetate, Glycol, Water mixture (not containing Sodium hydroxide)[2]
Sodium acetate solution
Sodium benzoate solution
Sodium dimethyl naphthalene sulfonate solution[2]
Sodium long chain alkyl salicylate (C13+)
Sodium naphthalene sulfonate solution
Soyabean oil (epoxidized)
Stearic acid
Tall oil
Tall oil fatty acid (*Resin acids less than 20%*)[2]
Tallow[2]
Tallow fatty acid[2]
Tributyl phosphate
Tricresyl phosphate
Tridecanoic acid
Tridecyl acetate
Triethylene glycol dibenzoate
Triethylene glycol di-(2-ethylbutyrate)
Triethyl phosphate
Triethyl phosphite[2]
Triisooctyl trimellitate[2]
Triisopropylated phenyl phosphates
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate
2,2,4-Trimethyl-1,3-pentanediol-1-isobutyrate
2,2,4-Trimethyl-3-pentanol-1-isobutyrate
Trimethyl phosphite[2]
Trisodium nitrilotriacetate
Trixylyl phosphate
Trixylenyl phosphate
Vegetable acid oils and distillates, n.o.s.
Vegetable oils, n.o.s.
Waxes:
Carnauba
Zinc alkaryl dithiophosphate (C7–C16)
Zinc alkyl dithiophosphate (C3–C14)

35. VINYL HALIDES

Vinyl chloride
Vinylidene chloride

36. HALOGENATED HYDROCARBONS

Benzyl chloride
Bromochloromethane
Carbon tetrachloride[2]
Catoxid feedstock[2]
Chlorinated paraffins (C10 - C13)
Chlorinated paraffins (C14 - C17)
Chlorobenzene
Chlorodifluoromethane
Chloroform
Chlorotoluene
Dibromomethane
Dibutylphenols
3,4-Dichloro-1-butene
Dichlorobenzene
Dichlorodifluoromethane
1,1-Dichloroethane
1,6-Dichlorohexane
2,2′-Dichloroisopropyl ether
Dichloromethane
Dichloropropane
Ethyl chloride
Ethylene dibromide
Ethylene dichloride[2]
Methyl bromide
Methyl chloride
Monochlorodifluoromethane
n-Propyl chloride
Pentachloroethane
Perchloroethylene
1,1,2,2-Tetrachloroethane
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane[2]
1,1,2-Trichloroethane
Trichloroethylene[2]
1,2,3-Trichloropropane
1,1,2-Trichloro-1,2,2-trifluoroethane

37. NITRILES

Acetonitrile
Adiponitrile
Lactonitrile solution
Propionitrile
Tallow nitrile

38. CARBON DISULFIDE

Carbon disulfide

39. SULFOLANE

Sulfolane

40. GLYCOL ETHERS

Alkyl (C7-C11) phenol poly(4-12)ethoxylate
Alkyl (C9-C15) phenyl propoxylate
Diethylene glycol[2]
Diethylene glycol butyl ether
Diethylene glycol dibutyl ether
Diethylene glycol diethyl ether
Diethylene glycol ethyl ether
Diethylene glycol methyl ether
Diethylene glycol n-hexyl ether
Diethylene glycol phenyl ether
Diethylene glycol propyl ether
Dipropylene glycol

Dipropylene glycol butyl ether
Dipropylene glycol methyl ether
Ethoxy triglycol
Ethylene glycol hexyl ether
Ethylene glycol methyl butyl ether
Ethylene glycol monoalkyl ethers
Ethylene glycol tert-butyl ether
Ethylene glycol butyl ether
Ethylene glycol dibutyl ether
Ethylene glycol ethyl ether
Ethylene glycol isopropyl ether
Ethylene glycol methyl ether
Ethylene glycol phenyl ether
Ethylene glycol phenyl ether, Diethylene glycol phenyl ether mixture
Ethylene glycol propyl ether
Hexaethylene glycol
Methoxy triglycol
Nonyl phenol poly(4+)ethoxylates
Pentaethylene glycol methyl ether
Polyalkylene glycol butyl ether
Polyalkylene glycols, Polyalkylene glycol monoalkyl ethers mixtures
Polyethylene glycols
Polyethylene glycol dimethyl ether
Poly(2-8)alkylene glycol monoalkyl(C1–C6) ether
Polyethylene glycol monoalkyl ether
Polypropylene glycol methyl ether
Polypropylene glycols
Poly(tetramethylene ether) glycols (mw 950–1050)
Polytetramethylene ether glycol
n-Propoxypropanol
Propylene glycol monoalkyl ether
Propylene glycol ethyl ether
Propylene glycol methyl ether
Propylene glycol n-butyl ether
Propylene glycol phenyl ether
Propylene glycol propyl ether
Tetraethylene glycol
Tetraethylene glycol methyl ether
Triethylene glycol
Triethylene glycol butyl ether
Triethylene glycol butyl ether mixture
Triethylene glycol ether mixture
Triethylene glycol ethyl ether
Triethylene glycol methyl ether
Tripropylene glycol
Tripropylene glycol methyl ether

41. ETHERS

Alkaryl polyether (C9–C20)
tert-Amyl methyl ether
Butyl ether
2,2′-Dichloroethyl ether
Diethyl ether
Diglycidyl ether of Bisphenol A
Diglycidyl ether of Bisphenol F
Dimethyl furan
1,4-Dioxane
Diphenyl ether
Diphenyl ether, Diphenyl phenyl ether mixture
Ethyl tert-butyl ether[2]
Ethyl ether
Long chain alkaryl polyether (C11–C20)
Methyl-tert-butyl ether[2]
Methyl tert-pentyl ether
Propyl ether
Tetrahydrofuran
1,3, 5-Trioxane
Polyether (molecular weight 2000+)

42. NITROCOMPOUNDS

o-Chloronitrobenzene
Dinitrotoluene
Nitrobenzene
Nitroethane
Nitroethane, 1-Nitropropane mixture
Nitropropane
Nitropropane, Nitroethane mixtures
Nitrotoluene

43. MISCELLANEOUS WATER SOLUTIONS

Alkyl polyglucoside solutions
Aluminum sulfate solution[2]
2-Amino-2-hydroxymethyl-1,3-propanediol solution
Ammonium bisulfite solution[2]
Ammonium lignosulfonate solution
Ammonium nitrate, Urea solution (not containing Ammonia)
Ammonium polyphosphate solution
Ammonium sulfate solution
Ammonium thiosulfate solution
Sulfonated polyacrylate solutions[2]
Calcium bromide solution
Calcium chloride solution
Calcium lignosulfonate solution
Caramel solutions
Clay slurry
Corn syrup
Dextrose solution
2,4-Dichlorophenoxyacetic acid, Diethanolamine salt solution
2,4-Dichlorophenoxyacetic acid, Triisopropanolamine salt solution[2]
Diethanolamine salt of 2,4-Dichlorophenoxyacetic acid solution
Diethylenetriamine pentaacetic acid, pentasodium salt solution
Dodecyl diphenyl ether disulfonate solution
Drilling brine (containing Calcium, Potassium, or Sodium salts)
Drilling brine (containing Zinc salts)
Drilling mud (low toxicity) (*if non-flammable or non-combustible*)
Ethylenediaminetetracetic acid, tetrasodium salt solution
Ethylene-Vinyl acetate copolymer emulsion
Ferric hydroxyethylethylenediamine triacetic acid, trisodium salt solution[2]
Fish solubles (*water based fish meal extracts*)
Fructose solution
Fumaric adduct of Rosin, water dispersion
Hexamethylenediamine adipate solution
N-(Hydroxyethyl)ethylene diamine triacetic acid, trisodium salt solution
Kaolin clay slurry
Latex, liquid synthetic

Lignin liquor
Liquid Streptomyces solubles
l-Lysine solution
N-Methylglucamine solution
Naphthenic acid, sodium salt solution
Potassium chloride solution
Potassium thiosulfate solution
Rosin soap (disproportionated) solution
Sewage sludge, treated
Sodium alkyl sulfonate solution
Sodium hydrogen sulfite solution
Sodium lignosulfonate solution
Sodium polyacrylate solution [2]
Sodium salt of Ferric hydroxyethylethylenediamine triacetic acid solution
Sodium silicate solution [2]
Sodium sulfide solution
Sodium sulfite solution
Sodium tartrates, Sodium succinates solution
Sulfonated polyacrylate solutions [2]
Tall oil soap (disproportionated) solution
Tetrasodium salt of EDTA solution
Titanium dioxide slurry
Triisopropanolamine salt of 2,4-Dichlorophenoxyacetic acid solution
Urea, Ammonium nitrate solution (not containing Ammonia)
Urea, Ammonium phosphate solution
Urea solution
Vegetable protein solution (hydrolysed)
Water

FOOTNOTES TO TABLE II

[1] Because of very high reactivity or unusual conditions of carriage or potential compatibility problems, this product is not assigned to a specific group in the Compatibility Chart. For additional compatibility information, contact Commandant (CG–ENG–5), Hazardous Materials Division, U.S. Coast Guard, 2100 2nd Street, SW., Stop 7126, Washington, DC 20593–7126. Telephone 202–372–1420; email: *hazmatstandards@uscg.mil*.

[2] See Appendix I—Exceptions to the Chart.

[CGD 88–100, 54 FR 40012, Sept. 29, 1989]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting Table II to part 150, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at *www.fdsys.gov*.

APPENDIX I TO PART 150—EXCEPTIONS TO THE CHART

(a). The binary combinations listed below have been tested as prescribed in Appendix III and found not to be dangerously reactive. These combinations are exceptions to the Compatibility Chart (Figure 1) and may be stowed in adjacent tanks.

Member of reactive group	Compatible with
Acetone (18)	Diethylenetriamine (7)
Acetone cyanohydrin (0)	Acetic acid (4)
Acrylonitrile (15)	Triethanolamine (8)
1,3-Butylene glycol (20)	Morpholine (7)
1,4-Butylene glycol (20)	Ethylamine (7) Triethanolamine (8)
gamma-Butyrolactone (0)	N-Methyl-2-pyrrolidone (9)
Caustic potash, 50% or less (5).	Isobutyl alcohol (20) Ethyl alcohol (20) Ethylene glycol (20) Isopropyl alcohol (20) Methyl alcohol (20) iso-Octyl alcohol (20)
Caustic soda, 50% or less (5)	Butyl alcohol (20) tert-Butyl alcohol, Methanol mixtures Decyl alcohol (20) iso-Decyl alcohol (20) Diacetone alcohol (20) Diethylene glycol (40) Dodecyl alcohol (20) Ethyl alcohol (20) Ethyl alcohol (40%, whiskey) (20) Ethylene glycol (20) Ethylene glycol, Diethylene glycol mixture (20) Ethyl hexanol (Octyl alcohol) (20) Methyl alcohol (20) Nonyl alcohol (20) iso-Nonyl alcohol (20) Propyl alcohol (20) iso-Propyl alcohol (20) Propylene glycol (20) Sodium chlorate solution (0) iso-Tridecanol (20)
tert-Dodecanethiol (0)	Acrylonitrile (15) Diisodecyl phthalate (34) Methyl ethyl ketone (18) iso-Nonyl alcohol (20) Perchloroethylene (36) iso-Propyl alcohol (20) Tall oil, crude
Dodecyl and Tetradecylamine mixture (7).	Tall oil, fatty acid (34)
Ethylenediamine (7)	Butyl alcohol (20) tert-Butyl alcohol (20) Butylene glycol (20) Creosote (21) Diethylene glycol (40) Ethyl alcohol (20) Ethylene glycol (20) Ethyl hexanol (20) Glycerine (20) Isononyl alcohol (20) Isophorone (18) Methyl butyl ketone (18) Methyl iso-butyl ketone (18) Methyl ethyl ketone (18) Propyl alcohol (20) Propylene glycol (20)
Oleum (0)	Hexane (31) Dichloromethane (36) Perchloroethylene (36)
1,2-Propylene glycol (20)	Diethylenetriamine (7) Polyethylene polyamines (7) Triethylenetetramine (7)
Sodium dichromate, 70% (0)	Methyl alcohol (20)
Sodium hydrosulfide solution (5).	Methyl alcohol (20) Iso-Propyl alcohol (20)

Member of reactive group	Compatible with
Sulfuric acid (2)	Coconut oil (34) Coconut oil acid (34) Palm oil (34) Tallow (34)
Sulfuric acid, 98% or less (2)	Choice white grease tallow (34)

(b). The binary combinations listed below have been determined to be dangerously reactive, based on either data obtained in the literature or on laboratory testing which has been carried out in accordance with procedures prescribed in Appendix III. These combinations are exceptions to the Compatibility Chart (Figure 1) and may not be stowed in adjacent tanks.

Acetone cyanohydrin (0) is not compatible with Groups 1-12, 16, 17 and 22.

Acrolein (19) is not compatible with Group 1, Non-Oxidizing Mineral Acids.

Acrylic acid (4) is not compatible with Group 9, Aromatic Amines.

Acrylonitrile (15) is not compatible with Group 5 (Caustics).

Alkylbenzenesulfonic acid (0) is not compatible with Groups 1-3, 5-9, 15, 16, 18, 19, 30, 34, 37, and strong oxidizers.

Allyl alcohol (15) is not compatible with Group 12, Isocyanates.

Alkyl(C7–C9) nitrates (34) is not compatible with Group 1, Non-oxidizing Mineral Acids.

Aluminum sulfate solution (43) is not compatible with Groups 5-11.

Ammonium bisulfite solution (43) is not compatible with Groups 1, 3, 4, and 5.

Benzenesulfonyl chloride (0) is not compatible with Groups 5-7, and 43.

1,4-Butylene glycol (20) is not compatible with Caustic soda solution, 50% or less (5).

gamma-Butyrolactone (0) is not compatible with Groups 1-9.

C9 Resinfeed (DSM) (32) is not compatible with Group 2, Sulfuric acid.

Carbon tetrachloride (36) is not compatible with Tetraethylenepentamine or Triethylenetetramine, both Group 7, Aliphatic amines.

Catoxid feedstock (36) is not compatible with Group 1, 2, 3, 4, 5, or 12.

Caustic soda solution, 50% or less (5) is not compatible with 1,4-Butylene glycol (20).

1-(4-Chlorophenyl)-4,4-dimethyl pentan-3-one (18) is not compatible with Group 5 (Caustics) or 10 (Amides).

Crotonaldehyde (19) is not compatible with Group 1, Non-Oxidizing Mineral Acids.

Cyclohexanone, Cyclohexanol mixture (18) is not compatible with Group 12, Isocyanates.

2,4-Dichlorophenoxyacetic acid, Triisopropanolamine salt solution (43) is not compatible with Group 3, Nitric Acid.

2,4-Dichlorophenoxyacetic acid, Dimethylamine salt solution (0) is not compatible with Groups 1-5, 11, 12, and 16.

Diethylenetriamine (7) is not compatible with 1,2,3-Trichloropropane, Group 36, Halogenated hydrocarbons.

Dimethyl hydrogen phosphite (34) is not compatible with Groups 1 and 4.

Dimethyl naphthalene sulfonic acid, sodium salt solution (34) is not compatible with Group 12, Formaldehyde, and strong oxidizing agents.

Dodecylbenzenesulfonic acid (0) is not compatible with oxidizing agents and Groups 1, 2, 3, 5, 6, 7, 8, 9, 15, 16, 18, 19, 30, 34, and 37.

Ethylenediamine (7) and Ethyleneamine EA 1302 (7) are not compatible with either Ethylene dichloride (36) or 1,2,3-Trichloropropane (36).

Ethylene dichloride (36) is not compatible with Ethylenediamine (7) or Ethyleneamine EA 1302 (7).

Ethylidene norbornene (30) is not compatible with Groups 1-3 and 5-8.

2-Ethyl-3-propylacrolein (19) is not compatible with Group 1, Non-Oxidizing Mineral Acids.

Ethyl tert-butyl ether (41) is not compatible with Group 1, Non-oxidizing mineral acids.

Ferric hydroxyethylethylenediamine triacetic acid, Sodium salt solution (43) is not compatible with Group 3, Nitric acid.

Fish oil (34) is not compatible with Sulfuric acid (2).

Formaldehyde (over 50%) in Methyl alcohol (over 30%) (19) is not compatible with Group 12, Isocyanates.

Formic acid (4) is not compatible with Furfural alcohol (20).

Furfuryl alcohol (20) is not compatible with Group 1, Non-Oxidizing Mineral Acids and Formic acid (4).

2-Hydroxyethyl acrylate (14) is not compatible with Group 5, 6, or 12.

Isophorone (18) is not compatible with Group 8, Alkanolamines.

Magnesium chloride solution (0) is not compatible with Groups 2, 3, 5, 6 and 12.

Mesityl oxide (18) is not compatible with Group 8, Alkanolamines.

Methacrylonitrile (15) is not compatible with Group 5 (Caustics).

Methyl tert-butyl ether (41) is not compatible with Group 1, Non-oxidizing Mineral Acids.

NIAX POLYOL APP 240C (0) is not compatible with Group 2, 3, 5, 7, or 12.

o-Nitrophenol (0) is not compatible with Groups 2, 3, and 5-10.

Octyl nitrates (all isomers), *see* Alkyl(C7–C9) nitrates.

Oleum (0) is not compatible with Sulfuric acid (2) and 1,1,1-Trichloroethane (36).

Phthalate based polyester polyol (0) is not compatible with group 2, 3, 5, 7 and 12.

Polyglycerine, Sodium salts solution (20) is not compatible with Groups 1, 4, 11, 16, 17, 19, 21 and 22.

Propylene, Propane, MAPP gas mixture (containing 12% or less MAPP gas) (30) is not compatible with Group 1 (Non-oxidizing mineral acids), Group 36 (Halogenated hydrocarbons), nitrogen dioxide, oxidizing materials, or molten sulfur.

Sodium acetate, Glycol, Water mixture (1% or less Sodium hydroxide) (34) is not compatible with Group 12 (Isocyanates).

Sodium chlorate solution (50% or less) (0) is not compatible with Groups 1-3, 5, 7, 8, 10, 12, 13, 17 and 20.

Sodium dichromate solution (70% or less) (0) is not compatible with Groups 1-3, 5, 7, 8, 10, 12, 13, 17 and 20.

Sodium dimethyl naphthalene sulfonate solution (34) is not compatible with Group 12, Formaldehyde and strong oxidizing agents.

Sodium hydrogen sulfide, Sodium carbonate solution (0) is not compatible with Groups 6 (Ammonia) and 7 (Aliphatic amines).

Sodium hydrosulfide (5) is not compatible with Groups 6 (Ammonia) and 7 (Aliphatic amines).

Sodium hydrosulfide, Ammonium sulfide solution (5) is not compatible with Groups 6 (Ammonia) and 7 (Aliphatic amines).

Sodium polyacrylate solution (43) is not compatible with Group 3, Nitric Acid.

Sodium silicate solution (43) is not compatible with Group 3, Nitric Acid.

Sodium sulfide, hydrosulfide solution (0) is not compatible with Groups 6 (Ammonia) and 7 (Aliphatic amines).

Sodium thiocyanate (56% or less) (0) is not compatible with Groups 1-4.

Sulfonated polyacrylate solution (43) is not compatible with Group 5 (Caustics).

Sulfuric acid (2) is not compatible with Fish oil (34), or Oleum (0).

Tall oil fatty acid (*Resin acids less than 20%*) (34) is not compatible with Group 5, Caustics.

Tallow fatty acid (34) is not compatible with Group 5, Caustics.

Tetraethylenepentamine (7) is not compatible with Carbon tetrachloride, Group 36, Halogenated hydrocarbons.

1,2,3-Trichloropropane (36) is not compatible with Diethylenetriamine, Ethylenediamine, Ethyleaneamine EA 1302, or Triethylenetetramine, all Group 7, Aliphatic amines.

1,1,1-Trichloroethane (36) is not compatible with Oleum (0).

Trichloroethylene (36) is not compatible with Group 5, Caustics.

Triethylenetetramine (7) is not compatible with Carbon tetrachloride, or 1,2,3-Trichloropropane, both Group 36, Halogenated hydrocarbons.

Triethyl phosphite (34) is not compatible with Groups 1, and 4.

Trimethyl phosphite (34) is not compatible with Groups 1 and 4.

1,3,5-Trioxane (41) is not compatible with Group 1 (non-oxidizing mineral acids) and Group 4 (Organic acids).

[CGD 88–100, 54 FR 40012, Sept. 29, 1989 as amended by CGD 88–100, 55 FR 17277, Apr. 24, 1990; CDG 92–100, 59 FR 17026, Apr. 11, 1994; CGD 94–902, 60 FR 34043, June 29, 1995; CGD 95–900, 60 FR 34050, June 29, 1995; USCG 2000–7079, 65 FR 67182, Nov. 8, 2000]

APPENDIX II TO PART 150—EXPLANATION OF FIGURE 1

Definition of a hazardous reaction— As a first approximation, a mixture of two cargoes is considered hazardous when, under specified condition, the temperature rise of the mixture exceeds 25 °C or a gas is evolved. It is possible for the reaction of two cargoes to produce a product that is significantly more flammable or toxic than the original cargoes even though the reaction is non-hazardous from temperature or pressure considerations, although no examples of such a reaction are known at this time.

Chart format— There are different degrees of reactivity among the various cargoes. Many of them are relatively non-reactive: For example, aromatic hydrocarbons or paraffins. Others will form hazardous combinations with many groups: For example, the inorganic acids.

The cargo groups in the compatibility chart are separated into two categories: 1 through 22 are ''Reactive Groups'' and 30 through 43 are ''Cargo Groups''. Left unassigned and available for future expansion are groups 23 through 29 and those past 43. Reactive Groups contain products which are chemically the most reactive; dangerous combinations may result between members of different Reactive Groups and between members of Reactive Groups and Cargo Groups. Products assigned to Cargo Groups, however, are much less reactive; dangerous combinations involving these can be formed only with members of certain Reactive Groups. Cargo Groups do not react hazardously with one another.

Using the Compatibility Chart— The following procedure explains how the compatibility chart should be used to find compatibility information:

(1) Determine the group numbers of the two cargoes by referring to the alphabetical

listing of cargoes and the corresponding groups (Table I). Many cargoes are listed under their parent names; unless otherwise indicated, isomers or mixtures of isomers of a particular cargo are assigned to the same group. For example, to find the group number for Isobutyl Alcohol, look under the parent name Butyl Alcohol. Similarly, the group number for para-Xylene is found under the entry Xylene. If a cargo cannot be found in this listing, contact the Coast Guard for a group determination (see §150.140).

(2) If both group numbers are between 30 and 43 inclusive, the products are compatible and the chart need not be used.

(3) If both group numbers do not fall between 30 and 43 inclusive, locate one of the numbers on the left of the chart (Cargo Groups) and the other across the top (Reactive Groups). (Note that if a group number is between 30 and 43, it can only be found on the left side of the chart.) The box formed by the intersection of the column and row containing the two numbers will contain one of the following:

(a) Blank—The two cargoes are compatible.

(b) ''X''—The two cargoes are not compatible.

(Note that reactivity may vary among the group members. Refer to Table I or Table II to find whether the products in question are referenced by a footnote which indicates that exceptions exist and are listed in Appendix I. Unless the combination is specifically mentioned in Appendix I, it is compatible.)

EXAMPLES

Combination	Groups	Compatible
Butyraldehyde/Acetic Acid	19/4	Yes.
Allyl Alcohol/Toluene Diisocyanate	15/12	No.
Decene/Ethyl Benzene	30/32	Yes.
Ethanolamine/Acetone	8/18	Yes.
Ammonia/Dimethylformamide	6/10	No.

[CGD 75–59, 45 FR 70263, Oct. 23, 1980, as amended by CGD 83–047, 50 FR 33046, Aug. 16, 1985]

APPENDIX III TO PART 150—TESTING PROCEDURES FOR DETERMINING EXCEPTIONS TO THE CHART

EXPERIMENTAL PROCEDURE FOR EVALUATING BINARY CHEMICAL REACTIVITY

General safety precautions—Chemical reactivity tests have, by their nature, serious potential for injuring the experimenter or destroying equipment. The experimenter should 1) have knowledge of the magnitude of the reactivity to be expected, 2) use adequate facilities and protective equipment to prevent injury from splatter of materials or release of fumes, and 3) start on a small scale so that unexpected reactions can be safely contained. All tests should be performed in a well-ventilated laboratory hood provided with shields.

Testing chemicals other than liquids—The procedure outlined below was developed for chemicals which are liquids at ambient temperatures. If one or both chemicals are normally shipped at elevated temperatures, the same procedure may be followed except the chemicals are tested at their respective shipping temperatures and the oil bath in Step 3 is maintained at a level 25 °C above the higher temperature. This information is then indicated on the data sheet. If one of the chemicals is a gas at ambient temperatures, consult the Coast Guard for additional instructions before proceeding with the compatibility test.

Step 1

Objective—To determine if the test chemicals react violently and present a safety hazard in further tests.

Procedure—Place 0.5ml of one (A) of the test chemicals in a 25×150mm test tube. Clamp the test tube to a stand behind a safety shield (in a hood). Carefully add from a dropper 0.5ml of the other substance (B). Shake to induce mixing. If no immediate reaction occurs, retain the mixture for at least 10 minutes to check for a delayed reaction.

Results—If a violent reaction occurs, such as sputtering, boiling of reactants or release of fumes, record the results on the Data Sheet (appendix IV) and do not proceed to Step 2. If no reaction or a minor reaction occurs, proceed to Step 2.

Step 2

Objective—To determine the heat of reaction of two chemicals on mixing under specified conditions.

Procedure—These separate mixes of the proposed binary combination will be tested. These are 2 ml : 18 ml, 10 ml : 10 ml, and 18 ml : 2 ml, respectively, to result in a final mixture of about 20 ml in each case.

A reference-junctioned thermocouple is prepared by inserting two lengths of 20 gauge or finer iron-constantan or chromelalumel duplex thermocouple wire into glass capilary sheaths. The common wire of each probe is joined, while the other wire of each is connected to a strip-chart recorder. The thermocouple probe which produces a negative pen deflection upon warming is the reference junction and is placed in a test tube of water at ambient laboratory temperature. The other probe is placed near the bottom of a Dewar flask of about 300ml capacity, such that the thermocouple will be below the surface of the test mixture. The Dewar flask is equipped with a magnetic stirrer having a stirring bar coated with an inert material such as a flourinated hydrocarbon.

Start the temperature recorder and stirrer. Deliver the test chemicals to the Dewar Flask simultaneously from separate graduated syringes. If an exothermic reaction occurs, continue the test until the maximum temperature is reached and begins to subside. If no apparent reaction occurs, continue the test for at least 30 minutes to check for a delayed reaction. Stop agitation and observe the mixture at five-minute intervals to determine if the mixture is miscible, if gases are evolved, or if other visible changes occur. In the interest of safety, a mirror can be used for these observations. Repeat the above test for the other mixture combinations.

Results—Record the results in the appropriate places on the Data Sheet. If no reaction occurs or if the temperature rise is less than 25 °C, proceed to Step 3. If the observed temperature rise exceeds 25 °C or gases are evolved, do not proceed to Step 3.

Step 3

Objective—To determine if exothermic reactions occur at temperatures up to 50 °C.

Procedure—If a non-hazardous reaction occurred in Step 2, the ratio of chemicals which resulted in the greatest temperature rise will be tested. Fresh chemicals will be used with a total volume for this test of about 10ml (a ratio of 1ml:9ml, 5ml:5ml, or 9ml:1ml). If no reaction was observed in Step 2, use a ratio of 5ml:5ml. Using the thermocouple prepared for Step 2, insert the reference probe into a 25×150mm test tube containing 10ml of water. Place the other probe into an empty test tube. Start the temperature recorder and add the two chemicals of the combination, one at a time, to the empty test tube. Lower the two test tubes into an oil bath maintained at 50 ±2 °C. Hold the samples in the oil bath until the maximum temperature differential is recorded, and in all cases at least 15 minutes. Observe the test mixture to determine if gases are evolved or if other visible changes occur. Follow prescribed safety precautions.

Results—Record the maximum differential temperature measured, the time required to reach this temperature, and any other observations in the proper space on the Data Sheet.

Send a copy of the Data Sheet for each binary chemical mixture tested to: Commandant (G–ENG–5), U.S. Coast Guard, 2100 2nd Street SW., Stop 7126, Washington, DC 20593–7126 (CG–ENG–5).

[CGD 75–59, 45 FR 70263, Oct. 23, 1980, as amended by CGD 82–063b, 48 FR 4782, Feb. 3, 1983; CGD 83–047, 50 FR 33046, Aug. 16, 1985; CGD 88–070, 53 FR 34535, Sept. 7, 19885; CGD 96–041, 61 FR 50731, Sept. 27, 1996; USCG–2012–0832, 77 FR 59783, Oct. 1, 2012]

APPENDIX IV TO PART 150—DATA SHEET

CHEMICAL REACTIVITY TEST DATA

Chemicals: A _____ B _____

Synonyms: _____ _____

Formula: _____ _____

Description of Products:	A	B
Manufacturer		
Sample Source		
Composition (by weight %)		
Inhibitors or Stabilizers		
Deviations from Prescribed Method (including special equipment)		

Step Number 1

Products miscible? _____ Gases evolved? _____

Other Observations:

Step Number 2

A/B Ratio:	2/18	10/10	18/2
Initial Temperature			
Maximum ΔT			
Time to reach Max. Temp.			
Products miscible?			
Gases evolved?			
Other Observations			

Size of Dewar Flask (inside measurements): Width _____mm Height _____mm

Step Number 3

A/B Ratio	
Oil Bath Temperature	
Maximum ΔT	
Time to reach Max. Temp.	
Gases evolved?	
Other Observations	

Date of Test: _____

Submitting Organization: _____

Test Data Approved By: _____

PART 151—BARGES CARRYING BULK LIQUID HAZARDOUS MATERIAL CARGOES

Subpart 151.01—General

Sec.

Subpart 151.02—Equivalents

Subpart 151.03—Definitions

Annex VIII

2.2 Procedure Veiligheidsrichtlijnen aan Boord

Revision date: 2022-11-04 Review date: 2022-11-04
Rev No.: 8
Approved by: RVB

Inhoudsopgave

2.2.1 Doel

Revision date: 2022-11-04 Review date: 2022-11-04
Rev No.: 8
Approved by: RVB

In deze procedure worden de interne SNITS richtlijnen beschreven op het gebied van veiligheid aan boord. Het is van groot belang dat iedereen aan boord zich aan deze regels houdt. Deze veiligheidsregels moeten tevens aan alle bezoekers van alle schepen kenbaar worden gemaakt.

2.2.2 Definitie

Revision date: 2022-11-04 Review date: 2022-11-04
Rev No.: 8
Approved by: RVB

Veiligheidsrichtlijnen zijn voorschriften die de te volgen werkwijze of de geldende regels beschrijven op het gebied van veiligheid.

2.2.3 Toepassingsgebied

Revision date: 2022-11-04 Review date: 2022-11-04
Rev No.: 8
Approved by: RVB

Deze procedure geldt aan boord van ALLE schepen.

2.2.4 Referenties

Revision date: 2022-11-04 Review date: 2022-11-04
Rev No.: 8
Approved by: RVB

Procedure: “Chartering”

2.2.5 Werkwijze

Revision date: 2022-11-04 Review date: 2022-11-04
Rev No.: 8
Approved by: RVB

2.2.5.1 Roken en draagbare aanstekers

Roken:

ROKEN BUITEN DE WOONACCOMMODATIE IS TE ALLEN TIJDE TEN STRENGSTE VERBODEN.

Onder roken wordt niet alleen verstaan de gewone conventionele sigaret, sigaar of pijp, echter ook de elektronische sigaret of soortgelijke apparaten.
Zelfs wanneer het schip gasvrij is mag buiten de accommodatie niet gerookt worden. Dit geldt tevens voor schepen die gasvrij verklaard zijn en bij een werf liggen.

Roken binnen de accommodatie is uitsluitend toegestaan op plaatsen die daarvoor zijn aangewezen door de kapitein en op tijdstippen die door de kapitein zijn goedgekeurd, hierbij moeten ook de lokaal geldende regels (bijv. rookverbod bij alle terminals) worden gevolgd. Ramen, deuren, ventilatieopeningen etc. moeten gesloten zijn. Roken in bed is verboden.

Roken in de, afgesloten, stuurhut is uitsluitend toegestaan na toestemming van de kapitein (uiteraard onder inachtname van de lokaal geldende regels).

Roken in de machinekamer is te allen tijde verboden.

Roken is altijd, op **alle** plaatsen, verboden tijdens laden, lossen, schoonmaken, ventileren en alle andere lading operaties. Het is tevens verboden om tijdens werkzaamheden aan dek rookwaren mee te nemen.

Draagbare aanstekers:

Alle soorten draagbare aanstekers zijn ten strengste verboden aan boord. Dit geldt zowel voor het gebruik als voor het bij zich dragen hiervan. Dit geldt ook voor bezoekers van de schepen.

Bemanningen moeten erop toezien dat ook bezoekers geen draagbare aanstekers bij zich dragen.

De Kapitein is verplicht dit regelmatig tijdens de veiligheids trainingen aan boord van SNITS schepen (incl. Charter schepen), en wanneer nodig aan te tonen, en de bemanningsleden op de gevaren en consequenties te wijzen.

Te allen tijde zal naast de bovenstaande voorschriften rekening gehouden moeten worden met lokaal geldende regels**.** Zie ook ADN Deel 7 – 7.2.3.41 en Deel 8 – 8.3.4

N.B. HET NIET NALEVEN VAN BOVENSTAANDE VOORSCHRIFTEN KAN REDEN ZIJN VOOR "ONTSLAG OP STAANDE VOET" VAN DE OVERTREDER.

2.2.5.2 Gebruik van filtermaskers

1. Filtermaskers mogen **NOOIT** gebruikt worden in besloten ruimten.
2 Filtermaskers (en filterbussen) vallen strikt onder het beheer van de kapitein.
3 Ieder gebruik van filtermaskers mag uitsluitend na toestemming van de kapitein.
4 Een bemanningslid mag zijn filtermasker nooit aan een ander bemanningslid geven.
5 De kapitein moet controleren of de juiste, voor de betreffende situatie geschikte, filterbus op het masker is gemonteerd.
6 De kapitein moet het betreffende bemanningslid herinneren aan het feit dat het filtermasker nooit, onder geen beding, gedragen mag worden in besloten ruimten als vervanger voor gasvrij maken, testen, ventileren of als vervanger voor onafhankelijke adembescherming.
7 Filtermaskers worden uitsluitend uitgedeeld om de drager ervan te beschermen tegen schadelijke of onplezierige geuren. Filtermaskers verschaffen geen extra zuurstof en mogen alleen aan dek gebruikt worden.
8 Een gebruikte filterbus mag nooit hergebruikt worden. Na gebruik moeten de filterbussen als klein chemisch afval afgevoerd worden.

Te allen tijde zal naast de bovenstaande voorschriften rekening gehouden moeten worden met de lokaal geldende regels.

N.B. Van bovenstaande voorschriften mag nooit afgeweken worden.

2.2.5.3 Persoonlijke bescherming

SNITS heeft bepaalde regels opgesteld voor het gebruik van persoonlijke beschermingsmiddelen, deze regels moeten te allen tijde worden nageleefd. Het is het beleid van SNITS om de nodige middelen beschikbaar te stellen en dat deze daadwerkelijk gebruikt worden.

Bij alle ladingoperaties moeten minimaal de volgende persoonlijke beschermingsmaatregelen gedragen worden:

a. overall met lange mouwen
b. veiligheidshelm
c. veiligheidsbril
d. veiligheidsschoenen of veiligheidslaarzen
e. chemicaliën handschoenen

Daarnaast is de kapitein verantwoordelijk voor het feit dat extra beschermingsmaatregelen worden genomen als de gevaarlijke eigenschappen van de lading dat vereisen (bijv. adembescherming bij giftige producten, gelaatskappen bij bijtende producten etc.). Alle persoonlijke beschermingsmiddelen moeten altijd gereed liggen voor direct gebruik.

ad a. Overall met lange mouwen:
Verplicht te dragen bij alle mogelijke ladingwerkzaamheden. Indien ons schip niet bij een installatie of langszij een ander schip ligt mag ook een overall met korte mouwen tijdens werkzaamheden, uitgezonderd ladingwerkzaamheden, aan dek of in de machinekamer worden gedragen.

ad b. Veiligheidshelm:
Moet gedragen worden tijdens alle ladingoperaties aan dek, daarnaast volgens instructies van de dienstdoende kapitein.

ad c. Veiligheidsbril
Moet gedragen worden tijdens alle ladingoperaties aan dek, daarnaast volgens instructies van de dienstdoende kapitein.

ad d. Veiligheidsschoenen
Verplicht te dragen bij alle mogelijke werkzaamheden aan dek of in de machinekamer.
Veiligheidslaarzen
Verplicht te dragen bij aan- of afkoppelen.

ad e. Chemicaliën handschoenen

Moeten gedragen worden tijdens alle ladingoperaties aan dek, daarnaast volgens instructies van de dienstdoende kapitein.
Tijdens werkzaamheden in de machinekamer moet tevens gehoorbescherming gedragen worden.

Extra beschermingsmaatregelen moet ook worden genomen als de klant en/of lokale terminal dat vereist – zie ook ADN Deel 3.2 Tab. C en Deel 8 – 8.1.5.1

Veiligheidsregels voor derden.

Tijdens laad en los operaties van met name Phenol, Aniline etc is het niet toegestaan om zonder toestemming van kantoor aan boord te gaan. Uitgezonderd controleurs of autoriteiten, deze moeten terplaatse toestemming vragen aan de kapitein.
Buiten deze laad en losplaatsen wanneer er alleen sprake is van onderhoud of wachten aan een steiger buiten de terminal, gelden altijd de minimale eisen.
Minimale eisen voor monteurs: veiligheids schoenen, overall met lange mouwen en in de machine kamer gehoorbescherming (OOK BEZOEKERS).
Voor bezoekers, kantoorpersoneel of derden geldt bij een wachtsteiger buiten een bedrijf de minimale eis van veiligheidsschoenen en deugdelijke kleding met lange mouwen.

2.2.5.4 Het dragen van reddingsvesten

Het SNITS-management stelt het dragen van reddingsvesten verplicht voor alle bemanningsleden, tijdens alle werkzaamheden in het buitenboordbereik (relingen e.a.) zoals beschreven in de duitse voorschriften van de BSBG (Binnenschifffahrtsberufsgenossenschaft) en andere overkoepelende voorschriften.

Er mogen alleen door de autoriteiten **goedgekeurde automatische opblaasbare types** aan boord geleverd en gebruikt worden en moeten voor de betreffende gebruiker geschikt zijn (model / gewichtsklasse).

De reddingsvesten moeten

1. bij alle afmeerwerkzaamheden op het voor-, midden- en achterschip gedragen worden.
2. bij het van of aan boord gaan.
3. bij verblijf en werkzaamheden aan dekken in het gangboord, indien verschansingen van ten minste 90 cm hoogte niet aanwezig zijn of relingen niet doorlopend zijn geplaatst.
4. bij het gebruik van de bijboten, onder normale omstandigheden, door alle personen, welke zich in het bijboot bevinden of deze willen gebruiken gedragen worden.
   Het is de plicht van de kapitein of, bij diens afwezigheid, de in rang hoogste persoon aan boord deze aanwijzingen te geven en naleving te controleren.

Het is plicht van de kapitein of zijn plaatsvervanger:

a. op deze regels te wijzen en ervoor te zorgen dat de overige bemanningsleden deze ook opvolgen.
b. ervoor te zorgen dat de reddingsvesten in goede staat zijn, en de bemanning erop te wijzen de reddingsvesten voor elk gebruik op beschadigingen te controleren en dit regelmatig te controleren.
c. de regelmatige controle van de reddingsvesten moet aan boord genoteerd worden.
d. de bemanning ervan te overtuigen hoe belangrijk en nuttig het dragen van reddingsvesten is.
e. ervoor te zorgen dat de reddingsvesten regelmatig door een erkende firma (volgens aanwijzingen van de fabrikant) toch minstens eenmaal per 2 jaar gecontroleerd worden of bij vastgestelde beschadigingen vervangen worden.

De rederij heeft het juiste gebruik, zoals het dragen en onderhouden van de reddingsvesten in het interne trainingsprogramma opgenomen en zal dit door vakbekwaam personeel aan de trainingsdeelnemers overbrengen.



Het dragen van reddingsvesten kan bij het ter water raken Uw leven redden !!!!!!!

2.2.5.5 Draagbare verlichting

1. Alleen goedgekeurde explosieveilige draagbare lampen voor zone “0” mogen worden gebruikt aan boord van onze schepen.
2. Alleen draagbare lampen met een duidelijk leesbaar veiligheidskenmerk mogen worden gebruikt.
3. De draagbare lampen moeten in goede en onbeschadigde staat verkeren.

N.B. Aan het gebruik van zaklantaarns aan boord van een chemicaliën en mineralolie tankers worden andere eisen gesteld dan bij normaal gebruik. Er is slechts een klein vonkje nodig om, bij ongunstige omstandigheden, een explosie aan boord te veroorzaken.

Gebruik van draagbare Lampen aan boord.

In de gehele ladingzone, in gesloten ruimte, en ook aan dek buiten de ladingzone, mogen slechts draagbare lampen die volgens ATEX** voor de zone “0’’ goedgekeurd zijn, en aan boord van onze schepen (SNITS) worden gebruikt.
(**ATEX - EN 50.020 gebruikelijk voor de Zone 0 - 2 groep IIA)

2.2.5.6 Draagbare radio’s, draadloze telefoons etc.

Het gebruik van draagbare radio’s, draadloze telefoons, semafoons, smartwatches, fitbands etc. aan dek is ten strengste verboden. Deze zijn namelijk niet explosieveilig en kunnen dus explosies veroorzaken.

Ook voor gasvrij verklaarde schepen geldt, net als bij het rookverbod, dat draagbare radio’s, draadloze telefoons, semafoons, smartwatches, fitbands etc. niet aan dek gebruikt mogen worden.

In de toekomst zullen steeds meer nieuwe elektronische apparaten ontwikkeld worden, deze apparaten zijn over het algemeen niet explosieveilig en mogen dan ook niet aan dek gebruikt worden.

2.2.5.7 Aan- en van boord gaan

Bij het aan of van boord gaan dient te allen tijde een zwemvest gedragen te worden.

Het aan- en van boord gaan dient te worden gedaan op de door de kapitein aangewezen plaatsen, dit om eventuele incidenten of gevaarlijke situaties te voorkomen. Het dient vooraf besproken te worden hoe en waar men op de meest veilige manier aan- en van boord kunt gaan. Dit moet bij elke bemanningslid bekend zijn en de bemanningsleden dienen anderen te helpen bij het aanpakken en overhandigen van eventuele koffers of andere zaken waarmee men zijn handen vol mee kunnen hebben, zodat een ieder die aan- of van boord gaat, twee handen vrij heeft voor zijn/haar eigen veiligheid. De personen die hulp bieden zijn hierbij eveneens zwemvest plichtig.

2.2.5.8 Veiligheidsoefeningen (zie ook ADN Deel 1-1.3.1 tot 1.3.3)

De kapitein is er verantwoordelijk voor, dat alle bemanningsleden aan boord praktische trainingen krijgen om zodoende in te kunnen spelen op gevaar, ongevallen en noodsituaties, die zich kunnen voordoen op hun eigen schip.
(Refenties SHB 2.14 Risico identificatie, uitvallen van kritieke apparatuur, SHB 2.5 Procedure Veiligheids & Alarmplan en de veiligheids bijlagen in het Scheepshandboek)

De Kapitein geassisteerd door de 2de Kapitein dienen een schema te ontwikkelen van oefeningen zoals noodsituaties, veiligheid oefeningen, brandoefeningen, demonstraties en besprekingen.
Het schema moet de verplichte oefeningen bevatten zoals voorgeschreven in ons scheepshandboek. Dit schema benodigd in meeste gevallen een periode van één jaar om alle scenarios te kunnen vervullen.

Een lijst van de voorgeschreven oefeningen bevindt zich verderop in dit hoofdstuk.

Deze oefeningen dienen te worden gevarieerd zodat het scheepspersoneel vertrouwd raakt in het gebruik van de diverse uitrustingen alsmede het ontwerp van het schip. Ons bedrijf vereist dat de bemanning eens in de twee weken wordt geoefend in brand- en reddingsboot oefeningen.

De resultaten van deze oefeningen dienen te worden genoteerd in het formulier SHB2.2.7b1 Safety Practice en in het beproevingsboek te worden bewaard.

De werking van nood- en levensreddende uitrusting moet worden geoefend, gedemonstreerd en gesimuleerd, om vertrouwd te raken in het gebruik hiervan en tevens het checken van de conditie van deze uitrusting.

Tijdens de gevarieerde veiligheids oefeningen moet de gelegenheid genomen worden om in verschillende scenario's te oefenen. Het moet ten doel gesteld worden om ten alle tijden adequat te reageren op noodsituaties ook wanneer enkele personononen niet in staat zijn om te reageren en hun taak niet kunnen delegeren naar ander personeel.

Bij eerste gelegenheid, moeten alle bemanningsleden vertrouwd worden gemaakt met het opstarten van de noodprocedures, de brandbluspomp en generators. Zij moeten tevens worden geïnstrueerd over hoe te reageren wanneer zij iemand overboord zien vallen.

Een gedetaileerd rapport van de veiligheids oefening moeten worden opgemaakt en de resultaten geevalueerd om de effectiviteit van de oefening of het gesimuleerde vast te stellen.

Bij het ontwikkelen van veiligheids training scenario's is het van groot belang om de bekwaamheid van het personeel, het vaargebied en de door u vervoerde producten in overweging te nemen.

Voorbeelden van trainingen:

1. Uitval hoofdmotor.
2. Roer uitval.
3. Uitval elektriciteit (black-out) tijdens de vaart.
4. Uitval elektriciteit (black-out) tijdens ladingoverslag.
5. Aanvaring – gebruik van noodprocedures.
6. Aan de grond lopen.
7. Interne verpomping.
8. Spill / contaminate van lading.

9A. Brand in accommodatie.
9B. Brand in voor machinekamer.
9C. Brand in achter machinekamer.
9D. Brand aan dek / ladingzone.

10. Aflaat van overdruk lading tanks (via ontspanningsventiel).
11. Ongeval in machinekamer.
12. Man overboord / zoeken en redding.
13. Man in tank.
14. Evacuatie training.
15. Zwaar ongeval.
16. Gebruik en uitleg van brandblus apparaten.
17. Afdrijven van steiger.
18. Gebruik van Persoonlijke Beschermings Middelen
19. EHBO / reddings uitrusting.
20. Gebruik en uitleg van AED in ladingzone
21. Gebruik en uitleg oog- en nooddouche.
22. Aan- en afkoppelen van gevaarlijke producten.
23. Sluisvaren.
24. Varen bij slecht zicht.
25. Bunkeren van Methanol

Om u te assisteren bij de opmaak van een trainingsschema, is er een voorbeeld programma bijgevoegd in dit hoofstuk.
De bedoeling van een dergelijke schema is om zeker te stellen dat de verantwoordelijke personen aan boord een overzicht hebben van trainingen die al aan boord zijn uitgevoerd en trainingen welke nog uitgevoerd dienen te worden.

Wanneer een schema is opgesteld, is het de bedoeling deze zo goed als mogelijk bij te houden. Het is begrijpelijk dat, door verschillende omstandigheden, dit niet altijd mogelijk is, echter wanneer het niet mogelijk is een training uit te voeren, dan dient deze opnieuw ingedeeld te worden op een latere datum.

Wij willen u er wel op wijzen dat de diverse verplichte trainingen moeten worden opgenomen in de opgestelde trainings schema.

Week Nr.	TRAINING SCENARIO'S			Week Nr.	TRAINING SCENARIO'S	
1.	Spill/contaminatie van lading	Interne verpomping/ gebruik van PBM's		27.	Aan- afkoppelen van gevaarlijk producten	Bunkeren van Methanol
2.				28.		
3.	Ongeval in machinekamer	EHBO / Reddings-uitrusting		29.	Brand aan dek / ladingzone	
4.				30.		
5.	Brand in accommodatie			31.	Afdrijven van steiger tijdens laden/lossen	
6.				32.		
7.	Evacutie training			33.	Uitval hoofdmotor	
8.				34.		
9.	Sluis varen			35.	Zwaar ongeval met zuur	Nooddouche / gebruik PBM's
10.				36.		
11.	Aflaat overdruk ladingtanks	Gebruik van PBM's		37.	Brandrol	
12.				38.		
13.	Gebruik en uitleg brandblussers			39.	Roer uitval	
14.				40.		
15.	Man overboord / zoeken en redding			41.	Varen bij slecht zicht	
16.				42.		
17.	Uitval electriciteit tijdens overslag			43.	Man in tank.	
18.				44.		
19.	Aanvaring	Gebruik van noodprocedures		45.	Brand in achter machinekamer	
20.				46.		
21.	Gebruik en uitleg van AED in ladingzone	Redding uit lading-zone bij hartaanval		47.	Gebruik van PBM's	
22.				48.		
23.	Gebruik en uitleg oog- nooddouche			49.	Uitval electriciteit tijdens de vaart.	
24.				50.		
25.	Redding uit besloten ruimten			51.	Gebruik oog- nood douche bij vorst	
26.				52.		

2.2.5.9 Gebruik van AED (Automatische Externe Defibrillator)

Voor het gebruik van de AED dient allereerst de gebruiksaanwijzing te worden gelezen en aan ieder aan boord bekendgemaakt worden. Er zijn diverse verschillende soorten AED's, waarvan er veel niet in de ladingzone gebruikt mogen worden. Dit kunt u terug vinden in de gebruiksaanwijzing.
Belangrijk is dat de gebruiksaanwijzing en het gebruik van de AED opgenomen wordt in het trainingsschema, zodat bij een ieder aan boord bekend is hoe de AED werkt, wanneer de AED toe te passen en waar deze toegepast mag worden.

De AED mag in de Zone 2 gebieden gebruikt worden, wat betekend dat deze rond en in het stuurhuis, de accommodatie en de machinekamers gebruikt mag worden.
Mocht zich onverhoopt toch iemand van uw bemanning in de ladingzone door een hartaanval getroffen worden, dan is het zaak om rustig te blijven, direct 112 te bellen, ten tijde van ladingoverslag, deze direct te stoppen, de terminal te alarmeren en de Q&S alarmnummer te bellen.

Naast een hartaanval kan het slachtoffer eveneens ernstige verwondingen hebben, welke ontstaan kunnen zijn tijdens de val aan dek, op het looprooster of tussen de spanten van het slachtoffer. Dit kunnen zichtbare verwondingen zijn, maar dat kunnen eveneens verwondingen zijn die niet direct zichtbaar zijn. Het is van zeer groot belang het slachtoffer niet direct te verplaatsen, maar in eerste instantie het slachtoffer te controleren op zijn/haar ademhaling.
Is vastgesteld dat het slachtoffer bewusteloos is, niet ademt en het risico te groot is om het slachtoffer te verplaatsen, dient de gehele ladingzone zeker gesteld te worden door het gehele ladingsysteem in de ladingzone dicht te zetten en de atmosfeer aan dek te meten met de Ex/Ox-meter om zeker te stellen dat er geen explosieve atmosfeer aanwezig is bij en in de omgeving van het slachtoffer. Terwijl een bemanningslid bezig is om de ladingzone zeker te stellen, kan een ander bemanningslid alvast beginnen met de handmatige reanimatie. Is zeker gesteld dat de atmosfeer aan dek veilig is, gebruik de AED op het slachtoffer.
De kapitein is er verantwoordelijk voor, dat alle bemanningsleden aan boord praktische trainingen krijgen om zodoende in te kunnen spelen op alle gevaren, ongevallen en noodsituaties, welke zich kunnen voordoen aan boord van het schip.
(Referenties SHB 2.14 Risico identificatie, SHB 2.5 Procedure Veiligheids- & Alarmplan en de veiligheidsbijlagen in het Scheepshandboek).

2.2.5.10 Bunkeren van Methanol

Vanwege de extra gevaren en de afwijkende procedures bij het bunkeren van Methanol ten opzichte van de reguliere Gasolie, dient men extra aandacht aan te schenken aan het bunkeren van Methanol. Men moet hier denken aan trainingen, welke men aan boord kan uitvoeren om een goede bekendheid van het bunkeren van Methanol te garanderen.
Voor elk nieuw bemanningslid geldt dat hij/zij het "Vertrouwd Maken en Activiteit Bewustzijns Controlelijst" invullen om zeker te stellen dat men ingewerkt is met het bunkeren van Methanol.

Tijdens het uitvoeren van een training "bunkeren van Methanol" moet men de volgende zaken behandelen:

- Communicatie tussen schip en vooralsnog de chauffeur van de tankwagen. Dit is vooralsnog, daar er nog geen andere faciliteiten zijn waar Methanol gebunkerd kan worden.
- Het garanderen dat men bekend is met de ESD noodstop
- Dat men aan boord weet waar de noodstoppen zich bevinden en zekerstelt dat de noodstoppen werken.

- Alle gevaarseigenschappen van Methanol bespreken met de bemanning zoals beschreven in het ADN table C.

UN-Nummer / Stofnummer	Benaming en beschrijving	Klasse	Classificatiecode	Verpakkingsgroep	Gevaren	Tank-schrijving	Uitrusting van de ladingtank	Type van de ladingtank	Ladingtankvoorschrift	Opening tot overdruk-/vacuümbeveiligd in kPa	minimaal toelaatbare vullingsgraad ladingtank in %	Relatieve dichtheid bij 20 °C	Soort monitoring-inrichting	Pompkamer onder dek toegestaan	Temperatuurklasse	Explosiegroep	Explosiebeveiliging vereist	Vereiste uitrusting	Aantal blauwe kegels/lichten	Extra eisen/aanbevelingen
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	3.1.2	2.2	2.2	2.1.1.3	5.2.2./ 3.2.3.1	1.2.1./ 7.2.2.0.1	3.2.3.1./ 1.2.1	3.2.3.1./ 1.2.1	3.2.3.1./ 1.2.1	3.2.3.1./ 1.2.1	7.2.4.2.1	3.2.3.1	3.2.3.1./ 1.2.1	3.2.3.1./ 1.2.1	1.2.1	1.2.1./ 3.2.3.3	1.2.1./ 3.2.3.3	8.1.5	7.2.5	3.2.3.1
1230	METHANOL	3	FT1	II	3+6.1	IV	2	2	3	50	95	0.79	2	ja	T2[1]	IIA	ja	PP, EP, EX, TOX, A	2	23

- Het bespreken van de producteigenschappen, de belangrijke gegevens, de directe gevaren etc. zoals beschreven in het Chemiekaartenboek.

Synoniemen:
methylalcohol
houtgeest

Kaartnummer: C-0025

METHANOL

$CH_3—OH$

CAS-nummer: [67-56-1] EG-nummer: 200-659-6 Brutoformule: CH_3OH

FYSISCHE EIGENSCHAPPEN

Kookpunt	65 °C
Smeltpunt	-98 °C
Vlampunt	9,7 °C
Zelfontbrandingstemperatuur	455 °C
Explosiegrenzen in lucht	5,5 - 44 vol %
Soortelijke geleiding	1,5.10⁶ pS/m
Minimale ontstekingsenergie	0,14 mJ
Dampspanning bij 20 °C	129 mbar
Dampspanning bij 50 °C	552 mbar
Rel. dichtheid verz. damp/lucht bij 20°C	1,01
Relatieve dichtheid (water=1)	0,8
Oplosbaarheid in water	volledig
Log P octanol/water	ca. -0,8
Bioconcentratiefactor (BCF)	< 10
Relatieve molecuulmassa	32,0
Omrekenfactor: 1 mg/m³ =	0,75 ppm

ETIKETTERING

CLP Etiket (REACH Registratie & CLP Annex VI)
Signaalwoord: GEVAAR
H: 225-301-311-331-370

GHS02 GHS06 GHS08

Transportindeling (ADR)

UN-nummer	1230
GEVI	336
ERIC	3-15

3 6.1

NFPA

GRENSWAARDEN

Wettelijk 133 mg/m³ H

DNEL	Langdurig - systemische effecten, inhalatie	130 mg/m³
DNEL	Korte termijn - systemische effecten, inhalatie	130 mg/m³
DNEL	Langdurig - systemische effecten, dermaal	20 mg/kg/d
DNEL	Korte termijn - systemische effecten, dermaal	40 mg/kg/d

Interventiewaarden (1 uur)

VRW	710 mg/m³
AGW	9600 mg/m³
LBW	15000 mg/m³
AEGL 1	690 mg/m³
AEGL 2	2800 mg/m³
AEGL 3	9400 mg/m³

BELANGRIJKE GEGEVENS

KLEURLOZE VLOEISTOF MET TYPERENDE GEUR
De damp mengt zich goed met lucht, makkelijke vorming van explosieve mengsels. Bij ontbranding van concentraties boven ca. 30% in de lucht vindt onvolledige verbranding plaats onder vorming van koolmonoxide (zie aldaar). Tast (aard)alkalimetalen en lichte metalen aan onder vorming van brandbaar gas (waterstof, zie aldaar). Reageert heftig met oxidatiemiddelen en sterke zuren. Reageert met poeders van (aard)alkali- en lichte metalen onder vorming van brandbaar gas (waterstof, zie aldaar) met kans op brand en explosie. Tast sommige kunststoffen, rubber en coatings aan.

Geurwaarneming: De geur alleen geeft onvoldoende informatie over het acute gezondheidsrisico.
Blootstelling: Een voor de gezondheid gevaarlijke concentratie in de lucht kan door verdamping van deze stof bij ca. 20°C vrij snel worden bereikt; bij verneveling nog sneller. De stof kan worden opgenomen in het lichaam door inademing van de damp, via de huid en na inslikken.
Eenmalige of kortdurende blootstelling: De stof en zijn damp werken licht irriterend op de ogen, de huid en de luchtwegen. De vloeistof ontvet de huid. De stof kan inwerken op het centrale zenuwstelsel, met als gevolg o.a. hoofdpijn, duizeligheid en een afnemend gezichtsvermogen. In aanzienlijke concentraties kan de stof aanleiding geven tot bewustzijnsverlaging en toevallen. In ernstige gevallen kans op verzuring (metabole acidose), blindheid en dodelijke afloop. De uitwerking kan vertraagd intreden (meestal binnen 24 uur). Bij overlevenden kunnen later effecten op het centrale zenuwstelsel optreden, zoals parkinsonachtige verschijnselen.
Herhaalde en/of langdurende blootstelling: Huidcontact kan door beschadiging eczeem veroorzaken. De stof kan op het centrale zenuwstelsel inwerken, met als gevolg terugkerende of aanhoudende hoofdpijn en verstoord gezichtsvermogen.
CMR: Kan het ongeboren kind schaden.[1]
Biomonitoring: Is mogelijk (zie register 'Biologische Monitoring').

DIRECTE GEVAREN	PREVENTIE	MAATREGELEN
Brand: zeer brandgevaarlijk.	geen open vuur, geen vonken en niet roken.	**Blusstoffen:** schuim, zeer veel water, poeder, koolzuur.
Explosie: damp met lucht explosief.	gesloten apparatuur, ventilatie, explosieveilige elektrische apparatuur en verlichting, bij vullen, aftappen of verwerken geen perslucht toepassen, aarden.(2)	bij brand: tanks/vaten koel houden d.m.v. waterstralen.
NOODSITUATIE: Explosiegevaar! Acuut gezondheidsgevaar! Bij grotere hoeveelheden: gevarenzone ONMIDDELLIJK ontruimen en (laten) afzetten. Deskundige waarschuwen!		
SYMPTOMEN	**PERSOONLIJKE BESCHERMING**	**EERSTE HULP**
GIFTIG BIJ INADEMING, HUIDCONTACT EN INSLIKKEN.	PAS OP: HUIDOPNAME! VORMING VAN NEVEL VOORKOMEN! STRENGE HYGIËNE EN BLOOTSTELLING VERMIJDEN!	IN ALLE GEVALLEN ARTS RAADPLEGEN!
Inademen: hoofdpijn, duizeligheid, misselijkheid, buikpijn, braken, suffheid, kortademigheid, slecht zien, toevallen, bewusteloosheid.	ruimtelijke afzuiging, plaatselijke afzuiging, volgelaatsmasker (combinatiefiltertype AX/P3), of onafhankelijke adembescherming.	frisse lucht, rust, specifieke behandeling en onmiddellijk arts raadplegen.
Huid: roodheid, droge huid, zie verder 'Inademen'.	handschoenen (butylrubber, neopreen), gerichte beschermende kleding.	verontreinigde kleding uittrekken, minimaal 20 min. spoelen met veel water of douchen en arts raadplegen.
Ogen: damp en vloeistof: roodheid en pijn.	volgelaatsbescherming, volgelaatsmasker.	minimaal 15 min. spoelen met water (evt. contactlenzen verwijderen), dan naar oogarts brengen.
Inslikken: zie 'Inademen'.		mond laten spoelen (uitspugen!), specifieke behandeling, GEEN braken opwekken en bel 112.
Bij vergiftiging door deze stof is specifieke eerste hulp noodzakelijk, de benodigde middelen (specifieke antidota zoals o.a. ethanol of fomepizole) moeten met gebruiksaanwijzing ter plekke beschikbaar zijn. Voor aanwijzingen over verdere behandeling zo nodig het NVIC (+31(0)88 755 8000) of het Belgisch Antigifcentrum (+32(0)70 245 245) bellen.		

MILIEU, OPRUIMING EN OPSLAG	
Opruimen gemorst product: Deskundige waarschuwen. Draag chemiepak en gebruik onafhankelijke ademlucht. Extra ventilatie. Gemorst product indammen en afdekken met schuim, vervolgens zorgvuldig opzuigen (explosieveilig). Restant verwijderen met water. Spoelwater afvoeren naar riool. **Opslag:** Brandveilig, gescheiden van oxidatiemiddelen, sterke zuren en lichte metalen (o.a. aluminium), goed gesloten, koel.	**Grenswaarden (PNECs – watermilieu)** PNEC zoet water 21 mg/l PNEC zeewater 2,1 mg/l PNECs-intermitterend 1540 mg/l
Opmerkingen: Gebruik stevige houder bij intern transport van breekbare verpakkingen. **Voetnoten:** (1) Methanol staat per 2 juli 2018 niet meer op de SZW lijst met voor de ontwikkeling schadelijke stoffen. De gezondheidsraad noemt dat concentraties waarbij deze effecten kunnen optreden op de arbeidsplaats niet gehaald worden. (2) vonkarm handgereedschap.	

- Het bespreken en oefenen van het aansluiten van de laad- en dampretourslang met behulp van de Dry Disconnect Coupling.

- Het bespreken en oefenen van het gebruik van veiligheidskleding en -middelen zoals minimaal is voorgeschreven voor dit product in AND 3.2. table C.

2.2.6 Verantwoordelijkheden/ bevoegdheden

Revision date: 2022-11-04 Review date: 2022-11-04
Rev No.: 8
Approved by: RVB

Ieder bemanningslid is verantwoordelijk voor de correcte naleving van deze voorschriften. Daarbij is hij verplicht om bij geconstateerde afwijkingen direct in te grijpen of melding te maken bij de kapitein.
De dienstdoende kapitein of zijn vervanger draagt de eindverantwoordelijkheid voor de correcte naleving van deze voorschriften. Tevens moet de dienstdoende kapitein zeker stellen dat eventuele bezoekers op de hoogte zijn van deze voorschriften.

2.2.7 Bijlagen

Revision date: 2022-11-04 Review date: 2022-11-04
Rev No.: 8
Approved by: RVB

Bijlage 1: “Safety practice”

Terug naar index.

Revision date: 2022-11-04
Rev No.: 8
Approved by: RVB

Review date: 2022-11-04

SAFETY PRACTICE

Kapitein:	_____	Scheepsnaam:	_____
Lokatie:	_____	Datum:	_____
Onderwerp:	_____		

_____
Handtekening Kapitein

Handtekeningen Deelnemers:

_____ _____

_____ _____

2.17 Vertrouwd Maken en Activiteit Bewustzijns Controlelijst

Revision date: 2022-11-04 Review date: 2022-11-04
Rev No.: 5
Approved by: RVB

2.17.1 Doel

2.17.2 Definitie

2.17.3 Toepassingsgebied

2.17.4 Werkwijze

2.17.5 Bijlagen
Rapportage formulier. *SHB/2.17b1* Vertrouwd maken en activiteit bewustzijns controlelijst

2.17.1 Doel

Revision date: 2022-11-04 Review date: 2022-11-04
Rev No.: 5
Approved by: RVB

In deze procedure wordt de te volgen werkwijze beschreven die moet worden gevolgd bij het gebruik van de checklist zoals beschreven in punt 4.

2.17.2 Definitie

Revision date: 2022-11-04 Review date: 2022-11-04
Rev No.: 5
Approved by: RVB

De handeling om bewust en in vertrouwde omgeving een keuze en handeling te verrichten die een positieve invloed hebben op een bemanningslid of ten bate van het schip positief uitvallen.

2.17.3 Toepassingsgebied

Revision date: 2022-11-04 Review date: 2022-11-04
Rev No.: 5
Approved by: RVB

Deze procedure geldt aan boord van alle schepen.

2.17.4 Werkwijze

Revision date: 2022-11-04 Review date: 2022-11-04
Rev No.: 5
Approved by: RVB

Bij het aanboord nemen van een nieuw of ingehuurd bemanningslid is het de bedoeling dat de dienstdoende kapitein /eigenaar samen met het nieuwe bemanningslid deze lijst doorneemt. Het nieuwe bemanningslid kan op deze manier een beeld krijgen bij de verplichtingen en taken die hij of zij aan boord moeten uitvoeren. Het gaat hier dan ook over veiligheid en bewustzijn aan boord van het voor diegene nieuwe schip. Dit is geen vervanging voor een werkbeschrijving van het personeelslid. Als men deze lijst samen met de hoogste in rang heeft doorgenomen en ingevuld stuurt men een kopie naar het kantoor van SNITS.bv in Rotterdam, tav Q&S Departement.
De lijst is te vinden in de bijlage *SHB/2.17b1*

2.17.5 Bijlage

Revision date: 2022-11-04 Review date: 2022-11-04
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Rapportage formulier. *SHB/2.17b1*

Terug naar index.

Revision date: 2022-11-04 Review date: 2022-11-04
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Deze lijst moet worden ingevuld door alle nieuwe bemanningsleden en ingehuurde bemanningleden aan boord van alle voor SNITS b.v varende schepen.

A. Wat zijn de onderwerpen van het bedrijfsbeleid? _____

_____

B. Hoe klinkt het algemeen alarm? _____

En hoe klinkt het brandalarm? _____

C. Waar bevinden zich de zwemvesten? _____

_____

D. Weet u wat u moet doen als u de opdracht heeft om wacht te lopen aan boord?

_____

E. Welke rol speelt u als er een brandalarm is? _____

_____

F. Welke rol speelt u als er een algemeen alarm is? _____

_____

G. Weet u wat de betekenis is van alle symbolen op het brand plan overzicht?

_____

H. Wat voor brandblusser heeft u in de buurt van uw slaapplaats?

_____

I. Op welke type branden kunt u die gebruiken? _____

_____

J. Waar zitten de pompstop knoppen aan boord van uw schip? _____

_____

K. Weet u hoe u deze moet bedienen? _____

_____

L. In welk hoofdstuk kunt u lezen wat u moet doen als u een besloten ruimte in wilt gaan?

_____

M. Hoe lang mag u de betreffende besloten ruimte betreden zonder opnieuw te meten?

_____

N. Heeft u deze procedure gelezen en snapt u wat er bedoeld wordt?

_____

O. Beschrijf wat u zou doen als u iemand overboord zou zien vallen? _____

_____

P. Weet u waar de brandbluspomp staat en hoe deze werkt? _____

_____

Q. Waar bevinden zich de EHBO-verbanddozen? _____

_____

R. Wie heeft de leiding bij een eventuele calamiteit aan boord?

_____

S. Kruis aan welke van de onderstaande veiligheidsmiddelen u heeft ontvangen voor algemeen werk aan boord.

- ☐ Helm
- ☐ Veiligheidsschoenen
- ☐ Veiligheidsbril
- ☐ Veiligheidshandschoenen

T. Weet u hoe u een calamiteit of een bijna ongeval moet melden en aan wie?

_____

U. Bent u bekend hoe om te gaan met veiligheid in de ladingzone?

_____

V. Bent u op de hoogte hoe u een Veiligheids dreiging in het kader van het ADN 1.10 moet melden?

_____

W. Weet u waarom u zich aan de ISO-regels van het bedrijf moet houden?

_____

X. Welke soorten brandblussers zijn er aan boord, en heeft het schip een vaste blusinstallatie?

_____

Y. Wat moet u doen indien de vaste blusgas installatie in werking treedt en u aanwezig bent in deze ruimte?

_____

Z. Waar bevindt zich het formulier “zakken stuurhuis in relatie tot de snelheid van het schip en de afgelegde afstand”? Is dit formulier duidelijk voor u?

_____

AA. Is de bunkerprocedure aan u bekend gemaakt en waar staat deze in het Scheepshandboek?

_____

Ik ben op de hoogte van alle veiligheid voorschriften ten behoeve van mijn werksituatie, ik ben rondgeleid op het schip door iemand van dezelfde rang die mij goed heeft uitgelegd wat ik behoor te weten. Ik weet wat ik moet doen in mijn werkarea.

Scheepsnaam: _____

Getekend: _____ Naam (in blokletters): _____

Datum: _____

Hierbij verklaart de ondergetekende dat de bovenstaande persoon op de hoogte is van alle veiligheidsregels en zich bewust is van de activiteiten aan boord van dit schip. De bovenstaande persoon heeft een rondleiding over het schip gehad en weet wat zijn taken zijn.

Kapitein: _____ Naam (in blokletters): _____

Datum: _____