

Subject :

"2nd sets of Amendments to the IBC/BCH
Code and Annex II of MARPOL 73/78"

NKTECHNICAL INFORMATION

No. : 121

Date : 1 October, 1993

To : Owners and Shipbuilders concerned

2nd sets of amendments to the IBC and BCH Codes and Annex II of MARPOL 73/78 were adopted by the Marine Environment Protection Committee (MEPC) at its thirty - third session.

The adopted amendments, after the authorized actions are taken as scheduled, are to come into force on 1st July, 1994 and apply to both new and existing ships as from the date of entry into force of the amendments, except the limitation or relaxation of the relevant provisions.

We would like to inform you, in advance of the application of the amendments, of the summary of amendments as attached, and you are kindly requested to review your cargo loading plan with respect to the amendments.

You will be advised of the necessary procedure for approval and certification under the amendments separately.

Should you have any question on this matter, please feel free to contact "Tanker Section", Hull Department of our Head Office.

- Attachments : (1) Summary of the amendments to the IBC and BCH Codes and Annex II of MARPOL 73/78
(2) Amendments to the IBC Code (Res. MEPC 55(33))
(3) Amendments to the BCH Code (Res. MEPC 56(33))
(4) Amendments to Annex II of MARPOL 73/78 (Res. MEPC 57(33))

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Summary of the amendments to the IBC and BCH Codes and Annex II of MARPOL 73/78

1. Chapter 8 of the IBC Code was revised and replaced by the new chapter 8 (Cargo tank venting and gas-freeing arrangements).
The revised chapter 8 of the IBC Code shall apply to chemical tankers constructed on or after 1 January, 1994.

2. In the same as 1st sets of amendments to the IBC/BCH Codes and Annex II MARPOL 73/78, products were reviewed their minimum requirements and their pollution categories, together with some products being added, deleted or renamed.

In addition to the above, harmonization and amalgamation of the lists of chemicals in Annex II of MARPOL 73/78 and the IBC and BCH Codes were made, consequently, products and their requirements in chapter VI/VII of the BCH Code and in appendix II & III of Annex II of MARPOL 73/78 were unified to those in chapter 17/18 of the IBC Code.

3. All amendments to the list of substances should apply not only to new ships, but to existing ships the keel of which are laid before 30 June, 1994 or which are at a similar stage of construction.

Meanwhile, the relaxations are made on the application of the provision of the underwater discharge outlet and the provision of the stripping system resulting from upgraded requirements for existing substances, subject to the compliance with the "Guideline for the Application of Amendments to the List of Substances in Annex II of MARPOL 73/78 and in the IBC Code and the BCH Code with respect to Pollution Hazards" (included in Attachment (4)).

4. Contents of the amendments to the list of substances are shown in "Appendix (Summary)" and "Appendix 1" to "Appendix 9".

"Appendix (Summary) "

1. IBC Code (Chapter 17)

Products which are newly added (68)	Newly-assessed products(64)	(See the "Appendix 1".)
	Up-graded products (4)	Products up-graded from chapter 18 to chapter 17 (See the symbol * of the attached "Appendix 1".)
Products which are deleted or down-graded (5)	Deleted products (1)	Products deleted from the IBC Code. Calcium naphthenate in mineral oil
	Down-graded products (4)	Products down-graded from chapter 17 to chapter 18 Cyclohexanol Methyl amyl ketone N-Methyl-2-Pyrrolidone Poly(2-8) alkylene glycol monoalkyl (C1-C6) ether . . . (Note 1)
Renamed products (23)		(See the attached "Appendix 2".)
Products of which minimum carriage requirements are revised (Total 131)	Pollution category (39)	(See the attached "Appendix 3".)
	Hazards (12)	(See the attached "Appendix 4".)
	Ship type (7)	(See the attached "Appendix 5".)
	Electrical equipment (1)	Sodium hypochlorite solution (15% or less) " Yes " to " NF "
	Gauging (4)	" Open " to " Restricted " Butyraldehyde (all isomers) . . . (Note 1) Camphor oil Styrene monomer Vinyl acetate
	Fire protection (2)	(i) alpha - Methylstyrene "D" to "A, D** " . . (Note 2) (ii) Nitropropane (60%) / Nitroethane (40%) mixture "A" to "A(u)" . . (Note 3)
	Special requirements (53)	(See the attached "Appendix 6".)
	Products which are newly added a remark (21)	(See the attached "Appendix 7".)

() shows the number of the amended products.

(Note 1) These products are renamed.

(Old name) Diethylene glycol methyl ether

(Old name) n - Butyraldehyde

(Note 2) ** . . . Only certain alcohol resistant foams are effective.

(Note 3) (u) . . . Dry chemicals should not be used as fire-exringuishing media.

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2. IBC Code (Chapter 18)

Products which are newly added (57)	Newly-assessed products (53)	(See the "Appendix 8".)								
	Down-graded products (4)	Products down-graded from chapter 17 to chapter 18 (See the symbol * of the attached "Appendix 8".)								
Products which are deleted (0)	Deleted products from the IBC Dode (0)									
Renamed products (11)		(See the attached "Appendix 9".)								
Products of which minimum carriage requirements are revised (3)		<table><tr><th><u>Products</u></th><th><u>Pollution category</u></th></tr><tr><td>Alkyl (C9+) benzenes (Note)</td><td>(D) → III</td></tr><tr><td>Diethylene glycol</td><td>III → D</td></tr><tr><td>Metyl alcohol</td><td>III → D</td></tr></table>	<u>Products</u>	<u>Pollution category</u>	Alkyl (C9+) benzenes (Note)	(D) → III	Diethylene glycol	III → D	Metyl alcohol	III → D
<u>Products</u>	<u>Pollution category</u>									
Alkyl (C9+) benzenes (Note)	(D) → III									
Diethylene glycol	III → D									
Metyl alcohol	III → D									

() Shows the number of the amended products.

(Note) . . . These products are renamed.

“Appendix 1”

New entry products in Chapter 17
(* : Products up - graded from Chapter 18 to Chapter 17)

Appendix 1 —1

Products	Poll. Cat.	Hazard	Ship Type
Alachlor technical (90% or more)	B	S / P	3
Alcohol (C12-C15) poly (20+) ethoxylates	C	P	3
Alkane (C14-C17) sulfonic acid, sodium salt 60-65% in water	B	P	3
Alkanes (C6-C9)	(C)	P	3
Alkaryl polyethers (C9-C20)	B	P	3
Alkyl benzene / -indane / -indene mixture (C12-C17 total carbon)	A	P	2
Alkyl (C3-C4) benzenes	A	P	3
Alkyl (C5-C8) benzenes	A	P	2
n - Butyl propionate	C	P	3
Calcium alkyl (C9) phenol sulphide / polyolefin phosphorosulphide mixture	A	P	2
4 - Chloro - 2 - methylphenoxyacetic acid, dimethylamine salt solution	(C)	P	3
Cobalt naphthenate in solvent naphtha	A	S / P	2
Cresylic acid, dephenolized	A	S / P	2

Products	Poll. Cat.	Hazard	Ship Type
1, 5, 9 - Cyclododecatriene	A	S/P	1
Cyclohexanone, Cyclohexanol mixture	D	S	3
Decyl acetate	(B)	P	3
Decyloxytetrahydro - thiophene dioxide	A	S/P	2
Dibutyl hydrogen phosphonate	B	P	3
1, 6 - Dichlorohexane	B	S/P	2
1, 1 - Dichloropropane	C	S/P	2
2, 6 - Diethylaniline	C	S/P	3
Diphenylamine, reaction product with 2, 2, 4 - Trimethylpentene	(A)	S/P	1
Diphenylamines, alkylated	A	P	2
Dodecylamine / Tetradecylamine mixture	A	S/P	2
Dodecyldimthylamine / Tetradecyl dimethylamine mixture	A	S/P	2
* Ethylene glycol methyl ether acetate	C	P	3
* Ethylene glycol monoalkyl ethers	D	S	3
Ethyl - 3 - ethoxypropionate	C	P	3
Fluorosilicic acid (20-30%) in water solution	C	S/P	3
2 - Hydroxy - 4 - (methylthio) butanoic acid	C	P	3

Products	Poll. Cat.	Hazard	Ship Type
Liquid chemical wastes	A	S/P	2
Long chain alkaryl polyether (C11-C20)	C	P	3
Long chain polyetheramine in alkyl (C2-C4) benzenes	C	P	3
Long chain polyetheramine in aromatic solvent	C	P	3
Magnesium long chain alkyl salicylate (C11+)	C	P	3
Methacrylic resin in Ethylene dichloride	B	S/P	2
Methyl diethanolamine	D	S	3
Methyl naphthalene (molten)	A	S/P	2
3 - Methylpyridine	C	S/P	2
Nonyl acetate	(C)	P	3
* n - Octyl acetate	C	P	3
Oleylamine	A	S/P	2
n - Pentyl propionate	C	P	3
Pine oil	C	P	3
Poly (2+) cyclic aromatics	A	P	2
Polyalkyl (C18-C22) acrylate in Xylene	C	P	3

Products	Poll. Cat.	Hazard	Ship Type
Polyalkylene oxide polyol	C	P	3
Polyolefinamine in alkyl (C2-C4) benzenes	(C)	P	3
Polyolefinamine in aromatic solvent	(C)	P	3
Polyolefin phosphorosulphidebarium derivative (C28-C250)	C	P	3
Potassium chloride solution (10% or more)	C	P	3
Potassium oleate	(C)	P	3
n - Propyl chloride	D	S	3
Sodium aluminate solution	D	S	3
Sodium hydrogen sulphide (6% or less) / Sodium carbonate (3% or less) solution	B	P	3
Sodium petroleum sulfonate	B	S/P	2
* Sodium silicate solution	C	P	3
Sodium sulphide solution (15% or less)	B	S/P	3
Sodium sulphite solution (25% or less)	C	P	3
Sodium tartrates and mono - / di - succinate solution	D	S	3
Sulpho hydrocarbon long chain (C18+) alkylamine mixture	B	P	3

	Products	Poll. Cat.	Hazard	Ship Type
	Tall oil fatty acid, barium salt	B	S/P	3
*	Tridecanoic acid	B	P	3
	Triisopropylated phenyl phosphates	A	P	2
	Trimethylamine solution (30% or less)	C	S/P	2
	1, 3, 5 - Trioxane	D	S	3
	Zinc alkaryl dithiophosphate (C7-C16)	(C)	P	3
	Zinc alkyl dithiophosphate (C3-C14)	B	P	3

"Appendix 2"

Renamed products

Appendix 2—1

Original name	Revised name	Note
Alcohol (C12-C15) poly (1-3) ethoxylates	Alcohol (C12-C15) poly (1-6) ethoxylates	
Alcohol (C12-C15) poly (3-11) ethoxylates	Alcohol (C12-C15) poly (7-19) ethoxylates	○
m - Amyl acetate	Amyl acetate (all isomers)	
Sec - Amyl acetate		
Amyl acetate, commercial		
Isoamyl acetates		
n - Butyl acetate	Butyl acetate (all isomers)	
Isobutyl acetates		
n - Butyl acrylate	Butyl acrylate (all isomers)	
Isobutyl acrylate		
Butylbenzenes (all isomers)	Butylbenzene (all isomers)	○
n - Butyl butyrate	Butyl butyrate (all isomers)	○
n - Butyraldehyde	Butyraldehyde (all isomers)	○
Isobutyraldehyde		
Dichlorobenzenes (all isomers)	Dichlorobenbenzene (all isomers)	
Calcium alkyl salicylate	Calcium long chain alkyl salicylate	○

Note : "○" shows the products of which minimum requirements are also revised.

Original name	Revised name	Note
2 - Methyl - 1 - pentene	Hexene (all isomers)	
Motorfuel anti - compounds	Motorfuel anti - knock compounds (containing lead alkyls)	○
Nonene	Nonene (all isomers)	
Octyl nitrate (all isomers)	Alkyl (C7-C9) nitrates	○
Palm nut oil fatty acid	Palm kernel acid oil	○
Pinene	alpha - Pinene	○
	beta - Pinene	
n - Propylbenzene	Propylbenzene (all isomers)	○
Isopropylbenzene		
Sodium hydrogen sulphite solution (35% or less)	Sodium hydrogen sulphite solution (45% or less)	
1, 2, 3, 5 - Tetramethylbenzene	Tetramethylbenzene (all isomers)	○
Trimethylbenzenes (all isomers)	Trimethylbenzene (all isomers)	○
Triethyl phosphite	Triethylphosphite	○
n - Valeraldehyde	Valeraldehyde (all isomers)	○
Isovaleraldehyde		

Note : " ○ " shows the products of which minimum requirements are also revised.

" Appendix 3"

Products of which pollution category are revised

Appendix 3 - 1

No.	Products	Pollution Catgory
(1)	Alcohol (C12-C15) poly (7-19) ethoxylates . . . (Note)	A → B
(2)	Alkyl (C7-C9) nitrates (Note)	A → B
(3)	Butylbenzene (all isomers) (Note)	(A) → A
(4)	Butyl butyrate (all isomers) (Note)	(C) → B
(5)	Butyraldehyde (all isomers) (Note)	B → C
(6)	Crotonaldehyde	B → A
(7)	1, 1 - Dichloroethane	B → D
(8)	1, 2 - Dichloropropane	B → C
(9)	1, 3 - Dichloropropane	B → D
(10)	Diethanolamine	III → D
(11)	Diethylbenzene	C → A
(12)	Dimethyl hydrogen phosphite	Blank → (B)
(13)	Dinitrotoluene (molten)	B → A
(14)	Dodecyl diphenyl ether disulphonate solution	B → A
(15)	Drilling brines (containing zinc salts)	A → B
(16)	Epichlorohydrin	C → A
(17)	Ethylbenzene	C → B

(Note) . . . These products are renamed.

No.	Products	Pollution Catgory
(18)	Ethylene oxide / Propylene oxide mixture with an Ethylene oxide content of not more than 30% in weight	D → C
(19)	2 - Ethyl - 3 - propylacrolein	(B) → A
(20)	Methacrylonitrile	(B) → D
(21)	2 - Methylpyridine	B → D
(22)	4 - Methylpyridine	B → D
(23)	o - or p - Nitrotoluenes	C → B
(24)	Nonyl alcohol (all isomers)	C → (C)
(25)	Palm kernel acid oil (Note)	(C) → C
(26)	Phenol	B → C
(27)	Propionaldehyde	D → C
(28)	Propylbenzene (all isomers) (Note)	(C) or B → A
(29)	Propylene oxide	D → C
(30)	Tetramethylbenzene (all isomers) . . . (Note)	(C) → A
(31)	1, 1, 1 - Trichloroethane	B → C

(Note) . . These products are renamed.

m - Propylbenzene : (C)	} →	Propylbenzene : A
Isopropylbenzene : B		

No.	Products	Pollution Catgory
(32)	1, 1, 2 - Trichloroethane	B → C
(33)	Trichloroethylene	B → C
(34)	1, 2, 3 - Trichloropropane	B → C
(35)	Triethylphosphite (Note)	Blank → B
(36)	Trimethylbenzene (all isomers)	B → A
(37)	Undecanoic acid	(C) → B
(38)	Valeraldehyde (all isomers) (Note)	D → C
(39)	Vinylidene chloride	B → D

(Note) . . These products are renamed.

“Appendix 4”

Products of which hazards are revised.

No.	Products	Hazards
(1)	1, 1 - Dichloroethane	S/P → S
(2)	1, 3 - Dichloropropane	S/P → S
(3)	Dimethyl hydrogen phosphite	S → S/P
(4)	Ethylene oxide / Propylene oxide mixture with an Ethylene oxide content of not more than 30% in weight	S → S/P
(5)	Methacrylonitrile	S/P → S
(6)	2 - Methylpyridine	S/P → S
(7)	4 - Methylpyridine	S/P → S
(8)	Propionaldehyde	S → S/P
(9)	Propylene oxide	S → S/P
(10)	Triethylphosphite (Note)	S → S/P
(11)	Valeraldehyde (all isomers) (Note)	S → S/P
(12)	Vinylidene chloride	S/P → S

(Note) . . . These products are renamed.

"Appendix 5"

Products of which ship-type are revised.

No.	Products	Ship type
(1)	Alcohol (C12-C15) poly (7-19) ethoxylates . . . (Note)	2 → 3
(2)	Butylbenzene (all isomers) (Note)	2 → 3
(3)	Chlorobenzene	2 → 3
(4)	Dodecyl diphenyl ether disulphonate solution	3 → 2
(5)	Drilling brines (containing zinc salts)	2 → 3
(6)	Metam sodium solution	3 → 2
(7)	Motor fuel anti - knock compounds . . . (Note) (containing lead alkyls)	2 → 1

(Note) . . . These products are renamed.

"Appendix 6"

Products of which minimum requirements are revised

Appendix 6—1

No.	Products	Added requirements	Deleted requirements
(1)	Acetic acid	15. 19. 6	————
(2)	Acetic anhydride	15. 19. 6	————
(3)	Acetonitrile	15. 19. 6	————
(4)	Acrylic acid	15. 19. 6	————
(5)	Alcohol (C12-C15) poly (7-19) ethoxylates . . . (Note)	16. 2. 6	————
(6)	Ammonium nitrate solution (93% or less)	15. 13	15. 18
(7)	Ammonium sulphide solution (45% or less)	————	15. 14
(8)	Benzene and mixtures having 10% benzene or more	15. 19. 6	————
(9)	1, 2 - Butylene oxide	————	15. 15
(10)	n - Butyl ether	15. 19. 6	————
(11)	Butyl methacrylate	15. 19. 6	————
(12)	Carbon disulphide	————	15. 15
(13)	Cyclohexanone	15. 19. 6	————
(14)	Cyclohexylamine	15. 19. 6	————
(15)	Dibutylamine	15. 19. 6	————
(16)	Diethylamine	15. 19. 6	————

(Note) . . . These products are renamed.

No.	Products	Added requirements	Deleted requirements
(17)	Diethylaminoethanol	15. 19. 6	————
(18)	Diethyl ether	————	15. 15
(19)	Dimethylamine solution (45% or less)	15. 19. 6	————
(20)	Dimethylethanolamine	15. 19. 6	————
(21)	Dimethylformamide	15. 19. 6	————
(22)	Dinitrotoluene (molten)	15. 21	16. 2. 6 16. 2. 9 16A. 2. 2
(23)	Dodecyl diphenyl ether disulphonate solution	————	16. 2. 6 16. 2. 9 16A. 2. 2
(24)	Ethylamine	15. 19. 6	————
(25)	Ethylenediamine	15. 19. 6	————
(26)	Ethylene oxide / Propylene oxide mixture with an Ethylene oxide content of not more than 30% in weight	————	15.15
(27)	Ethyl methacrylate	15. 19. 6	————
(28)	2 - Ethyl - 3 - propylacrolein	————	16. 2. 9
(29)	Formaldehyde solutions (45% or less)	15. 19. 6	————
(30)	Formic acid	15. 19. 6	————
(31)	Furfural	15. 19. 6	————
(32)	Hexamethyleneimine	15. 19. 6	————

No.	Products	Added requirements	Deleted requirements
(33)	Isoprene	15. 19. 6	————
(34)	Methyl methacrylate	15. 19. 6	————
(35)	Morpholine	15. 19. 6	————
(36)	1 - or 2 - Nitropropane	15. 19. 6	————
(37)	Nitropropane (60%) / Nitroethane (40%) mixture	15. 19. 6	————
(38)	Paraldehyde	15. 19. 6	————
(39)	1, 3 - Pentadine	15. 19. 6	————
(40)	Pentane (all isomers)	15. 14	————
(41)	Pentene (all isomers)	15. 14	————
(42)	Phenol	16. 2. 7 16. 2. 3	16. 2. 6 16A. 2. 2
(43)	Propionaldehyde	15. 19. 6	————
(44)	Propionic acid	15. 19. 6	————
(45)	Propylene oxide	————	15. 15
(46)	Tetrahydrofuran	15. 19. 6	————
(47)	Tetramethylbenzene (Note) (all isomers)	16. 2. 9 16A. 2. 2	———— ————
(48)	1, 1, 1 - Trichloroethane	————	15. 19. 6
(49)	Triethylamine	15. 19. 6	————

(Note) . . . These products are renamed.

No.	Products	Added requirements	Deleted requirements
(50)	Triethylphosphite (Note)	15. 19. 6	————
(51)	Undecanoic acid	16. 2. 6	16. 2. 7 16. 2. 8
(52)	Valeraldehyde (all isomers) (Note)	15. 19. 6	————
(53)	Vinyl acetate	15. 19. 6	————

(Note) . . . These products are renamed.

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"Appendix 7"

Products to which a remark are newly added. (chapter 17)

1. Products added a remark "bb"

b b . . . Applies to oil-like substances identified in accordance with the provisions of the unified interpretation of regulation 14 of Annex II of MARPOL 73/78 agreed by "MEPC".

- (1) Cycloheptane
- (2) Cyclohexane
- (3) Cyclopentane
- (4) p - Cymene
- (5) Ethylcyclohexane
- (6) Heptane (all isomers)
- (7) Heptene (all isomers)
- (8) Hexane (all isomers)
- (9) Hexene (all isomers)
- (10) Isopropylcyclohexane
- (11) Methylcyclohexane
- (12) Nonane (all isomers)
- (13) Octane (all isomers)
- (14) Olefin mixtures (C5-C7)
- (15) Pentane (all isomers)
- (16) Pentene (all isomers)
- (17) 1 - Phenyl - 1 - xylyl ethane
- (18) Propylene dimer
- (19) Tetrahydronaphthalene
- (20) Toluene
- (21) Xylenes

2. Products added a remark "*"

For mixtures containing no other components with safety hazards and where the pollution category is C or less.

- Benzene and mixtures having 10% benzene or more

"Appendix 8"

New entry products in Chapter 18 of IBC Code

(* : shows the products down-graded from Chapter 17 to Chapter 18)

Appendix 8—1

Products	Pollution Cat.
Acrylonitrile-Styrene copolymer dispersion in polyether polyol	D
n-Alkane(C ₁₀ +) *	III
Alkaryl polyether (C ₉ -C ₂₀)	D
Alkaryl(C ₁₁ +)amide	D
Alkaryl(C ₈ +)amine, alkenyl (C ₁₂ +) acid ester mixture	D
Alkyl dithiothiadiazole (C ₆ -C ₂₄)	D
Ammonium hydrogen phosphate solution	D
Ammonium polyphosphate solution	D
Animal and fish oils and distillates acids, n.o.s. 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	D
Aryl polyolefin (C ₁₁ -C ₅₀)	D
Calcium long chain alkaryl sulphonate (C ₁₁ -C ₅₀)	D
Calcium long chain alkyl phenate sulphide (C ₈ -C ₄₀)	D
Calcium long chain phenolic amine (C ₈ -C ₄₀)	III
Citric acid (70% or less)	D

	Products	Pollution Cat.
*	Cyclohexanol	D
	Diethylene glycol phthalate	D
	Dimethyl polysiloxane	III
	Dodecyl xylene	III
	Fish solubles* (* : Water-based fish meal extract)	III
	Glycerine (83%), Dioxanedimethanol (17%) mixture	D
	Iso- & cyclo-Alkanes (C ₁₀ -C ₁₁)	D
	Iso- & cyclo-Alkanes (C ₁₂ +)	III
	Latex, ammonia (1% or less) inhibited	D
	Long chain alkyl sulphonic acid (C ₁₆ -C ₆₀)	D
	Long chain alkylphenate/phenol sulfide	III
*	Magnesium long chain alkyl sulphonate (C ₁₁ -C ₅₀)	D
	Methyl amyl ketone	D
*	Methyl propyl ketone	D
	N-Methyl-2-pyrrolidone	D
	Olefin/alkyl ester copolymer (molecular weight 2000+)	D
	Poly(2-8)alkylene glycol monoalkyl (C1-C6) ether	D
	Poly(2-8)alkylene glycol monoalkyl (C1-C6) ether acetate	D
	Polyether (molecular weight 2000+)	D

Products	Pollution Cat.
Polyglycerin, Sodium salt solution (containing less than 3% sodium hydroxide)	III
Polyglycerol	III
Poly(4+)isobutylene	III
Polylefin(molecular weight 300+)	III
Polylefin amide alkenemine (C ₂₈ +)	D
Polylefin amide alkenemine borate (C ₂₈ -C ₂₅₀)	D
Polylefin amide alkenemine molybdenum oxysulfide	III
Polylefin amide alkenemine polyol	D
Polylefin anhydride	D
Polylefin ester (C ₂₈ -C ₂₅₀)	D
Polylefin phenolic amine (C ₂₈ -C ₂₅₀)	D
Poly(20)oxyethylene sorbitan monooleate	III
Poly(5+)propylene	III
Polyene glycol methyl ether acetate	D
Sodium acetate solutions	(D)
Sodium benzoate	D
Sodium Poly (4+) perylate Solutions	III
Sodium sulphate solutions	III

Products	Pollution Cat.
Sulphohydrocarbon (C ₃ -C ₈ s)	D
Tridecyl acetate	III
Tridecyl phosphate	D
2,2,4-Trimethyl-1,3-pentanedial diisobutyrate	III
Vegetable acid oils and distillates, n.o.s. Including: Corn acid oil, Cotton seed acid oil, Dark mixed acid oil, Groundnut acid oil, Mixes acid oil, Mixed general acid oil, Mixed hard acid oil, Mixed soft acid oil, Rapessed acid oil, Safflower acid oil, Soya acid oil, Sunflower seed acid oil	D
Waxes	D

"Appendix 9"

Renamed products (Chapter 18)

Appendix 9 — 1

Original name	Revised name	Note
Alkyl (C9-C17) benzenes	Alkyl (C9+) benzenes	Pollution Cat. (D)→III
Animal and fish oils, n.o.s. including : Cod liver oil Sperm oil	Animal and fish oils, n.o.s. including : Cod liver oil <u>Lanolin oil</u> <u>Neatsfoot oil</u> <u>Pilchard oil</u> Sperm oil	"____" shows the additional products
Behenyl alcohol	Alcohol (C13+)	
Cetyl / Stearyl alcohol		
Decylbenzene	Alkyl (C9+) benzenes	
Diethylene glycol butyl ether	Poly (2-8) alkylene glycol monoalkyl (C1-C6) ether	
Diethylene glycol ethyl ether		
Dipropylene glycol methyl ether		
Polypropylene glycol methyl ether		
Triethylene glycol butyl ether		
Triethylene glycol ethyl ether		
Triethylene glycol methyl ether		
Tripropylene glycol methyl ether		
Diethylene glycol butyl ether acetate	Poly (2-8) alkylene glycol monoalkyl (C1-C6) ether acetate	
Diethylene glycol ethyl ether acetate		
Diethylene glycol methyl acetate		
Diisodecyl phthalate	Dialkyl (C7-C13) phthalates	

Original name	Revised name	Note
Ethylene glycol butyl ether	Ethylene glycol monoalkyl ether	Up-graded to Chapter 17
Ethylene glycol isopropyl ether		
Ethylene glycol methyl ether		
Ethylene glycol tert - butyl ether		
alpha - Olefins (C13-C18)	Olefins (C13+ all isomers)	
n - Paraffins (C10-C20)	n - Alkanes	
Vegetable oil, n.o.s. including : Castor oil, coconut oil, corn oil, cotton seed oil, groundnut oil, linseed oil, olive oil, palm nut oil, palm oil, rape seed oil, ricebran oil, safflower oil, sesam oil, soya bean oil, sunflower oil, tung oil	Vegetable oils, n.o.s. including : <u>Beech nut oil</u> , Castor oil, <u>Cocoa oil</u> , Coconut oil, <u>Corn oil</u> , Cotton seed oil, <u>Groundnut oil</u> , <u>Hazelnut oil</u> , Linseed oil, <u>Nutmeg butter</u> , <u>Oiticica oil</u> , Olive oil, Palm nut oil, Palm oil, Peel oil (oranges and lemons), <u>Perilla oil</u> , <u>Poppy oil</u> , Rape seed oil, <u>Raisin seed oil</u> , Rice bran oil, Safflower oil, <u>Salad oil</u> , Sesame oil, Soya Bean oil, Sunflower oil, <u>Tucum oil</u> , Tung oil, <u>Walnut oil</u>	" " shows the additional products

ANNEX 6

RESOLUTION MEPC.55(33)
adopted on 30 October 1992

ADOPTION OF AMENDMENTS TO THE INTERNATIONAL CODE FOR
THE CONSTRUCTION AND EQUIPMENT OF SHIPS CARRYING
DANGEROUS CHEMICALS IN BULK (IBC CODE)

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the function of the Committee conferred upon it by international conventions for the prevention and control of marine pollution,

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1973 Convention") and article VI of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1978 Protocol") which together specify the amendment procedure of the 1978 Protocol and confers upon the appropriate body of the Organization the function of considering and adopting amendments to the 1973 Convention, as modified by the 1978 Protocol (MARPOL 73/78),

RECOGNIZING that the liquid chemical wastes, where it concerns transport by sea, should be carried in accordance with the relevant international recommendations or convention,

NOTING ALSO that it is highly desirable for the provisions of the IBC Code which are mandatory under MARPOL 73/78 and the 1974 SOLAS Convention to remain identical under both conventions,

HAVING CONSIDERED, at its thirty-third session, the amendments to the Code proposed by the Sub-Committee on Bulk Chemicals at its twenty-first session and circulated in accordance with article 16(2)(a) of the 1973 Convention,

1. ADOPTS in accordance with article 16(2)(d) of the 1973 Convention amendments to the IBC Code, the texts of which are set out in the annex to the present resolution;
2. DETERMINES, in accordance with article 16(2)(f)(iii) of the 1973 Convention, that the amendments shall be deemed to have been accepted on 1 January 1994, or the date determined by the MSC on which corresponding amendments for the purposes of SOLAS 74 are deemed to have been accepted in accordance with article VIII(b)(vi)(2) thereof, whichever occurs later, unless prior to that date, not less than one third of the Parties or the Parties, the combined merchant fleets of which constitute not less than fifty per cent of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objections to the amendments;

3. INVITES the Maritime Safety Committee to consider the adoption of corresponding amendments to the IBC Code (resolution MSC.4(48), as amended), in accordance with the provisions of article VIII of the 1974 SOLAS Convention;
4. INVITES the Parties to note that in accordance with article 16(2)(g)(ii) of the 1973 Convention the amendments shall enter into force six months after their acceptance in accordance with paragraph 2 above;
5. REQUESTS the Secretary-General, in conformity with article 16(2)(e) of the 1973 Convention, to transmit to all Parties to the 1978 Protocol certified copies of the present resolution and the text of the amendments contained in the annex;
6. REQUESTS FURTHER the Secretary-General to transmit to the Members of the Organization which are not Parties to the 1978 Protocol copies of the resolution and its annex.

VOID

ANNEX

TEXT OF AMENDMENTS TO THE IBC CODE

The last sentence of 1.1.1 is replaced by the following:

Products that have been reviewed and determined not to present safety and pollution hazards to such an extent as to warrant the application of the Code are found in chapter 18.

The following sentence is added to the existing text of 1.1.3:

For the evaluation of the pollution hazard of such a product and assignment of its pollution category, the procedure specified in regulation 3(4) of Annex II of MARPOL 73/78 must be followed.

The existing text of chapter 8 is replaced by the following:

CHAPTER 8 - CARGO TANK VENTING AND GAS-FREEING ARRANGEMENTS

8.1 Application

8.1.1 This chapter applies to ships constructed on or after 1 January 1994.

8.1.2 Ships constructed before 1 January 1994 should comply with the requirements of chapter 8 of this Code which were in force prior to the said date.

8.1.3 For the purpose of this regulation, the term "ship constructed" is as defined in regulation II-1/1.3.1 of the 1974 SOLAS Convention as amended.

8.1.4 Ships constructed on or after 1 July 1986 but before 1 January 1994 which fully comply with the requirements of the Code applicable at that time may be regarded as complying with the requirements of regulation II-2/59 of SOLAS 74.

8.1.5 For ships to which the Code applies, the requirements of this chapter should apply in lieu of regulation II-2/59.1 and 59.2 of the 1974 SOLAS Convention, as amended.

8.2 Cargo tank venting

8.2.1 All cargo tanks should be provided with a venting system appropriate to the cargo being carried and these systems should be independent of the air pipes and venting systems of all other compartments of the ship. Tank venting systems should be designed so as to minimize the possibility of cargo vapour accumulating about the decks, entering accommodation, service and machinery spaces and control stations and in the case of flammable vapours entering or collecting in spaces or areas containing sources of ignition. Tank venting systems should be arranged to prevent entrance of water into the cargo tanks and at the same time, vent outlets should direct the vapour discharge upwards in the form of unimpeded jets.

8.2.2 The venting systems should be connected to the top of each cargo tank and as far as practicable the cargo vent lines should be self-draining back to the cargo tanks under all normal operational conditions of list and trim. Where it is necessary to drain venting systems above the level of any pressure/vacuum valve, capped or plugged drain cocks should be provided.

8.2.3 Provision should be made to ensure that the liquid head in any tank does not exceed the design head of the tank. Suitable high-level alarms, overflow control systems or spill valves, together with gauging and tank filling procedures may be accepted for this purpose. Where the means of limiting cargo tank overpressure includes an automatic closing valve, the valve should comply with the appropriate provisions of 15.19.

8.2.4 Tank venting systems should be designed and operated so as to ensure that neither pressure nor vacuum created in the cargo tanks during loading or unloading exceeds tank design parameters. The main factors to be considered in the sizing of a tank venting system are as follows:

- .1 design loading and unloading rate;
- .2 gas evolution during loading: this should be taken account of by multiplying the maximum loading rate by a factor of at least 1.25;
- .3 density of the cargo vapour mixture;
- .4 pressure loss in vent piping and across valves and fittings;
- .5 pressure/vacuum settings of relief devices.

8.2.5 Tank vent piping connected to cargo tanks of corrosion resistant material, or to tanks which are lined or coated to handle special cargoes as required by the Code, should be similarly lined or coated or constructed of corrosion resistant material.

8.2.6 The master should be provided with the maximum permissible loading and unloading rates for each tank or group of tanks consistent with design of the venting systems.

8.3 Types of tank venting systems

8.3.1 An open tank venting system is a system which offers no restriction except for friction losses to the free flow of cargo vapours to and from the cargo tanks during normal operations. An open venting system may consist of individual vents from each tank, or such individual vents may be combined into a common header or headers, with due regard to cargo segregation. In no case should shut-off valves be fitted either to the individual vents or to the header.

8.3.2 A controlled tank venting system is a system in which pressure and vacuum relief valves or pressure/vacuum valves are fitted to each tank to limit the pressure or vacuum in the tank. A controlled venting system may consist of individual vents from each tank or such individual vents on the pressure side only as may be combined into a common header or headers with due regard to cargo segregation. In no case should shut-off valves be fitted

either above or below pressure or vacuum relief valves or pressure/vacuum valves. Provision may be made for bypassing a pressure or vacuum valve or pressure/vacuum valve under certain operating conditions provided that the requirement of 8.3.5 is maintained and that there is suitable indication to show whether or not the valve is bypassed.

8.3.3 The position of vent outlets of a controlled tank venting system should be arranged:

- .1 at a height of not less than 6 m above the weather deck or above a raised walkway if fitted within 4 m of the raised walkway;
- .2 at a distance of at least 10 m measured horizontally from the nearest air intake or opening to accommodation, service and machinery spaces and ignition sources.

8.3.4 The vent outlet height referred to in 8.3.3.1 may be reduced to 3 m above the deck or a raised walkway, as applicable, provided that high velocity venting valves of a type approved by the Administration directing the vapour/air mixture upwards in an unimpeded jet with an exit velocity of at least 30 m/s are fitted.

8.3.5 Controlled tank venting systems fitted to tanks to be used for cargoes having a flashpoint not exceeding 60°C (closed cup test) should be provided with devices to prevent the passage of flame into the cargo tanks. The design, testing and locating of the devices should comply with the requirements of the Administration which should contain at least the standards adopted by the Organization.*

8.3.6 In designing venting systems and in the selection of devices to prevent the passage of flame for incorporation into the tank venting system, due attention should be paid to the possibility of the blockage of these systems and fittings by, for example, the freezing of cargo vapour, polymer build up, atmospheric dust or icing up in adverse weather conditions. In this context it should be noted that flame arresters and flame screens are more susceptible to blockage. Provisions should be made such that the system and fittings may be inspected, operationally checked, cleaned or renewed as applicable.

8.3.7 Reference in 8.3.1 and 8.3.2 to the use of shut-off valves in the venting lines should be interpreted to extend to all other means of stoppage including spectacle blanks and blank flanges.

8.4 Venting requirements for individual products

Venting requirements for individual products are shown in column "g" and additional requirements in column "o" in the table of chapter 17.

* Reference is made to the Revised Standards for the Design, Testing and Locating of Devices to Prevent the Passage of Flame into Cargo Tanks in Tankers (MSC/Circ.373/Rev.1).

8.5 Cargo tank gas-freeing*

8.5.1 The arrangements for gas-freeing cargo tanks used for cargoes other than those for which open venting is permitted should be such as to minimize the hazards due to the dispersal of flammable or toxic vapours in the atmosphere and to flammable or toxic vapour mixtures in a cargo tank. Accordingly, gas-freeing operations should be carried out such that vapour is initially discharged:

- .1 through the vent outlets specified in 8.3.3 and 8.3.4; or
- .2 through outlets at least 2 m above the cargo tank deck level with a vertical efflux velocity of at least 30 m/s maintained during the gas freeing operation; or
- .3 through outlets at least 2 m above the cargo tank deck level with a vertical efflux velocity of at least 20 m/s which are protected by suitable devices to prevent the passage of flame.

When the flammable vapour concentration at the outlets has been reduced to 30% of the lower flammable limit and in the case of a toxic product the vapour concentration does not present a significant health hazard, gas freeing may thereafter be continued at cargo tank deck level.

8.5.2 The outlets referred to in 8.5.1.2 and 8.5.1.3 may be fixed or portable pipes.

8.5.3 In designing a gas-freeing system in conformity with 8.5.1 particularly in order to achieve the required exit velocities of 8.5.1.2 and 8.5.1.3, due consideration should be given to the following:

- .1 materials of construction of system;
- .2 time to gas-free;
- .3 flow characteristics of fans to be used;
- .4 the pressure losses created by ducting, piping, cargo tank inlets and outlets;

* Reference is made to the Revised Factors to be taken into Consideration when Designing Cargo Tanks Venting and Gas-Freeing Arrangements (MSC/Circ.450/Rev.1) and to the Revised Standards for the Design, Testing and Locating of Devices to Prevent the Passage of Flame into Cargo Tanks in Tankers (MSC/Circ.373/Rev.1).

- .5 the pressure achievable in the fan driving medium (e.g. water or compressed air);
- .6 the densities of the cargo vapour/air mixtures for the range of cargoes to be carried.

In the existing text of 11.1.2 the words "Caustic potash solution, phosphoric acid or sodium hydroxide solution" are replaced by the following words:

"products which are non-flammable (entry NF in column 'i' of the table of minimum requirements)".

New paragraph 11.1.3 is added as follows:

For ships engaged solely in the carriage of products with flashpoint above 60°C (entry "yes" in column 'i' of the table of minimum requirements) requirements of chapter II-2 of the 1983 SOLAS amendments may apply as specified in regulation II-2/55.4 in lieu of the provisions of this chapter.

At the end of the existing text of the introductory paragraph of chapter 12 - Mechanical ventilation in the cargo area the following sentence is added:

However, for products addressed under paragraphs 11.1.2 and 11.1.3, except acids and products for which paragraph 15.17 apply, regulation II-2/59.3 of the 1983 SOLAS Amendments may apply in lieu of the provisions of this chapter.

The existing text of 14.2.8.1 is replaced by the following:

filter type respiratory protection is unacceptable;

The existing text of 15.13 is amended to read as follows:

15.13 Cargoes protected by additives

15.13.1 Certain cargoes with a reference in column 'o' in the table of chapter 17 by the nature of their chemical make-up tend, under certain conditions of temperature, exposure to air or contact with a catalyst, to undergo polymerization, decomposition, oxidation or other chemical changes. Mitigation of this tendency is carried out by introducing small amounts of chemical additives into the liquid cargo or by controlling the cargo tank environment.

15.13.2 No change.

15.13.3 Care should be taken to ensure that these cargoes are sufficiently protected to prevent deleterious chemical change at all times during the voyage. Ships carrying such cargoes should be provided with a certificate of protection from the manufacturer and kept during the voyage specifying:

- .1 the name and amount of additive present;
- .2 whether the additive is oxygen dependent;

- .3 date additive was put in the product and duration of effectiveness;
- .4 any temperature limitations qualifying the additives' effective lifetime; and
- .5 the action to be taken should the length of voyage exceed the effective lifetime of the additives.

15.13.4 Ships using the exclusion of air as the method of preventing oxidation of the cargo should comply with 9.1.3.

15.13.5 A product containing an oxygen dependent additive should be carried without inertion (in tanks of a size not greater than 3,000 m³). Such cargoes should not be carried in a tank requiring inertion under the requirements of SOLAS chapter II-2.

15.13.6 As existing 15.13.5.

15.13.7 As existing 15.13.6.

The existing text of 15.15 is replaced by the word:

"Deleted"

In the existing text of 15.8.29 the following words are inserted after the second sentence:

Remote manual operation should be arranged such that remote starting of pumps supplying the water spray system and remote operation of any normally closed valves in the system can be carried out from a suitable location outside the cargo area, adjacent to the accommodation spaces and readily accessible and operable in the event of fire in the areas protected.

A new 15.21 is added as follows:

15.21- Temperature sensors

Temperature sensors should be used to monitor the cargo pump temperature to detect overheating due to pump failures.

The existing text of chapter 17 is replaced by the following:

CHAPTER 17 - SUMMARY OF MINIMUM REQUIREMENTS

Mixtures of noxious liquid substances presenting pollution hazards only and which are provisionally assessed under regulation 3(4) of Annex II of MARPOL 73/78, may be carried under the requirements of the Code applicable to the appropriate position of the entry in this chapter for noxious liquids not otherwise specified.

EXPLANATORY NOTES

Product name (column a)	The product names are not identical with the names given in previous issues of the Code, or the BCH Code (for explanation see index of chemicals).
UN number (column b)	The number relating to each product shown in the recommendations proposed by the United Nations Committee of Experts on the Transport of Dangerous Goods. UN numbers, where available, are given for information only.
Pollution category (column c)	The letter A, B, C or D means the pollution category assigned to each product under Annex II of MARPOL 73/78. "III" means the product was evaluated and found to fall outside the categories A, B, C or D. Pollution category in brackets indicates that the product is provisionally categorized and that further data are necessary to complete the evaluation of their pollution hazards. Until the hazard evaluation is completed, the pollution category assigned is used.
Hazards (column d)	S means that the product is included in the Code because of its safety hazards; P means that the product is included in the Code because of its pollution hazards; and S/P means that the product is included in the Code because of both its safety and pollution hazards.
Ship type (column e)	1 = ship type 1 (2.1.2) 2 = ship type 2 (2.1.2) 3 = ship type 3 (2.1.2)
Tank type (column f)	1 = independent tank (4.1.1) 2 = integral tank (4.1.2) G = gravity tank (4.1.3) P = pressure tank (4.1.4)
Tank vents (column g)	Open: open venting Cont: controlled venting SR: safety relief valve
Tank environmental control* (column h)	Inert: inerting (9.1.2.1) Pad: liquid or gas (9.1.2.2) Dry: drying (9.1.2.3) Vent: natural or forced (9.1.2.4)

Electrical equipment (column i)	T1 to T6: temperature classes** IIA, IIB or IIC: apparatus groups** NF: nonflammable product (10.1.6) Yes: flashpoint exceeding 60°C (closed cup test) (10.1.6) No: flashpoint not exceeding 60°C (closed cup test) (10.1.6)
Gauging (column j)	O: open gauging (13.1.1.1) R: restricted gauging (13.1.1.2) C: closed gauging (13.1.1.3) I: indirect gauging (13.1.1.3)
Vapour detection* (column k)	F: flammable vapours T: toxic vapours
Fire protection (column l)	A: Alcohol-resistant foam or multi-purpose foam B: regular foam, encompasses all foams that are not of an alcohol-resistant type, including fluoro-protein and aqueous-film- forming foam (AFFF) C: water-spray D: dry chemical*** No: no special requirements under this Code
Materials of Construction (column m)	N: See 6.2.2 Z: See 6.2.3 Y: See 6.2.4 A blank indicates no special guidance given for materials of construction.
Respiratory and eye protection (column n)	E: See 14.2.8 "

* "No" indicates nil requirements.

** Temperature classes and apparatus groups as defined in International Electrotechnical Commission Publication 79 (part 1, appendix D, parts 4, 8 and 12. A blank indicates that data are currently not available.)

*** Dry chemical powder systems when used may require an additional water system for boundary cooling. This is normally provided in sufficient quantities by the standard fire main system required by regulation II-2/4 of the 1974 SOLAS Convention as amended.

PROD_NAME	UN_NUMBER	C	D	E	F	G	H	I	I_DASH	I_DASH3	J	K	L	M	N	O
Acetic acid		D	S	3	2G	Cont.	No	T1	IIA	No	R	F	A	Y1,2	E	15.11.2 to 15.11.4, 15.11.6 to 15.11.8, 15.19.6
Acetic anhydride	1715	D	S	2	2G	Cont.	No	T2	IIA	No	R	F-T	A	Y1	E	15.11.2 to 15.11.4, 15.11.6 to 15.11.8, 15.19.6
Acetone cyanohydrin	1541	A	S/P	2	2G	Cont.	No	T1	IIA	Yes	C	T	A	Y1	E	15.1, 15.12, 15.17 to 15.19, 16.6
Acetonitrile	1648	III	S	2	2G	Cont.	No	T2	IIA	No	R	F-T	A		No	15.12, 15.19.6
Acrylamide solution (50% or less)	2074	D	S	2	2G	Open	No		NI		C	No	No		No	15.12.3, 15.13, 15.16.1, 15.19.6, 16.6.1
Acrylic acid	2219	D	S	3	2G	Cont.	No	T2	IIA	No	R	F-T	A	Y1	No	15.13, 15.19.6, 16.6.1
Acrylonitrile	1093	B	S/P	2	2G	Cont.	No	T1	IIB	No	C	F-T	A	M3,Z	E	15.12, 15.13, 15.17, 15.19
Adiponitrile	2205	D	S	3	2G	Cont.	No		IIB	Yes	R	T	A		No	
Alachlor technical (90% or more)		B	S/P	3	2G	Open	No			Yes	O	No	A,C	Y1	No	15.19.6, 16.2.6, 16.2.9, 16A.2.2
Alcohol (C12-C15) poly(1-6) ethoxylates		A	P	2	2G	Open	No			Yes	O	No	A		No	15.19.6
Alcohol (C12-C15) poly(7-19) ethoxylates		B	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6, 16.2.6
Alcohol (C12-C15) poly(20+) ethoxylates		C	P	3	2G	Open	No			Yes	O	No	A		No	
Alcohol (C6-C17)(secondary) poly(3-6)ethoxylates		A	P	2	2G	Open	No			Yes	O	No	A		No	15.19.6
Alcohol (C6-C17) (secondary) poly(7-12)ethoxylates		B	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6, 16.2.6, 16.2.9
Alkane (C14-C17) sulfonic acid, sodium salt 60-55% in water		B	P	3	2G	Open	No		NI		O	No	No		No	16.2.6
Alkanes (C6-C9)	(C)	P	3	2G	Cont.	No				No	R	F	A		No	15.19.6
Alkaryl polyethers (C3-C20)	B	P	3	2G	Open	No				Yes	O	No	A,B		No	15.19.6, 16.2.6
Alkyl acrylate-vinyl pyridine copolymer in toluene	C	P	3	2G	Cont.	No				No	R	F	A		No	15.19.6
Alkyl benzene/-indane/-indene mixture (C12-C17 total carbon)	A	P	2	2G	Open	No				Yes	O	No	A		No	15.19.6

PRODUCER	UN_NUMBER	C	D	E	F	G	H	I	I_DASH	I_DASH3	J	K	L	M	N	O
Alkyl (C3-C4) benzenes		A	P	3	2G	Cont	No		No		R	F	A		No	15.19.6
Alkyl (C5-C8) benzenes		A	P	2	2G	Open	No		Yes		O	No	A		No	15.19.6
Alkylbenzene sulphonic acid	2584, 2586	C	S/P	3	2G	Open	No		Yes		O	No	A		No	16.2.7, 16.2.8
Alkylbenzene sulphonic acid, sodium salt solution		C	P	3	2G	Open	No	IF			O	No	No		No	16.2.7 to 16.2.9
Alkyl (C7-C9) nitrates		B	S/P	2	2G	Open	No		Yes		O	No	A,B		No	15.19.6, 15.20, 16.6
Allyl alcohol	1098	B	S/P	2	2G	Cont.	No	T2	IIB		C	F-T	A		E	15.12, 15.17, 15.19
Allyl chloride	1100	B	S/P	2	2G	Cont.	No	T2	IIA		C	F-T	A		E	15.12, 15.17, 15.19
Aluminium chloride (30% or less)/hydrochloric acid (20% or less) solution		D	S	3	1G	Cont.	No	IF			R	T	No		E (f)	15.11
2-(2-Aminoethoxy) ethanol	3055	D	S	3	2G	Open	No		Yes		O	No	A,D		No	15.19.6
Aminoethyl ethanolamine		(D)	S	3	2G	Open	No	T2	IIA		O	No	A		No	
N-Aminoethylpiperazine	2815	D	S	3	2G	Cont.	No		Yes		R	T	A		No	15.19.6
2-Amino-2-methyl-1-propanol (90% or less)		D	S	3	2G	Open	No		Yes		O	No	A		No	
Ammonia aqueous (28% or less)	2672(m)	C	S/P	3	2G	Cont.	No	IF			R	T	A,B		E (a)	
Ammonium nitrate solution (93% or less)		D	S	2	1G	Open	No	IF			O	No	No		No	15.2, 15.11.4, 15.11.6, 15.13, 15.19.6
Ammonium sulphide solution (45% or less)	2683	B	S/P	2	2G	Cont.	No		No		C	F-T	A		E	15.12, 15.16.1, 15.17, 15.19, 16.6
Ammonium thiocyanate (25% or less)/ammonium thiosulphate (20% or less) solution		(C)	P	3	2G	Open	No	IF			O	No	No		No	
Ammonium thiosulphate solution (60% or less)		(C)	P	3	2G	Open	No	IF			O	No	No		No	16.2.9
Any acetate (all isomers)	1104	C	P	3	2G	Cont.	No		No		R	F	A		No	15.19.6
Aniline	1547	C	S/P	2	2G	Cont.	No	T1	IIA		C	T	A		No	15.12, 15.17, 15.19
Aviation alkylates (C5 paraffins and iso-paraffins BPT 95 + 170°C) (bb)		(C)	P	3	2G	Cont.	No		No		R	F	B		No	15.19.6
Benzene and mixtures having 10% benzene or more*	1114(tt)	C	S/P	3	2G	Cont.	No	T1	IIA		C	F-T	A,B		No	15.12.1, 15.17, 15.19.6, 16.2.9

* For mixtures containing no other components with safety hazards and where the pollution category is C or less.

PROD_NAME	UN_NUMBER	C	D	E	F	G	H	I	I_DASH	J	K	L	M	N	O
Benzene sulphonyl chloride	2225	D	S	3	2G	Cont.	No		Yes	R	T	A,D	N1	No	15.19.6
Benzyl acetate		C	P	3	2G	Open	No		Yes	O	No	A		No	
Benzyl alcohol		C	P	3	2G	Open	No		Yes	O	No	A		No	
Benzyl chloride	1738	B	S/P	2	2G	Cont.	No	T1	IIA	C	T	A,B		E	15.12, 15.13, 15.17, 15.19
Butene oligomer		B	P	3	2G	Open	No		Yes	O	No	A		No	15.19.6
Butyl acetate (all isomers)	1123	C	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6
Butyl acrylate (all isomers)	2348	B	S/P	2	2G	Cont.	No	T2	IIB	R	F-T	A		No	15.13, 15.19.6, 16.6.1, 16.6.2
Butylamine (all isomers)	1125, 1214	C	S/P	2	2G	Cont.	No		No	R	F-T	A	N1	E	15.12, 15.17, 15.19.6
Butylbenzene (all isomers)	2709	A	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6
Butyl benzyl phthalate		A	P	2	2G	Open	No		Yes	O	No	A		No	15.19.6
Butyl butyrate (all isomers)		B	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6
Butyl/Decyl/Cetyl/Eicosyl methacrylate mixture		D	S	3	2G	Cont.	No		Yes	R	No	A,D		No	15.13, 16.6.1, 16.6.2
1,2-Butylene oxide	3022	C	S/P	3	2G	Cont.	Inert	T2	IIB	R	F	A,C	Z	No	15.8.1 to .7, .12, .13, .15 to .19, .21, .25, .27, .29, 15.19.6
n-Butyl ether	1149	C	S/P	3	2G	Cont.	Inert	T4	IIB	R	F-T	A		No	15.4.6, 15.12, 15.19.6
Butyl methacrylate		D	S	3	2G	Cont.	No		No	R	F-T	A,D		No	15.13, 15.19.6, 16.6.1, 15.5.2
n-Butyl propionate	1914	C	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6
Butyraldehyde (all isomers)	1129	C	S/P	3	2G	Cont.	No	T3	IIA	R	F-T	A		No	15.16.1, 15.19.6
Butyric acid	2820	D	S	3	2G	Cont.	No		Yes	R	No	A	Y1	No	15.11.2 to 15.11.4, 15.11.6 to 15.11.8
Calcium alkyl (C9) phenol sulphide/ Polyolefin phosphorusulphide mixture		A	P	2	2G	Open	No		Yes	O	No	A,B		No	15.19.6
Calcium hypochlorite solution (15% or less)		C	S/P	3	2G	Cont.	No		WF	R	No	No	N5	No	15.16.1
Calcium hypochlorite solution (more than 15%)		B	S/P	3	2G	Cont.	No		WF	R	No	No	N5	No	15.16.1, 15.19.6
Calcium long chain alkyl salicylate (C13+)		C	P	3	2G	Open	No		Yes	O	No	A,B		No	16.2.7, 16.2.8
Camphor oil		B	S/P	2	2G	Cont.	No		IIA	R	F	A,B		No	15.19.6
Carbolic oil		A	S/P	2	2G	Cont.	No		Yes	C	F-T	A		No	15.12, 15.19

PRODUCER	UN_NUMBER	C	D	E	F	G	H	I	I_DASH	J	K	L	M	N	O
Carbon disulphide	1131	B	S/P	2	1G	Cont.	Pad+Inert	T6	IIC	No	C	F-T	C		15.3, 15.12, 15.19
Carbon tetrachloride	1846	B	S/P	3	2G	Cont.	No		NF		C	T	No	Z	15.12, 15.17, 15.19.6
Cashew nut shell oil (untreated)		D	S	3	2G	Cont.	No		Yes		R	T	A,B	No	
Cetyl/Elcosyl methacrylate		III	S	3	2G	Open	No		Yes		O	No	A,D	No	15.13, 16.6.1, 16.6.2
Chloroacetic acid (80% or less)	1750	C	S/P	2	2G	Cont.	No		NF		C	No	No	V5	15.11.2, 15.11.4, 15.11.6 to 15.11.8, 15.12.3, 15.19, 16.2.9
Chlorinated paraffins (C10-Cl13)		A	P	1	2G	Open	No		Yes		O	No	A	No	15.13
Chlorobenzene	1134	B	S/P	3	2G	Cont.	No	T1	IIA	No		F-T	A,B	No	15.19.6
Chloroform	1888	B	S/P	3	2G	Cont.	No		NF		R	T	No	E	15.12, 15.19.6
Chlorohydrins (crude)		(D)	S	2	2G	Cont.	No		IIA	No	C	F-T	A	No	15.12, 15.19
4-Chloro-2-methylphenoxyacetic acid, dimethylamine salt solution		(C)	P	3	2G	Open	No		NF		O	No	No	No	
o-Chloronitrobenzene	1578	B	S/P	2	2G	Cont.	No		Yes		C	T	A,B,D	No	15.12, 15.17 to 15.19, 16.2.5, 16.2.9, 16A.2.2
2- or 3-Chloropropionic acid	2511(n)	(C)	S/P	3	2G	Open	No		Yes		O	No	A	V1	15.11.2 to 15.11.4, 15.11.6 to 15.11.8, 16.2.7 to 16.2.9
Chlorosulphonic acid	1754	C	S/P	1	2G	Cont.	No		NF		C	T	No	E	15.11.2 to 15.11.8, 15.12, 15.16.2, 15.19
m-Chlorotoluene	2238	B	S/P	3	2G	Cont.	No		No		R	F-T	A,B	No	15.19.6
o-Chlorotoluene	2238	A	S/P	3	2G	Cont.	No		No		R	F-T	A,B	No	15.19.6
p-Chlorotoluene	2238	B	S/P	2	2G	Cont.	No		No		R	F-T	A,B	No	15.19.6, 16.2.9
Chlorotoluenes (mixed isomers)	2238	A	S/P	2	2G	Cont.	No		No		R	F-T	A,B	No	15.19.6
Coal tar		A	S/P	2*	2G	Cont.	No	T2	IIA	Yes	R	No	B,D	No	15.19.6
Coal tar naphtha solvent		B	S/P	3	2G	Cont.	No	T3	IIA	No	R	F-T	A,D	No	15.19.6
Coal tar pitch (molten)		D	S	3	1G	Cont.	No	T2	IIA	Yes	R	No	B,D	No	15.19.6
Cobalt naphthenate in solvent		A	S/P	2	2G	Cont.	No		No		R	F-T	A,D	No	15.19.6
naphtha															
Coconut oil fatty acid		C	P	3	2G	Open	No		Yes		O	No	A	No	16.2.7 to 16.2.9

PRODU_NAME	UN_NUMBER	C	D	E	F	G	H	I	I_DASH	I_DASH3	J	K	L	M	N	O
Creosote (coal tar)		A	S/P	2	2G	Open	No	T2	IIA	Yes	O	No	A,D		No	15.19.6
Creosote (wood)		A	S/P	2	2G	Open	No	T2	IIA	Yes	O	No	A,D		No	15.19.6
Cresols (all isomers)	2076	A	S/P	2	2G	Open	No	T1	IIA	Yes	O	No	A,B		No	15.19.6
Cresylic acid, dephenolized		A	S/P	2	2G	Open	No			Yes	O	No	A,B		No	15.19.6
Cresylic acid, sodium salt solution		A	S/P	2	2G	Open	No			Yes	O	No	No		No	15.19.6
Crotonaldehyde	1143	A	S/P	2	2G	Cont.	No	T3	IIB	No	R	F-T	A		E	15.12, 15.16.1, 15.17, 15.19.6
1,5,9-Cyclododecatriene		A	S/P	1	2G	Cont.	No			Yes	R	T	A		M2	15.13, 15.19, 16.6.1, 16.6.2
Cycloheptane (bb)	2241	(C)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
Cyclohexane (bb)	1145	(C)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6, 16.2.9
Cyclohexanone	1915	D	S	3	2G	Cont.	No	T2	IIA	No	R	F-T	A		M5	15.19.6
Cyclohexanone, Cyclohexanol mixture		D	S	3	2G	Cont.	No			Yes	R	F-T	A		M5	15.19.6
Cyclohexyl acetate	2243	(B)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
Cyclohexylamine	2357	C	S/P	3	2G	Cont.	No	T3	IIA	No	R	F-T	A,C		M1	15.19.6
1,3-Cyclopentadiene dimer (molten)		B	P	2	2G	Cont.	No			No	R	F	A		No	15.19.6, 16.2.6, 16.2.9, 16A.2.2
Cyclopentane (bb)	1146	(C)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
Cyclopentene	2246	(B)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
p-Cymene (bb)	2046	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
Decanoic acid		C	P	3	2G	Open	No			Yes	O	No	A		No	16.2.7 to 16.2.9
Decene		B	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
Decyl acetate		(B)	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6
Decyl acrylate		A	S/P	2	2G	Open	No			Yes	O	No	A,C,D		M2	15.13, 15.19.6, 16.6.1, 16.6.2
Decyl alcohol (all isomers)		B	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6, 16.2.9(s)
Decylontetrahydro-thiophene dithide		A	S/P	2	2G	Cont.	No			Yes	R	T	A		No	15.19.6
Dibutylamine		C	S/P	3	2G	Cont.	No	T2	IIA	No	R	F-T	A,C,D		M4	15.19.6
Dibutyl hydrogen phosphonate		B	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6, 16.2.6
Dibutyl phthalate		A	P	2	2G	Open	No			Yes	O	No	A		No	15.19.6
Dichlorobenzene (all isomers)		B	S/P	2	2G	Cont.	No	T1	IIA	Yes	R	T	A,B,D		M5	15.19.6, 16.2.6(x), 16.2.9(r), 16A.2.2(z)
1,1-Dichloroethane	2362	D	S	3	2G	Cont.	No	T2	IIA	No	R	F-T	A		E	15.19.6

PROD_NAME	UN_NUMBER	C	D	E	F	G	H	I	I_DASH	I_DASH3	J	K	L	M	N	O
Dichloroethyl ether	1916	B	S/P	2	2G	Cont.	No	T2	IIA	No	R	F-T	A	M5	No	15.19.6
1,6-Dichlorohexane		B	S/P	2	2G	Cont.	No			No	R	T	A,B	M5	No	15.19.6
2,2'-Dichloroisopropyl ether	2490	C	S/P	2	2G	Cont.	No			Yes	R	T	A,C,D	M5	No	15.12, 15.17, 15.19
Dichloromethane	1593	D	S	3	2G	Cont.	No	T1	IIA	Yes	R	T	No	M1	No	15.19.6
2,4-Dichlorophenol	2021	A	S/P	2	2G	Cont.	Dry			Yes	R	T	A	M1	No	15.19.6
2,4-Dichlorophenoxyacetic acid, diethanolamine salt solution		A	S/P	3	2G	Open	No	HF			O	No	No	M1	No	15.19.6
2,4-Dichlorophenoxyacetic acid, dimethylamine salt solution (70% or less)		A	S/P	3	2G	Open	No	HF			O	No	No	M1	No	15.19.6
2,4-Dichlorophenoxyacetic acid, triisopropanolamine salt solution		C	S/P	2	2G	Cont.	No	T1	IIA	No	R	F-T	A,B	Z	No	15.12, 15.19.5
1,1-Dichloropropane	1279	C	S/P	2	2G	Cont.	No			No	R	F-T	A,B	Z	No	15.12, 15.19.6
1,2-Dichloropropane		D	S	2	2G	Cont.	No	T1	IIA	No	R	F-T	A,B		No	15.12, 15.19.6
1,3-Dichloropropane	2047	B	S/P	2	2G	Cont.	No	T2	IIA	No	C	F-T	A,B		E	15.12, 15.17 to 15.19
1,3-Dichloropropene		B	S/P	2	2G	Cont.	No			No	C	F-T	A,B,D		E	15.12, 15.17 to 15.19
Dichloropropene/Dichloropropene mixtures		D	S	3	2G	Cont.	Dry			Yes	R	No	A	Y5	No	15.11.2, 15.11.4, 15.11.6 to 15.11.9
2,2-Dichloropropionic acid		D	S	3	2G	Open	No	T1	IIA	Yes	O	No	A	M2	No	15.12, 15.19.6
Diethanolamine	1154	C	S/P	3	2G	Cont.	No	T2	IIA	No	R	F-T	A	M1	E	15.19.6
Diethylamine	2686	C	S/P	3	2G	Cont.	No	T2	IIA	No	R	F-T	A,C	M4	No	15.13.6, 15.2.3
Diethylaminoethanol		C	S/P	3	2G	Open	No			Yes	O	No	B,C,D		No	15.19.6
2,6-Diethylaniline	2049	A	P	3	2G	Cont.	No			No	R	F	A	M2	No	15.4, 15.14, 15.19
Diethylbenzene	2073	D	S	3	2G	Open.	No	T2	IIA	Yes	O	No	A	M7	E	15.4, 15.14, 15.19
Diethylenetriamine	1155	III	S	2	1G	Cont.	Inert	T4	IIB	No	C	F-T	A	M2	No	15.4, 15.14, 15.19
Diethyl ether		C	S/P	3	2G	Open	No			Yes	O	No	A,D		No	15.19.6
Di-(2-ethylhexyl) phosphoric acid	1902	C	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6
Diethyl phthalate		(B)	S/P	2	2G	Cont.	No			Yes	C	T	A	M3	No	15.19.6
Diethyl sulphate	1594									Yes						

PROD_NAME	UN_NUMBER	C	D	E	F	G	H	I	I_DASH	J	K	L	M	N	O
Diglycidyl ether of bisphenol A		B	P	3	2G	Open	No		Yes	O	No	A		No	15.19.6, 16.2.6
Diglycidyl ether of bisphenol F		B	P	3	2G	Open	No		Yes	O	No	A		No	15.19.6, 16.2.6
Di-n-hexyl adipate	2161	B	P	3	2G	Open	No		Yes	O	No	A		No	15.19.6
Diisobutylamine	2050	(C) S/P	2	2G	Cont.	No			No	R	F-T	A,C,D	N1	No	15.12.3, 15.19.6
Diisobutylene		B	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6
Diisobutyl phthalate		B	P	3	2G	Open	No		Yes	O	No	A		No	15.19.6, 16.2.6
Diisopropanolamine		C	S/P	3	2G	Open	No	T2	IIA	Yes	O	A	N2	No	16.2.7 to 16.2.9
Diisopropylamine	1158	C	S/P	2	2G	Cont.	No	T2	IIA	No	C	F-T	A	N2	15.12, 15.19
Diisopropylbenzene (all isomers)		A	P	2	2G	Open	No		Yes	O	No	A		No	15.19.6
N,N-Dimethylacetamide solution (40% or less)		D	S	3	2G	Cont.	No		Yes	R	T	B	N4	No	15.12.1, 15.17
Dimethyl adipate		B	P	3	2G	Open	No		Yes	O	No	A		No	15.19.6, 16.2.9
Dimethylamine solution (45% or less)	1160	C	S/P	3	2G	Cont.	No	T2	IIA	No	R	F-T	A,C,D	N1	15.12, 15.19.6
Dimethylamine solution (greater than 45% but not greater than 55%)	1160	C	S/P	2	2G	Cont.	No		No	C	F-T	A,C,D	N1	E	15.12, 15.17, 15.19
Dimethylamine solution (greater than 55% but not greater than 65%)	1160	C	S/P	2	2G	Cont.	No		No	C	F-T	A,C,D	N1	E	15.12, 15.14, 15.17, 15.19
N,N-Dimethylcyclohexylamine	2264	C	S/P	2	2G	Cont.	No		No	R	F-T	A,C	N1	No	15.12, 15.17, 15.19.6
Dimethylethanolamine	2051	D	S	3	2G	Cont.	No	T3	IIA	No	R	F-T	A,D	N2	15.19.6
Dimethylformamide	2265	D	S	3	2G	Cont.	No	T2	IIA	No	R	F-T	A,D	No	15.19.6
Dimethyl glutarate		C	P	3	2G	Open	No		Yes	O	No	A		No	
Dimethyl hydrogen phosphite		(B) S/P	3	2G	Cont.	No			Yes	R	T	A,D		No	15.12.1
Dimethyl octanoic acid		(C) P	3	2G	Open	No			Yes	O	No	A		No	16.2.8, 16.2.9
Dimethyl phthalate		C	P	3	2G	Open	No		Yes	O	No	A		No	
Dimethyl succinate		C	P	3	2G	Open	No		Yes	O	No	A		No	16.2.9
Dinitrotoluene (molten)	1600	A	S/P	2	2G (o)	Cont.	No		Yes	C	T	A		No	15.12, 15.17, 15.19, 15.21
1,4-Dioxane	1165	D	S	2	2G	Cont.	No	T2	IIIB	No	C	F-T	A	No	15.12, 15.19

PROD_U_NAME	UN_NUMBER	C	D	E	F	G	H	I	I_DASH	I_DASH3	J	K	L	M	N	O
Dipentene	2052	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
Diphenyl		A	P	1	2G	Open	No			Yes	O	No	B		No	15.19
Diphenylamine, reaction product with 2,2,4-Trimethylpentene		(A)	S/P	1	2G	Open	No			Yes	O	No	A		No	15.19
Diphenylamines, alkylated		A	P	2	2G	Open	No			Yes	O	No	A		No	15.19.6
Diphenyl/Diphenyl ether mixtures		A	P	1	2G	Open	No			Yes	O	No	B		No	15.19
Diphenyl ether		A	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6
Diphenyl ether/Diphenyl phenyl ether mixture		A	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6
Diphenylmethane diisocyanate	2489	(B)	S/P	2	2G	Cont.	Dr			Yes(b)	C	T(b)	A,B, C(c),D	M5	No	15.12, 15.16.2, 15.17, 15.19.6, 16.2.6, 16.2.9, 16A.2.2
Diphenylol propane-epichlorohydrin resins		B	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6, 16.2.6
Di-n-propylamine	2183	C	S/P	3	2G	Cont.	No			No	R	T-T	A	M2	No	15.12.3, 15.19.6
Dodecene (all isomers)		(B)	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6
Dodecyl alcohol		B	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6, 16.2.6, 16.2.9, 16A.2.2
Dodecylamine/Tetradecylamine mixture		A	S/P	2	2G	Cont.	No			Yes	R	T	A,D	M2	No	15.19.6
Dodecyl dimethylamine/Tetradecyl dimethylamine mixture		A	S/P	2	2G	Open	No			Yes	O	No	B,C,D	M4	No	15.19.6
Dodecyl diphenyl ether disulphonate solution		A	S/P	2	2G	Open	No	NF			O	No	No		No	15.19.6
Dodecyl methacrylate		III	S	3	2G	Open	No			Yes	O	No	A		No	15.13
Dodecyl/Pentadecyl methacrylate mixture		III	S	3	2G	Open	No			Yes	O	No	A,D		No	15.13, 15.6.1, 15.5.2
Dodecyl phenol		A	P	1	2G	Open	No			Yes	O	No	A		No	15.19
Drilling brines (containing Zinc salts)		B	P	3	2G	Open	No			Yes	O	No	No		No	15.19.6
Epichlorohydrin	2023	A	S/P	2	2G	Cont.	No	IIB		No	C	F-T	A		E	15.12, 15.17, 15.19

PRODUCER	UN_NUMBER	C	D	E	F	G	H	I	I_DASH	I_DASH3	J	K	L	M	N	O
Ethanolamine	2491	D	S	3	2G	Open	No	T2	IIA	Yes	O	F-T	A	M2	No	15.19.6
2-Ethoxyethyl acetate	1172	C	P	3	2G	Cont.	No	T2	IIB	No	R	F	A		No	15.13, 15.19.6, 16.6.1, 16.6.2
Ethyl acetate	1917	A	S/P	2	2G	Cont.	No	T2	IIA	No	C	F-T	C,D	M2	E	15.12, 15.14, 15.19.6
Ethylamine	1036	(C)	S/P	2	1G	Cont.	No	T2	IIA	No	C	F-T	A,C	M1	E	15.12, 15.14, 15.17, 15.19
Ethylamine solutions (72% or less)	2270	(C)	S/P	2	2G	Cont.	No									
Ethyl amyl ketone	2271	C	P	3	2G	Cont.	No				R	F	A		No	15.19.6
Ethylbenzene	1175	B	P	3	2G	Cont.	No				R	F	A		No	15.19.6
N-Ethylbutylamine		(C)	S/P	3	2G	Cont.	No				R	F-T	A	M1	No	15.12.3, 15.19.6
Ethyl butyrate	1180	C	P	3	2G	Cont.	No				R	F	A		No	15.19.6
Ethylcyclohexane (bb)		(C)	P	3	2G	Cont.	No				R	F	A		No	15.19.6
N-Ethylcyclohexylamine		D	S	3	2G	Cont.	No	T2	IIA	No	C	F-T	A,D	M1	E	15.12, 15.17, 15.19
Ethylene chlorohydrin	1135	C	S/P	2	2G	Cont.	No				O	No	A		No	
Ethylene cyanohydrin	1604	C	S/P	2	2G	Cont.	No	T2	IIB	Yes	O	No	A		No	15.19.6, 16.2.9
Ethylendiamine	1605	B	S/P	2	2G	Cont.	No				R	F-T	A	M2	No	15.12, 15.19.6, 16.2.9
Ethylene dibromide		B	S/P	2	2G	Cont.	No				C	T	No		E	
Ethylene dichloride	1184	B	S/P	2	2G	Cont.	No	T2	IIA	No	R	F-T	A,B	M4	No	15.19
Ethylene glycol butyl ether acetate		(C)	P	3	2G	Open	No				O	No	A		No	
Ethylene glycol diacetate		C	P	3	2G	Open	No				O	No	A		No	
Ethylene glycol methyl ether acetate		C	P	3	2G	Open	No				O	No	A		No	
Ethylene glycol monoalkyl ethers		D	S	3	2G	Cont.	No				R	F	A		No	15.19.6
Ethylene oxide/Propylene oxide mixture with an Ethylene oxide content of not more than 30% in weight	2983	C	S/P	2	1G	Cont.	Inert	T2	IIB	No	C	F-T	A,C		No	15.8, 15.12, 15.14, 15.19
Ethyl-3-ethoxypropionate		C	P	3	2G	Cont.	No				R	No	A		No	15.19.6
2-Ethylhexyl acrylate		B	S/P	3	2G	Open	No	T3	IIB	Yes	O	No	A		No	15.13, 15.19.6, 16.6.1, 16.6.2
2-Ethylhexylamine	2276	B	S/P	2	2G	Cont.	No				R	F-T	A	M2	No	15.12, 15.19.6
Ethylidene norbornene		B	S/P	3	2G	Cont.	No				R	F-T	A,D	M4	No	15.12.1, 15.16.1, 15.19.6
Ethyl methacrylate	2277	(D)	S	3	2G	Cont.	No	T2	IIA	No	R	F-T	A,D		No	15.13, 15.19.6, 16.6.1, 16.6.2

PRJCT_NAME	UN_NUMBER	C	D	E	F	G	H	I	I_DASH	I_DASH3	J	K	L	M	N	O
o-Ethylphenol		(A)	S/P	3	2G	Open	Mo	T1	I1A	Yes	O	Mo	B		No	15.19.6
2-Ethyl-3-propylacrolein		A	S/P	3	2G	Cont.	Mo		I1A	Mo	R	F-T	A		Mo	15.19.6
Ethyltoluene		(B)	P	3	2G	Cont.	Mo		MF	Mo	R	F	A		Mo	15.19.6
Ferric chloride solutions	2582	C	S/P	3	2G	Open	Mo		MF		O	Mo	Mo		Mo	15.11, 15.19.6, 16.2.9
Ferric nitrate/Nitric acid solution		C	S/P	2	2G	Cont.	Mo		MF		R	T	Mo		E	15.11, 15.19
Fluorosilicic acid (20-30%) in water solution	1778	C	S/P	3	1G	Cont.	Mo		MF		R	T	Mo		E	15.11
Formaldehyde solutions (45% or less)	1199(d) 2209	C	S/P	3	2G	Cont.	Mo	T2	I1B	Mo	R	F-T	A		E (e)	15.16.1, 15.19.6, 16.2.9
Formic acid	1779	D	S	3	2G	Cont.	Mo	T1	I1A	Mo	R	T(v)	A		Y2,Y3 E	15.11.2 to 15.11.4, 15.11.6 to 15.11.8, 15.19.6
Fumaric adduct of rosin, water dispersion		B	P	3	2G	Open	Mo			Yes	O	Mo	Mo		Mo	15.19.6, 16.2.6
Furfural	1199	C	S/P	3	2G	Cont.	Mo	T2	I1B	Mo	R	F-T	A		Mo	15.16.1, 15.19.6
Furfuryl alcohol	2874	C	P	3	2G	Open	Mo		MF	Yes	O	Mo	A		Mo	15.16.1
Glutaraldehyde solutions (50% or less)		D	S	3	2G	Open	Mo			Yes	O	Mo	Mo		Mo	15.19.6
Glycidyl ester of C10 trialkylacetic acid		B	P	3	2G	Open	Mo			Yes	O	Mo	A		Mo	15.19.6
Heptane (all isomers) (bb)	1206	(C)	P	3	2G	Cont.	Mo			Mo	R	F	A		Mo	15.19.6
Heptano (all isomers) (q)		C	P	3	2G	Cont.	Mo			Mo	R	F	A		Mo	15.19.6
Heptene (all isomers) (bb)		C	P	3	2G	Cont.	Mo			Mo	R	F	A		Mo	15.19.6
Heptyl acetate		(B)	P	3	2G	Open	Mo			Yes	O	Mo	A		Mo	15.19.6, 16.2.9
Hexamethylenediamine solution	1783	C	S/P	3	2G	Cont.	Mo			Yes	R	T	A		Mo	15.19.6
Hexamethylenimine	2493	C	S/P	2	2G	Cont.	Mo			Mo	R	F-T	A,C		Mo	15.19.6
Hexane (all isomers) (bb)	1208	(C)	P	3	2G	Cont.	Mo			Mo	R	F	A		Mo	15.19.6
Hexene (all isomers) (bb)		(C)	P	3	2G	Cont.	Mo			Mo	R	F	A		Mo	15.19.6
Hexyl acetate	1233	B	P	3	2G	Cont.	Mo			Mo	R	F	A		Mo	15.19.6
Hydrochloric acid	1789	D	S	3	1G	Cont.	Mo		MF		R	T	Mo		E (f)	15.11
Hydrogen peroxide solutions (over 6% but not over 60%)	2014, 2984	C	S/P	3	2G	Cont.	Mo		MF		C	Mo	Mo		Mo	15.5.14 to 15.5.26, 15.18, 15.19.6
Hydrogen peroxide solutions (over 60% but not over 70%)	2015	C	S/P	2	2G	Cont.	Mo		MF		C	Mo	Mo		Mo	15.5.1 to 15.5.13, 15.19.6

PROD_NAME	UN_NUMBER	C	D	E	F	G	H	I	I_DASH	J	K	L	M	N	O
2-Hydroxyethyl acrylate		B	S/P	2	2G	Cont.	No		Yes	C	T	A		No	15.12, 15.13, 15.19.6, 16.6.1, 16.6.2
2-Hydroxy-4-(methylthio) butanoic acid		C	P	3	2G	Open	No		Yes	O	No	A		No	16.2.7, 16.2.8
Isophoronediamine	2289	D	S	3	2G	Cont.	No		Yes	R	T	A	N2	No	15.12, 15.16.2, 15.17, 15.19.6
Isophorone diisocyanate	2290	B	S/P	2	2G	Cont.	Dry		Yes	C	T	A,B,D	N5	No	15.13, 15.14, 15.19.6, 16.6.1, 16.6.2
Isoprene	1218	C	S/P	3	2G	Cont.	No	T1	IIB	No	R	F	B	No	
Isopropanolamine		C	S/P	3	2G	Open	No	T2	IIB	Yes	O	F-T	A	N2	16.2.8, 16.2.9
Isopropylamine	1221	C	S/P	2	2G	Cont.	No	T2	IIB	No	C	F-T	C,D	E	15.12, 15.14, 15.19
Isopropylcyclohexane (bb)		(C)	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6, 16.2.7, 16.2.8
Isopropyl ether	1159	D	S	3	2G	Cont.	Inert		No	R	F	A		No	15.4.6, 15.13.3, 15.19.6
Lactonitrile solution (80% or less)		B	S/P	2	1G	Cont.	No		Yes	C	T	A,C,D	V1	E	15.1, 15.12, 15.17 to 15.19, 16.2.6, 16.6
Lauric acid		B	P	3	2G	Open	No		Yes	O	No	A		No	15.19.6, 16.2.6, 16.2.9, 16A.2.2
Liquid chemical wastes		A	S/P	2	2G	Cont.	No		No	C	F-T	A		E	15.12, 15.19.6, 20.5.1
Long chain alkaryl polyether (C11-C20)		C	P	3	2G	Open	No		Yes	O	No	A,B		No	16.2.7, 16.2.8
Long chain polyetheramine in alkyl (C2-C4) benzenes		C	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6, 16.2.7, 16.2.8
Long chain polyetheramine in aromatic solvent		C	P	3	2G	Open	No		Yes	O	No	A,B		No	16.2.7, 16.2.8
Magnesium long chain alkyl salicylate (C11+)		D	S	3	2G	Cont.	No		Yes	R	No	A(g),C		No	15.19.6, 16.2.9
Maleic anhydride	2215	B	S/P	3	2G	Open	No	IF		O	No	No	M1	No	
Mercaptobenzothiazol, sodium salt solution		D	S	3	2G	Cont.	No		Yes	R	No	A(g),C		No	15.19.6, 16.2.9
Mesityl oxide	1229	A	S/P	2	2G	Open	No	T2	IIB	No	R	F-T	A	No	15.19.5
Metam sodium solution		A	S/P	2	2G	Open	No	IF		O	No	No	M1	No	15.19.6
Methacrylic acid	2531	D	S	3	2G	Cont.	No		Yes	R	T	A	V1	No	15.13, 16.6.1
Methacrylic resin in Ethylene dichloride		B	S/P	2	2G	Cont.	No	T2	IIB	No	R	F-T	A,B	No	15.19, 16.2.6

PROD_NAME	UN_NUMBER	C	D	E	F	G	H	I	I_DASH	I_DASH3	J	K	L	M	N	O
Methacrylonitrile	3079	D	S	2	2G	Cont.	No				C	F-T	A	M4,2	E	15.12, 15.13, 15.17, 15.19
Methyl acrylate	1919	B	S/P	2	2G	Cont.	No	T1	IIIB		R	F-T	A		E	15.13, 15.19.6, 16.6.1, 16.6.2
Methylamine solutions (42% or less)	1235	C	S/P	2	2G	Cont.	No				C	F-T	A,C,D	M1	E	15.12, 15.17, 15.19
Methylamyl acetate	1233	(C)	P	3	2G	Cont.	No				R	F	A		No	15.19.5
Methylamyl alcohol	2053	(C)	P	3	2G	Cont.	No				R	F	A		No	15.19.6
Methyl butyrate	1237	(C)	P	3	2G	Cont.	No				R	F	A		No	15.19.6
Methylcyclohexane (bb)	2296	(C)	P	3	2G	Cont.	No				R	F	A		No	15.19.6
Methylcyclopentadiene dimer		(B)	P	3	2G	Cont.	No				R	F	B		No	15.19.6
Methyl diethanolamine		D	S	3	2G	Open	No				Yes	O	A		No	
2-Methyl-6-ethyl aniline		C	S/P	3	2G	Open	No				Yes	O	A,D		No	
2-Methyl-5-ethyl pyridine	2300	(B)	S/P	3	2G	Open	No				Yes	O	A,D		No	15.19.6
Methyl formate	1243	D	S	2	2G	Cont.	No				R	F-T	A	M4	E	15.12, 15.14, 15.19
Methyl heptyl ketone		B	P	3	2G	Cont.	No				R	F	A		No	15.19.6
2-Methyl-2-hydroxy-3-butyne		III	S	3	2G	Cont.	No				R	F-T	A,B,D	M6	No	15.19.6
Methyl methacrylate	1247	D	S	2	2G	Cont.	No	T2	IIA		R	F-T	A		No	15.13, 15.19.6, 16.6.1, 16.6.2
Methyl naphthalene (molten)		A	S/P	2	2G	Cont.	No				R	F-T	A,D		No	15.19.5
2-Methylpyridine	2313	D	S	2	2G	Cont.	No				Yes	O	A,D		No	15.12.3, 15.19.6
3-Methylpyridine	2313	C	S/P	2	2G	Cont.	No				C	F	A	M4	No	15.12.3, 15.19
4-Methylpyridine	2313	D	S	2	2G	Cont.	No				C	F	A,C	M4	No	15.12.3, 15.19, 16.2.3
Methyl salicylate		(B)	P	3	2G	Open	No				C	F-T	A	M4	No	15.19.6
alpha-Methylstyrene	2303	A	S/P	3	2G	Open	No				Yes	O	A		No	15.13, 15.19.6, 16.6.1, 16.6.2
Morpholine	2054	D	S	3	2G	Cont.	No	T1	IIIB		R	F-T	A,D**		No	15.19.6
Motor fuel anti-knock compounds (containing lead alkyls)	1649	A	S/P	1	1G	Cont.	No	T2	IIA		R	F	A	M2,2	No	15.19.6
								T4	IIA		C	F-T	A,C		E	15.6, 15.12, 15.18, 15.19
Napthalene (molten)	2304	A	S/P	2	2G	Cont.	No				Yes	O	A,D		No	15.19.6
Naphthenic acids		A	P	2	2G	Open	No				Yes	O	A		No	15.19.6
Neodecanoic acid		C	P	3	2G	Open	No				Yes	O	A		No	16.2.3
Nitric acid (mixture of sulphuric and nitric acids)	1796	(C)	S/P	2	2G	Cont.	No				MF	C	T	No	E	15.11, 15.16.2, 15.17, 15.19
Nitric acid (less than 70%)	2031	C	S/P	2	2G	Cont.	No				MF	R	T	No	E	15.11, 15.19

PRODU NAME	UN NUMBER	C	D	E	F	G	H	I	I_DASH	J	K	L	M	N	O
Nitric acid (70% and over)	2031, 2032(h)	C	S/P	2	2G	Cont.	No	MF	Yes	C	T	No		E	15.11, 15.19
Nitrobenzene	1662	B	S/P	2	2G	Cont.	No	T1	Yes	C	T	A,D		No	15.12, 15.17 to 15.19, 16.2.9
o-Nitrophenol (molten)	1663	B	S/P	2	2G	Cont.	No		Yes	C	T	A,D		No	15.12, 15.19.6, 16.2.6, 16.2.9, 16A.2.2
1- or 2-Nitropropane	2608	D	S	3	2G	Cont.	No	T2	Yes	R	F-T	A		No	15.19.6
Nitropropane (60%)/Nitroethane (40%) mixture		D	S	3	2G	Cont.	No		No	R	F-T	A(u)	M4	No	15.19.6
o- or p-Nitrotoluenes	1664	B	S/P	2	2G	Cont.	No	IIB	Yes	C	T	A,B		No	15.12, 15.17, 15.19, 16.2.9
Nonane (all isomers) (bb)	1920	(C) P	3	2G	Cont.	Cont.	No		No	R	F	B,C		No	15.19.6
Nonene (all isomers)		B	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6
Nonyl acetate		(C) P	3	2G	Open	Open	No		Yes	O	No	A		No	15.19.6
Nonyl alcohol (all isomers)		(C) P	3	2G	Open	Open	No		Yes	O	No	A		No	15.19.6
Nonyl phenol		A	P	2	2G	Open	No		Yes	O	No	A		No	15.19.6, 16.2.6, 16.2.9,
Nonyl phenol poly(4-12)		B	P	3	2G	Open	No		Yes	O	No	A		No	16A.2.2(aa)
ethoxylates									Yes	O	No	A		No	15.19
Noxious liquid, N.F. (1)		A	P	1	2G	Open	No		Yes	O	No	A		No	15.19
n.o.s. (trade name ...)															
contains ...) S.T.1, Cat.A*															
Noxious liquid, F, (2) n.o.s.		A	P	1	2G	Cont.	No		No		F	A		No	15.19
(trade name ..., contains ...)															
S.T.1, Cat.A*															
Noxious liquid, N.F. (3)		A	P	2	2G	Open	No		Yes	O	No	A		No	15.19.6
n.o.s. (trade name ...)															
contains ...) S.T.2, Cat.A*															
Noxious liquid, F, (4) n.o.s.		A	P	2	2G	Cont.	No		No	R	F	A		No	15.19.6
(trade name ..., contains ...)															
S.T.2, Cat.A*															
Noxious liquid, N.F. (5)		B	P	2	2G	Open	No		Yes	O	No	A		No	15.19.6, [16.2.6, 16.2.9]**
n.o.s. (trade name ...)															
contains ...) S.T.2, Cat.B*															
Noxious liquid, N.F. (6)		B	P	2	2G	Open	No		Yes	O	No	A		No	15.19.6, [16.2.6]**, 16.2.9, 16A.2.2
n.o.s. (trade name ...)															
contains ...) S.T.2, Cat.B*, mp 15°C*															

* In case of a specific n.o.s. cargo assessed as falling within this n.o.s. group that is carried on a ship, this entry, including the cargo's trade name and one or two principal components, should be provided in the shipping document. Abbreviations used mean:

N.F.: Flashpoint exceeding 60°C (closed cup test)
F: Flashpoint not exceeding 60°C (closed cup test)
S.T.: Ship type
Cat.: Pollution category
m.p.: Melting point

PRODN_NAME	UN_NUMBER	C	D	E	F	G	H	I	I_DASH	J	K	L	M	N	O
Morxious liquid, F, (7) n.o.s. (trade name ..., contains ...) S.T.2, Cat.B*	B	P	2	2G	2G	Cont.	No	No	No	R	F	A	No	No	15.19.6, [16.2.6, 16.2.9]**
Morxious liquid, F, (8) n.o.s. (trade name ..., contains ...) S.T.2, Cat.B*, mp 15°C*	B	P	2	2G	2G	Cont.	No	No	No	R	F	A	No	No	15.19.6, [16.2.6]**, 16.2.9, 16A.2.2
Morxious liquid, N.F, (9) n.o.s. (trade name ..., contains ...) S.T.3, Cat.A*	A	P	3	2G	2G	Open	No	Yes	Yes	O	No	A	No	No	15.19.6
Morxious liquid, F, (10) n.o.s. (trade name ..., contains ...) S.T.3, Cat.A*	A	P	3	2G	2G	Cont.	No	No	No	R	F	A	No	No	15.19.6
Morxious liquid, N.F, (11) n.o.s. (trade name ..., contains ...) S.T.3, Cat.A*	B	P	3	2G	2G	Open	No	Yes	Yes	O	No	A	No	No	15.19.6, [16.2.6, 16.2.9]**
Morxious liquid, N.F, (12) n.o.s. (trade name ..., contains ...) S.T.3, Cat.B*, mp 15°C*	B	P	3	2G	2G	Open	No	Yes	Yes	O	No	A	No	No	15.19.6, [16.2.6]**, 16.2.9, 16A.2.2
Morxious liquid, F, (13) n.o.s. (trade name ..., contains ...) S.T.3, Cat.B*	B	P	3	2G	2G	Cont.	No	No	No	R	F	A	No	No	15.19.6, [16.2.6, 16.2.9]**
Morxious liquid, F, (14) n.o.s. (trade name ..., contains ...) S.T.3, Cat.B*, mp 15°C*	B	P	3	2G	2G	Cont.	No	No	No	R	F	A	No	No	15.19.6, [16.2.6]**, 16.2.9, 16A.2.2
Morxious liquid, N.F, (15) n.o.s. (trade name ..., contains ...) S.T.3, Cat.C*	C	P	3	2G	2G	Cont.	No	Yes	Yes	O	No	A	No	No	[16.2.7 to 16.2.9]**
Morxious liquid, F, (16) n.o.s. (trade name ..., contains ...) S.T.3, Cat.C*	C	P	3	2G	2G	Cont.	No	No	No	R	F	A	No	No	[16.2.7 to 16.2.9]**

* See footnote on page 22
** For high viscosity or high melting point cargoes.

[illegible]

PRODUCER	UN_NUMBER	C	D	E	F	G	H	I	I_DASH	I_DASH3	J	K	L	M	N	O
Polyalkylene oxide polyol	2734(1) 2735	C	P	3	2G	Open	No		Yes	O	No	A			No	16.2.7, 16.2.8
Polyethylene polyamides		(C)	S/P	3	2G	Open	No		Yes	O	No	A		N2	No	16.2.9
Polyferric sulphate solution		(C)	S/P	3	2G	Open	No	MF		O	No	No		N4	No	
Polyethylene polyphenyl isocyanate	2206(1) 2207	D	S	2	2G	Cont.	Dry		Yes(b)	C	T(b)	A		N5	No	15.12, 15.16.2, 15.19.6
Polyolefins in alkyl (C2-C4) benzenes		(C)	P	3	2G	Cont.	No		No	R	F	A			No	15.19.6, 16.2.7, 16.2.8
Polyolefins in aromatic solvent		(C)	P	3	2G	Cont.	No		No	R	F	A			No	15.19.6, 16.2.7, 16.2.8
Polyolefin phosphor sulphide - barium derivative (C28-C250)		C	P	3	2G	Open	No		Yes	O	No	A,B			No	16.2.7, 16.2.8
Potassium chloride solution (10% or more)		C	P	3	2G	Open	No	MF		O	No	No			No	
Potassium hydroxide solution	1814	C	S/P	3	2G	Open	No	MF	Yes	O	No	No		N8	No	16.2.9
Potassium oleate		(C)	P	3	2G	Open	No		Yes	O	No	A			No	15.19.6
n-Propylamine		C	S/P	3	2G	Open	No		Yes	O	No	A,D		N2	No	16.2.9
beta-Propiolactone		D	S	2	2G	Cont.	No	IIA	Yes	R	T	A			No	
Propionaldehyde	1275	C	S/P	3	2G	Cont.	No		No	R	F-T	A		V1	E	15.16.1, 15.17, 15.19.6
Propionic acid	1848	D	S	3	2G	Cont.	No	IIA	No	R	F	A			E	15.11.2 to 15.11.4, 15.11.6 to 15.11.8, 15.19.6
Propionic anhydride	2496	C	S/P	3	2G	Cont.	No	T2	IIA	Yes	R	T	A	V1	No	
Propionitrile	2404	C	S/P	2	1G	Cont.	No	T1	IIB	No	C	F-T	A,D		E	15.12, 15.17 to 15.19
n-Propylamine	1277	C	S/P	2	2G	Cont.	Inert	T2	IIA	No	C	F-T	A,D	N2	E	15.12, 15.19
Propylbenzene (all isomers)		A	P	3	2G	Cont.	No		No	R	F	A			No	15.19.6
n-Propyl chloride	1278	D	S	3	2G	Cont.	No		No	R	F	A,B			No	15.19.6
Propylene dimer (hb)		(C)	P	3	2G	Cont.	No		No	R	F	A			No	15.19.6
Propylene oxide	1280	C	S/P	2	2G	Cont.	Inert	T2	IIB	No	C	F-T	A,C	Z	No	15.8, 15.12.1, 15.13, 15.19
Propylene tetramer	2850	B	P	3	2G	Cont.	No		No	R	F	A			No	15.19.6
Propylene trimer	2057	B	P	3	2G	Cont.	No		No	R	F	A			No	15.19.6
Pyridine	1282	D	S	3	2G	Cont.	No	T1	IIA	No	R	F	A	N4	No	15.19.6
Resin		B	P	3	2G	Open	No		Yes	O	No	A			No	15.19.6, 16.2.6, 16.2.9, 16A.2.2

PROD_NAME	UN_NUMBER	C	D	E	F	G	H	I	I_DASH	I_DASH3	J	K	L	M	N	O
Rosin soap (disproportionated) solution		B	P	3	2G	Open	No		Yes		O	No	A		No	15.19.6
Sodium aluminate solution	1819	D	S	3	2G	Open	No	NF			O	No	No	N1	No	
Sodium borohydride (15% or less)/Sodium hydroxide solution		C	S/P	3	2G	Open	No	NF			O	No	No	N1	No	16.2.7
Sodium chlorate solution (50% or less)	2428	III	S	3	2G	Open	No	NF			O	No	No		No	15.9, 15.16.1, 15.19.6
Sodium dichromate solution (70% or less)		C	S/P	2	2G	Open	No	NF			C	No	No	M2	No	15.12.3, 15.19
Sodium hydrogen sulphide (6% or less)/Sodium carbonate (3% or less) solution		B	P	3	2G	Open	No	NF			O	No	No		No	15.19.6
Sodium hydrogen sulphite solution (45% or less)	2693	D	S	3	2G	Open	No	NF			O	No	No		No	
Sodium hydrosulphide solution (45% or less)	2949	B	S/P	3	2G	Cont.	Vent or Pad(gas)	NF			O	No	No		No	15.16.1, 15.19.6, 16.2.9
Sodium hydrosulphide/Ammonium sulphide solution		B	S/P	2	2G	Cont.	No		No		O	No	No			
Sodium hydroxide solution	1824	D	S	3	2G	Open	No	NF			O	No	No	N1	E	15.12, 15.14, 15.16.1, 15.17, 15.19, 16.6
Sodium hypochlorite solution (15% or less)	1791	C	S/P	3	2G	Cont.	No	NF			O	No	No	M8	No	15.16.1
Sodium nitrite solution	1500	B	S/P	2	2G	Open	No	NF			O	No	No	M5	No	
Sodium petroleum sulfonate		B	S/P	2	2G	Open	No		Yes		O	No	A		No	15.12.3.1, 15.12.3.2, 15.16.1, 15.19
Sodium silicate solution		C	P	3	2G	Open	No		Yes		O	No	A		No	15.19.6, 16.2.6
Sodium sulphide solution (15% or less)		B	S/P	3	2G	Cont.	No	NF			C	T	No	M5	No	15.16.1, 15.19.6, 16.2.9
Sodium sulphite solution (25% or less)		C	P	3	2G	Open	No	NF			O	No	No		No	15.16.1, 15.19.6, 16.2.9
Sodium tartrates and mono-/di-succinate solution		D	S	3	2G	Open	No		Yes		O	No	A,B	Y5	No	
Sodium thiocyanate solution (56% or less)		(B)	P	3	2G	Open	No		Yes		O	No	No		No	15.19.6

PRODUCER	UN_NUMBER	C	D	E	F	G	H	I	I_DASH	I_DASH3	J	K	L	M	N	O
Styrene monomer	2055	B	S/P	3	2G	Cont.	No	T1	IIA	No	R	F	A,B	M4,2	No	15.13, 15.19.6, 16.6.1, 16.6.2
Sulpho hydrocarbon long chain (C18+) alkylamine mixture		B	P	3	2G	Open	No			Yes	O	No	A,B		No	15.19.6, 16.2.6
Sulphur (molten)	2448	III	S	3	1G	Open	Vent or Pad(gas)	T3		Yes(1)	O	F-T	No		No	15.10
Sulphuric acid	1830	C	S/P	3	2G	Open	No	NF			O	No	No		No	15.11, 15.16.2, 16.2.8, 16.2.9
Sulphuric acid, spent	1832	C	S/P	3	2G	Open	No	NF			O	No	No		No	15.11, 15.16.2, 16.2.8, 16.2.9
Tail oil (crude and distilled)		B	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6, 16.2.6, 16.2.9, 16A.2.2
Tail oil fatty acid, barium salt		B	S/P	3	2G	Open	No			Yes	O	No	A		No	15.19.6, 16.2.6
Tail oil fatty acid (resin acids less than 20%)		(C)	P	3	2G	Open	No			Yes	O	No	A		No	16.2.7 to 16.2.9
Tail oil soap (disproportionated) solution		B	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6, 16.2.6, 16.2.9
Tetrachloroethane	1702	B	S/P	3	2G	Cont.	No				R	T	No		No	15.12, 15.17, 15.19.6
Tetraethylene pentamine	2370	D	S	3	2G	Open	No			Yes	O	No	A	M1	No	15.19.6
Tetrahydrofuran	2056	D	S	3	2G	Cont.	No	T3	IIA	No	R	F-T	A		No	16.2.9, 16A.2.2
Tetrahydronaphthalene (bb)		C	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6
Tetramethylbenzene (all isomers)		A	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6
Toluene (bb)	1294	C	P	3	2G	Cont.	No			No	R	F	A		No	15.12, 15.17, 15.19, 16.2.7, 16.2.9
Toluenediamine	17-3	C	S/P	2	2G	Cont.	No			Yes	C	T	A,D	M1	E	15.12, 15.16.2, 15.17, 15.19, 16.2.9
Toluene diisocyanate	2078	C	S/P	2	2G	Cont.	Dry	T1	IIA	Yes	C	F-T	A,C(c), D	M4	E	15.12, 15.16.2, 15.17, 15.19, 16.2.9
o-Toluidine	1708	C	S/P	2	2G	Cont.	No			Yes	C	T	A		No	15.12, 15.17, 15.19
Tributyl phosphate		B	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6
1,2,4-Trichlorobenzene	2321	B	S/P	2	2G	Cont.	No			Yes	R	T	A,B		No	15.19.6, 16.2.9, 16A.2.2
1,1,1-Trichloroethane	2831	C	P	3	2G	Open	No			Yes	O	No	A		No	15.12.1, 15.19.6
1,1,2-Trichloroethane		C	S/P	3	2G	Cont.	No				R	T	No		No	15.12, 15.16.1, 15.17, 15.19.6
Trichloroethylene	1710	C	S/P	3	2G	Cont.	No	T2	IIA	Yes	R	T	No		No	15.12, 15.17, 15.19
1,2,3-Trichloropropane		C	S/P	2	2G	Cont.	No			Yes	C	T	A,B,D		No	

PRODUC NAME	UN_NUMBER	C	D	E	F	G	H	I	I_DASH	I_DASH3	J	K	L	M	N	O
1,1,1,1,2-Trichloro-1,2,2-Trifluoroethane		C	P	3	2G	Open	No		NF		O	No	No		No	
Tricresyl phosphate (containing less than 1% ortho-isomer)		A	P	2	2G	Open	No		Yes		O	No	A		No	15.19.6
Tricresyl phosphate (containing 1% or more ortho-isomer)	2574(j)	A	S/P	1	2G	Cont.	No	T2	IIA	Yes	C	No	A,B		No	15.12.3, 15.19
Tridecanoic acid		B	P	3	2G	Open	No		Yes		O	No	A		No	15.19.6, 15.2.6, 16.2.9, 16A.2.2
Triethanolamine		D	S	3	2G	Open	No		IIA	Yes	O	No	A	M1	No	
Triethylamine	1296	C	S/P	2	2G	Cont.	No	T2	IIA	No	R	F-T	A,C	M2	E	15.12, 15.19.6
Triethylbenzene		A	P	2	2G	Open	No		Yes		O	No	A		No	15.19.6
Triethylenetetramine	2259	D	S	3	2G	Open	No	T2	IIA	Yes	O	No	A	M1	No	
Triethylphosphite	2323	B	S/P	3	2G	Cont.	No		No		R	F-T	A,B		No	15.12.1, 15.19.6
Trisopropylated phenyl phosphates		A	P	2	2G	Open	No		Yes		O	No	A		No	15.19.6
Trimethylacetic acid		D	S	3	2G	Cont.	No		Yes		R	No	A	T1	No	15.11.2 to 15.11.8
Trimethylamine solution (30% or less)	1297	C	S/P	2	2G	Cont.	No		No		C	F-T	A,C	M1	E	15.12, 15.14, 15.19, 16.2.9
Trimethylbenzene (all isomers)		A	P	3	2G	Cont.	No		No		R	F	A		No	15.19.6
Trimethylhexamethylenediamine	2327	D	S	3	2G	Open	No		Yes		O	No	A,C	M1	No	15.19.6
(2,2,4- and 2,4,4-isomers)																
Trimethylhexamethylene diisocyanate (2,2,4- and 2,4,4-isomers)	2328	B	S/P	2	2G	Cont.	Dr7		Yes		C	T	A,C(c)		No	15.12, 15.16.2, 15.17, 15.19.6
2,2,4-Trimethyl-1,3-pentanediole		C	P	3	2G	Open	No		Yes		O	No	A		No	
1-Isobutylate																
Trimethyl phosphite	2329	D	S	3	2G	Cont.	No		No		R	F-T	A,D		No	15.12.1, 15.16.2, 15.19.6
1,3,5-Trioxane		A	P	1	2G	Open	No		No		R	F	A,D		No	15.19.6
Triethyl phosphate		B	P	3	2G	Cont.	No		Yes		O	No	A		No	15.19
Turpentine	1299	B	P	3	2G	Open	No		No		R	F	A		No	15.19.6
Undecanoic acid		B	P	3	2G	Open	No		Yes		O	No	A		No	16.2.6, 16.2.9

PROD_NAME	UN_NUMBER	C	D	E	F	G	H	I	I_DASH	I_DASH3	J	K	L	M	N	O
1-Undecene		B	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6
Undecyl alcohol		B	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6, 16.2.9, 16A.2.2(r)
Urea/ammonium nitrate solution (containing aqua ammonia)		C	S/P	3	2G	Cont.	No	HF			R	T	A	M4	No	
Valeraldehyde (all isomers)	2058	C	S/P	3	2G	Cont.	Inert	T3	IIIB	No	R	F-T	A		No	15.4.6, 15.16.1, 15.19.6
Vinyl acetate	1301	C	S/P	3	2G	Cont.	No	T2	IIA	No	R	F	A		No	15.13, 15.19.6, 16.6.1, 16.6.2
Vinyl ethyl ether	1302	C	S/P	2	1G	Cont.	Inert	T3	IIIB	No	C	F-T	A	M6	E	15.4, 15.13, 15.14, 15.19, 16.6.1, 16.6.2
Vinylidene chloride	1303	D	S	2	2G	Cont.	Inert	T2	IIA	No	R	F-T	B	M5	E	15.13, 15.14, 15.19.6, 16.6.1, 16.6.2
Vinyl neodecanoate		B	S/P	3	2G	Open	No		Yes		O	No	A,B		No	15.13, 15.16.1, 15.19.6, 16.6.1, 16.6.2
Vinyltoluene	2618	A	S/P	3	2G	Cont.	No	IIA	No		R	F	A,B	M1	No	15.13, 15.19.6, 16.6.1, 16.6.2
White spirit, low (15-20%) aromatic	1300	(B)	P	2	2G	Cont.	No		No		R	F	A		No	15.13, 15.19.6, 16.6.1, 16.6.2
Xylenes (bb)	1307	C	P	3	2G	Cont.	No		No		R	F	A		No	15.19.6, 16.2.9(u)
Xylenol	2261	B	S/P	3	2G	Open	No	IIA	Yes		O	No	A,B		No	15.19.6, 16.2.9, 16A.2.2
Zinc alkaryl dithiophosphate (C7-C16)		(C)	P	3	2G	Open	No		Yes		O	No	A,B		No	16.2.7, 16.2.8
Zinc alkyl dithiophosphate (C3-C14)		B	P	3	2G	Open	No		Yes		O	No	A,B		No	15.19.6, 16.2.6

- a Applies to ammonia aqueous, (28% or less) but not below 10%.

Ammonia aqueous (28% or less)

- b If the product to be carried contains flammable solvents such that the flashpoint does not exceed 60°C c.c., then special electrical systems and a flammable vapour detector should be provided.

Diphenyl methane diisocyanate
Polymethylene polyphenyl isocyanate

- c Although water is suitable for extinguishing open air fires involving chemicals to which this footnote applies, water should not be allowed to contaminate closed tanks containing these chemicals because of the risk of hazardous gas generation.

Diphenylmethane diisocyanate
Toluene diisocyanate
Trimethylhexamethylene diisocyanate (2,2,4- and 2,4,4-isomers)

- d UN No.1198 only applies if flashpoint is below 60°C c.c.

Formaldehyde solutions (45% or less)

- e Applies to formaldehyde solutions (45% or less), but not below 5%.

Formaldehyde solutions (45% or less)

- f Applies to hydrochloric acid not below 10%.

Aluminium chloride (30% or less)/Hydrochloric acid (20% or less) solution
Hydrochloric acid

- g Dry chemical cannot be used because of the possibility of an explosion.

Maleic anhydride

- h UN No.2032 assigned to red fuming nitric acid.

Nitric acid (70% and over)

- i UN number depends on boiling point of substance.

Polyethylene polyamines
Polymethylene polyphenyl isocyanate

- j UN number assigned to this substance containing more than 3% of ortho-isomer.

Tricresyl phosphate (containing 1% or more ortho-isomer)

- k Phosphorus (yellow or white) is carried above its autoignition temperature and therefore flashpoint is not appropriate. Electrical equipment requirements may be similar to those for substances with a flashpoint above 60°C c.c.

Phosphorus (yellow or white)

- l Sulphur (molten) has a flashpoint above 60°C c.c., however, electrical equipment should be certified safe for gases evolved.

Sulphur (molten)

- m UN No.2672 refers to 10-35% ammonia solutions.

Ammonia aqueous (28% or less)

- n UN No.2511 applies to 2-chloropropionic acid only.

2- or 3-Chloropropionic acid

- o Dinitrotoluene should not be carried in deck tanks.

Dinitrotoluene (molten)

- p (Deleted).

- q Requirements are based on those isomers having a flashpoint of 60°C c.c., or less; some isomers have a flashpoint greater than 60°C c.c., and therefore the requirements based on flammability would not apply to such isomers.

Heptanol (all isomers)

- r Reference 16A.2.2 applies to 1-undecyl alcohol only.

Undecyl alcohol

- s Applies to n-decyl alcohol only.

Decyl alcohol (all isomers)

- t UN.No 1114 applies to benzene.

Benzene and mixtures having 10% benzene or more

- u Dry chemicals should not be used as fire-extinguishing media.

Nitropropane (60%)/Nitroethane (40%) mixture

- v Confined spaces should be tested for both formic acid vapours and carbon monoxide gas, a decomposition product.

Formic acid

- w Applies to p-xylene only.

Xylenes

- x Applies to p-isomer and mixtures containing p-isomer viscosity of which is 25 mPa.s at 20°C.

Dichlorobenzenes (all isomers)

- y Applies to p-isomer and mixtures containing p-isomer melting point of which is 0°C and above.

Dichlorobenzenes (all isomers)

- z Applies to p-isomer and mixtures containing p-isomer melting point of which is 15°C and above.

Dichlorobenzenes (all isomers)

- aa Applies only to products with melting point of 15°C and above.

Nonyl phenol poly(4-12)ethoxylates

- bb Applies to oil-like substances identified in accordance with the provisions of the unified interpretation of regulation 14 of Annex II of MARPOL 73/78 agreed by the MEPC."

VOID

The existing text of chapter 18 is replaced by the following:

CHAPTER 18 - LIST OF CHEMICALS TO WHICH THE CODE DOES NOT APPLY

1 The following are chemicals which have been reviewed for their safety and pollution hazards and determined not to present hazards to such an extent as to warrant application of the Code. This may be used as a guide in considering bulk carriage of chemicals whose hazards have not yet been evaluated.

2 Although the chemicals listed in this chapter fall outside the scope of the Code, the attention of Administrations is drawn to the fact that some safety precautions may be needed for their safe transportation. Accordingly, Administrations should prescribe appropriate safety requirements.

3 Some chemicals are identified as falling into pollution category D and, therefore, subject to certain operational requirements of Annex II of MARPOL 73/78.

4 Liquid mixtures which are provisionally assessed under regulation 3(4) of Annex II of MARPOL 73/78 as falling into pollution category D, and which do not present safety hazards, may be carried under the entry for noxious liquids not otherwise specified in this chapter. Similarly, those mixtures provisionally assessed as falling outside pollution category A, B, C or D, and which do not present safety hazards, may be carried under the entry for non-noxious liquids not otherwise specified in this chapter.

EXPLANATORY NOTES

Product name
(column a) In some cases, the product names may not be identical with the names given in previous issues of the IBC Code or the BCH Code (for explanation see index of chemicals).

UN number
(column b) The number relating to each product shown in the recommendations proposed by the United Nations Committee of Experts on the Transport of Dangerous Goods.
UN numbers, where available, are given for information only.

Pollution category
(column c) The letter D means the pollution category assigned to each product under Annex II of MARPOL 73/78. "III" means the product was evaluated and found to fall outside the categories A, B, C or D.

Pollution category in brackets indicates that the product is provisionally categorized and that further data are necessary to complete the evaluation of their pollution hazards. Until the hazard evaluation is completed, the pollution category assigned is used.

a	b	c
Product name	UN number	Pollution Category for operational discharge (regulation 3 of Annex II)
Acetone	1090	III
Alcohols (C ₁₃ +))	-	III
Alcoholic beverages, n.o.s.	3065	III
Acrylonitrile-Styrene copolymer dispersion in polyether polyol	-	D
n-Alkanes (C ₁₀ +))	-	III
Alkaryl polyether (C ₉ -C ₂₀))	-	D
Alkenyl(C ₁₁ +)amide	-	D
Alkyl(C ₈ +)amine, alkenyl (C ₁₂ +) acid ester mixture	-	D
Alkyl(C ₉ +)benzenes	-	III
Alkyl dithiothiadiazole (C ₆ -C ₂₄)	-	D
Aluminium sulphate solution	-	D
'Aminoethyldiethanolamine/ Aminoethylethanolamine solution	-	III
2-Amino-2-hydroxymethyl- 1,3-propanediol solution (40% or less)	-	III

a	b	c
Ammonium hydrogen phosphate solution	-	D
Ammonium polyphosphate solution	-	D
Ammonium sulphate solution	-	D
n-Amyl alcohol	1105	D
sec-Amyl alcohol	1105	D
tert-Amyl alcohol	1105	III
Amyl alcohol, primary	1105	D
Animal and fish oils, n.o.s. including:	-	D
Cod liver oil		
Lanolin		
Neatsfoot oil		
Pilchard oil		
Sperm oil		
Animal and fish oils and distillates acids, n.o.s. including:	-	D
Animal acid oil		
Fish acid oil		
Lard acid oil		
Mixed acid oil		
Mixed general acid oil		
Mixed hard acid oil		
Mixed soft acid oil		
Apple juice	-	III
Aryl polyolefin (C ₁₁ -C ₅₀)	-	D

a	b	c
Benzene tricarboxylic acid, trioctyl ester	-	III
Brake fluid base mix: (Poly(2-8)alkylene (C ₂ -C ₃) glycols/ Polyalkylene (C ₂ -C ₁₀) glycols monoalkyl (C ₁ -C ₄) ethers and their borate esters) ^{1/}	-	D
sec-Butyl acetate	1123	D
n-Butyl alcohol	1120	III
sec-Butyl alcohol	1120	III
tert-Butyl alcohol	1120	III
Butylene glycol	-	D
Butyl stearate	-	III
gamma-Butyrolactone	-	D
Calcium carbonate slurry	-	III
Calcium hydroxide slurry	-	D
Calcium long chain alkaryl sulphonate (C ₁₁ -C ₅₀)	-	D
Calcium long chain alkyl phenate sulphide (C ₈ -C ₄₀)	-	D
Calcium long chain phenolic amine (C ₈ -C ₄₀)	-	III

^{1/} Use "Brake fluid base mix" as a proper name on the shipping document.

a	b	c
Calcium nitrate/Magnesium nitrate/ Potassium chloride solution	-	III
epsilon-Caprolactam (molten or aqueous solutions)	-	D
Chlorinated paraffins (C ₁₄ -C ₁₇) (with 52% chlorine)	-	III
Choline chloride solutions	-	D
Citric acid (70% or less)	-	D
Clay slurry	-	III
Coal slurry	-	III
Coconut oil fatty acid methyl ester	-	D
Cyclohexanol	-	D
Decahydronaphthalene	1147	(D)
Dextrose solution	-	III
Diacetone alcohol	1148	D
Dialkyl(C ₇ -C ₁₃) phthalates	-	D
Diethylene glycol	-	D
Diethylene glycol dibutyl ether	-	D
Diethylene glycol diethyl ether	-	III
Diethylene glycol phthalate	-	D

a	b	c
Diethylenetriamine pentaacetic acid, pentasodium salt solution	-	III
Di-(2-ethylhexyl) adipate	-	D
Diheptyl phthalate	-	III
Dihexyl phthalate	-	III
1,4-Dihydro-9,10-dihydroxy anthracene, disodium salt solution	-	D
Diisobutyl ketone	1157	D
Diisononyl adipate	-	D
Diisooctyl phthalate	-	III
Diisopropyl naphthalene (bb)	-	D
2,2-Dimethylpropane-1,3-diol	-	(D)
Dimethyl polysiloxane	-	III
Dinonyl phthalate	-	D
Dioctyl phthalate	-	III
Dipropylene glycol	-	III
Ditridecyl phthalate	-	D
Diundecyl phthalate	-	D
Dodecane (all isomers)	-	III

a	b	c
Dodecenyl succinic acid, dipotassium salt solution	-	(D)
Dodecyl benzene	-	III
Dodecyl xylene	-	III
Drilling brines Including: Calcium bromide solution Calcium chloride solution Sodium chloride solution	-	III
2-Ethoxyethanol	1171	D
Ethyl acetate	1173	D
Ethyl acetoacetate	-	(D)
Ethyl alcohol	1170	III
Ethylene carbonate	-	III
Ethylenediamine tetraacetic acid, tetrasodium salt solution	-	D
Ethylene glycol	-	D
Ethylene glycol acetate	-	(D)
Ethylene glycol methyl butyl ether	-	D
Ethylene glycol phenyl ether	-	D
Ethylene glycol phenyl ether/ Diethylene glycol phenyl ether mixture	-	D

a	b	c
Ethylene-vinyl acetate copolymer (emulsion)	-	III
2-Ethylhexanoic acid	-	D
Ethyl propionate	1195	D
Fatty acid (saturated C ₁₃ +))	-	III
Ferric hydroxyethylethylene diamine triacetic acid, trisodium salt solution	-	D
Fish solubles*	-	III
Formamide	-	D
Glucose solution	-	III
Glycerine	-	III
Glycerine (83%), Dioxanedimethanol (17%) mixture	-	D
Glycerol polyalkoxylate	-	III
Glyceryl triacetate	-	(III)
Glycine, sodium salt solution	-	III
Glyoxal solution (40% or less)	-	D
n-Heptanoic acid	-	D

* Water-based fish meal extract.

a	b	c
Hexamethylenediamine adipate (50% in water)	-	D
Hexamethylene glycol	-	III
Hexamethylenetetramine solutions	-	D
Hexanoic acid	-	D
Hexanol	2282	D
Hexylene glycol	-	III
N-(Hydroxyethyl)ethylenediamine triacetic acid, trisodium salt solution	-	D
Isoamyl alcohol	1105	D
Isobutyl alcohol	1212	III
Isobutyl formate	2393	D
Iso- & cyclo-Alkanes (C ₁₀ -C ₁₁)	-	D
Iso- & cyclo-Alkanes (C ₁₂ +)	-	III
Isophorone	-	D
Isopropyl acetate	1220	III
Isopropyl alcohol	1219	III
Kaolin slurry	-	III
Lactic acid	-	D

a	b	c
Lard	-	III
Latex:		
Carboxylated styrene-butadiene copolymer	-	III
Styrene-Butadiene rubber	-	III
Latex, ammonia (1% or less) inhibited	-	D
Lignin sulphonic acid, sodium salt solution	-	III
Long chain alkaryl sulphonic acid (C ₁₆ -C ₆₀)	-	D
Long chain alkylphenate/phenol sulfide	-	III
Magnesium chloride solution	-	III
Magnesium hydroxide slurry	-	III
Magnesium long chain alkaryl sulphonate (C ₁₁ -C ₅₀)	-	D
3-Methoxy-1-butanol	-	III
3-Methoxybutyl acetate	-	D
Methyl acetate	1231	III
Methyl acetoacetate	-	D
Methyl alcohol	1230	D
Methyl amyl ketone	-	D

a	b	c
Methyl propyl ketone	-	D
N-Methyl-2-pyrrolidone	-	D
Methyl butenol	-	(D)
Methyl tert-butyl ether	2398	D
Methyl butyl ketone	-	D
Methyl butynol	-	D
Methyl ethyl ketone	1193	III
Methyl isobutyl ketone	1245	D
3-Methyl-3-methoxy butanol	-	III
3-Methyl-3-methoxy butyl acetate	-	III
Molasses	-	III
Myrcene	-	D
Naphthalene sulphonic acid/ Formaldehyde copolymer, sodium salt solution	-	D
Nitrilotriacetic acid, trisodium salt solution	-	D
Nonanoic acid (all isomers)	-	D
Nonyl methacrylate monomer	-	(D)

a	b	c
Noxious liquid, n.o.s. (17) (trade name ..., contains ...) Cat. D ^{1/}	-	D
Non-noxious liquid, n.o.s. (18) (trade name ..., contains ...) Appendix III ^{1/}	-	III
Octanoic acid (all isomers)	-	D
Octyl decyl adipate	-	III
Olefins (C ₁₃ +, all isomers)	-	III
Olefin/alkyl ester copolymer (molecular weight 2000+)	-	D
Oleic acid	-	D
Palm oil fatty acid methyl ester	-	D
Palm stearin	-	D
Paraffin wax	-	III
Pentaethylenehexamine	-	D
Pentanoic acid	-	D
Petrolatum	-	(III)

1/ In case of a specific n.o.s. (not otherwise specified) cargo assessed as falling within this n.o.s. group that is carried on a ship, this entry, including the cargo's trade name and one or two principal components, should be provided in the shipping document.

a	b	c
Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	-	D
Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether acetate	-	D
Polyaluminium chloride solution	-	III
Polybutene	-	III
Polyether (molecular weight 2000+)	-	D
Polyethylene glycol	-	III
Polyethylene glycol dimethyl ether	-	III
Polyglycerin, Sodium salt solution (containing less than 3% sodium hydroxide)	-	III
Polyglycerol	-	III
Poly(4+)isobutylene	-	III
Polyolefin (molecular weight 300+)	-	III
Polyolefin amide alkeneamine (C ₂₈ +)	-	D
Polyolefin amide alkeneamine borate (C ₂₈ -C ₂₅₀)	-	D
Polyolefin amide alkeneamine molybdenum oxysulfide	-	III
Polyolefin amide alkeneamine polyol	-	D

a	b	c
Polyolefin anhydride	-	D
Polyolefin ester (C ₂₈ -C ₂₅₀)	-	D
Polyolefin phenolic amine (C ₂₈ -C ₂₅₀)	-	D
Poly(20)oxyethylene sorbitan monooleate	-	III
Poly(5+)propylene	-	III
Polypropylene glycol	-	D
Polysiloxane	-	III
n-Propyl acetate	1276	D
n-Propyl alcohol	1274	III
Propylene/Butylene copolymer	-	III
Propylene glycol	-	III
Propylene glycol monoalkyl ether	-	(D)
Propylene glycol methyl ether acetate	-	D
Sodium acetate solutions	-	(D)
Sodium aluminosilicate slurry	-	III
Sodium benzoate	-	D
Sodium carbonate solution	-	D

a	b	c
Sodium poly(4+)acrylate solutions	-	III
Sodium sulphate solutions	-	III
Sorbitol solution	-	III
Sulphohydrocarbon (C ₃ -C ₈₈)	-	D
Sulpholane	-	D
Tallow	-	D
Tallow fatty acid	-	(D)
Tetraethylene glycol	-	III
Tridecane	-	III
Tridecyl acetate	-	III
Triethyl phosphate	-	D
Triethylene glycol	-	III
Triisopropanolamine	-	III
Trimethylol propane polyethoxylate	-	D
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	-	III
Tripropylene glycol	-	III

a	b	c
Urea/Ammonium mono- and di-hydrogen phosphate/Potassium chloride solution	-	(D)
Urea/Ammonium nitrate solution	-	D
Urea/Ammonium phosphate solution	-	D
Urea formaldehyde resin solution	-	III
Urea solution	-	III
Vegetable oils, n.o.s. Including: Beech nut oil, Castor oil, Cocoa butter, Coconut oil, Corn oil, Cotton seed oil, Groundnut oil, Hazelnut oil, Linseed oil, Nutmeg butter, Oiticica oil, Olive oil, Palm nut oil, Palm oil, Peel oil (oranges and lemons), Perilla oil, Poppy oil, Raisin seed oil, Rape seed oil, Rice bran oil, Safflower oil, Salad oil, Sesame oil, Soya Bean oil, Sunflower oil, Tucum oil, Tung oil, Walnut oil	-	D
Vegetable acid oils and distillates, n.o.s. Including: Corn acid oil, Cotton seed 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	-	D
Vegetable protein solution (hydrolysed)	-	III
Water	-	III
Waxes	-	D

New chapter 20 is added as follows:

CHAPTER 20 - TRANSPORT OF LIQUID CHEMICAL WASTES

20.1 Preamble

- 20.1.1 Maritime transport of liquid chemical wastes could present a threat to human health and to the environment.
- 20.1.2 Liquid chemical wastes should, therefore, be transported in accordance with relevant international conventions and recommendations and, in particular, where it concerns maritime transport in bulk, with the requirements of this Code.

20.2 Definitions

For the purpose of this chapter:

- 20.2.1 "Liquid chemical wastes" are substances, solutions or mixtures, offered for shipment, containing or contaminated with one or more constituents which are subject to the requirements of this Code and for which no direct use is envisaged but which are carried for dumping, incineration or other methods of disposal other than at sea.
- 20.2.2 "Transboundary movement" means maritime transport of wastes from an area under the national jurisdiction of one country to or through an area under the national jurisdiction of another country, or to or through an area not under the national jurisdiction of any country, provided at least two countries are concerned by the movement.

20.3 Applicability

- 20.3.1 The requirements of this chapter are applicable to the transboundary movement of liquid chemical wastes in bulk by seagoing ships and should be considered in conjunction with all other requirements of this Code.
- 20.3.2 The requirements of this chapter do not apply to:
- .1 wastes derived from shipboard operations which are covered by the requirements of MARPOL 73/78;
 - .2 liquid chemical wastes carried by ships engaged in the incineration of such wastes at sea which are covered by chapter 19 of this Code; and
 - .3 substances, solutions or mixtures containing or contaminated with radioactive materials which are subject to the applicable requirements for radioactive materials.

20.4 Permitted shipments

- 20.4.1 Transboundary movement of wastes is permitted to commence only when:

- .1 notification has been sent by the competent authority of the country of origin, or by the generator or exporter through the channel of the competent authority of the country of origin, to the country of final destination; and
- .2 the competent authority of the country of origin, having received the written consent of the country of final destination stating that the wastes will be safely incinerated or treated by other methods of disposal, has given authorization to the movement.

20.5 Documentation

- 20.5.1 In addition to the documentation specified in 16.2 of this Code ships engaged in transboundary movement of liquid chemical wastes should carry on board a waste movement document issued by the competent authority of the country of origin.

20.6 Classification of liquid chemical wastes

- 20.6.1 For the purpose of the protection of the marine environment all liquid chemical wastes transported in bulk should be treated as Category A noxious liquid substances, irrespective of the actual evaluated category.

20.7 Carriage and handling of liquid chemical wastes

- 20.7.1 Liquid chemical wastes should be carried in ships and cargo tanks in accordance with the minimum requirements for liquid chemical wastes specified in chapter 17, unless there are clear grounds indicating that the hazards of the wastes would warrant:

- .1 carriage in accordance with the ship type 1 requirements; or
- .2 any additional requirements of this Code applicable to the substance or, in case of a mixture, its constituent presenting the predominant hazard.

ANNEX 7

RESOLUTION MEPC.56(33)
adopted on 30 October 1992

ADOPTION OF AMENDMENTS TO THE CODE FOR THE CONSTRUCTION
AND EQUIPMENT OF SHIPS CARRYING DANGEROUS
CHEMICALS IN BULK (BCH CODE)

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the function of the Committee conferred upon it by International Conventions for the Prevention and Control of Marine Pollution,

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1973 Convention") and Article VI of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1978 Protocol"), which together specify the amendment procedure of the 1978 Protocol and confers upon the appropriate body of the Organization the function of considering and adopting amendments to the 1973 Convention, as modified by the 1978 Protocol (MARPOL 73/78),

NOTING FURTHER resolution MEPC.55(33) by which the Committee adopted amendments to the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code),

RECOGNIZING the need to bring the corresponding amendments to the BCH Code on the date on which the amendments to the IBC Code enter into force,

HAVING CONSIDERED, at its thirty-third session, the amendments to the BCH Code proposed by the Sub-Committee on Bulk Chemicals at its twenty-first session and circulated in accordance with article 16(2)(a) of the 1973 Convention,

1. ADOPTS in accordance with article 16(2)(d) of the 1973 Convention amendments to the BCH Code, the text of which is set out in the annex to the present resolution;
2. DETERMINES, in accordance with article 16(2)(f)(iii) of the 1973 Convention, that the amendments shall be deemed to have been accepted on the date on which the conditions for the entry into force of the amendments to the IBC Code adopted by the Committee by resolution MEPC.55(33) are met, unless prior to that date, not less than one third of the Parties or the Parties, the combined merchant fleets of which constitute not less than fifty per cent of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objections to the amendments;

3. INVITES the Parties to note that in accordance with article 16(2)(g)(ii) of the 1973 Convention the amendments shall enter into force six months after their acceptance in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General, in conformity with article 16(2)(e) of the 1973 Convention, to transmit to all Parties to the 1978 Protocol certified copies of the present resolution and the text of the amendments contained in the annex;
5. REQUESTS FURTHER the Secretary-General to transmit to the Members of the Organization which are not Parties to the 1978 Protocol copies of the resolution and its annex.

VOID

ANNEX

PROPOSED AMENDMENTS TO THE BCH CODE

The existing text of the last sentence of 1.1 is amended by addition of the following words:

... of chapter 17 of the IBC Code.

The last two sentences of the existing text of 1.2.1 is amended to read as follows:

The Code is at present limited to the liquids shown in the summary of minimum requirements in chapter 17 of the IBC Code. Products that have been reviewed and determined not to present safety and pollution hazards to such an extent as to warrant application of the Code are found in chapter 18 of the IBC Code.

The existing text of 1.4.16A is replaced by the following:

Noxious liquid substance means any substance referred to in Appendix II of Annex II of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78) or provisionally assessed under the provisions of regulation 3(4) of that Annex as falling into category A, B, C or D.

The following new 1.4.16C is added after the existing 1.4.16B:

The IBC Code means the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk adopted by the Maritime Safety Committee and the Marine Environment Protection Committee of the Organization by resolutions MSC.4(48) and MEPC.19(22) respectively, as amended.

The existing text of 3.16.10(a) is replaced by the following:

filter type respiratory protection is unacceptable;

The following words are inserted after the third sentence of the existing text of 4.7.21:

Remote manual operation should be arranged such that remote starting of pumps supplying the water spray system and remote operation of any normally closed valves in the system can be carried out from a suitable location outside the cargo area, adjacent to the accommodation spaces and readily accessible and operable in the event of fire in the areas protected.

The existing text of 4.10 is amended as follows:

4.10 Cargoes protected by additives

4.10.1 Certain cargoes with a reference in column 'm' in the table of chapter VI, by the nature of their chemical make-up, tend under certain conditions of temperature, exposure to air or contact with a catalyst, to undergo polymerization, decomposition, oxidation or other chemical changes. Mitigation of this tendency is carried out by introducing small amounts of chemical additives into the liquid cargo or by controlling the cargo tank environment.

4.10.2 No change.

4.10.3 Care should be taken to ensure that these cargoes are sufficiently protected to prevent deleterious chemical change at all times during the voyage. Ships carrying such cargoes should be provided with a certificate of protection from the manufacturer and kept during the voyage specifying:

- .1 the name and amount of additive present;
- .2 whether the additive is oxygen dependent;
- .3 date additive was put in the product and duration of effectiveness;
- .4 any temperature limitations qualifying the additives' effective lifetime; and
- .5 the action to be taken should the length of voyage exceed the effective lifetime of the additives.

4.10.4 Ships using the exclusion of air as the method of preventing oxidation of the cargo should comply with 2.19.3.

4.10.5 A product containing an oxygen dependent additive should be carried without inertion.

4.10.6 As existing 4.10.5.

4.10.7 As existing 4.10.6.

New 4.23 is added as follows:

4.23 Temperature sensors

Temperature sensors should be used to monitor the cargo pump temperature to detect overheating due to pump failures.

Chapter VI

The existing text of Chapter VI is replaced by the following:

CHAPTER VI - SUMMARY OF MINIMUM REQUIREMENTS

The summary of minimum requirements of the products covered by the Code is set out in chapter 17 of the IBC Code.

For the purpose of application of the minimum requirements under this Code, the cross references in the IBC Code shown in the left hand column of the following table should be taken to mean references to the BCH Code shown in the right hand column. Where a reference is made in the BCH Code to column "m" in the table of chapter VI it should be taken to mean any of the columns "m", "n" and "o" in the table of chapter 17 of the IBC Code.

IBC/BCH CODES CROSS REFERENCES TO THE REQUIREMENTS

<u>IBC Code chapter 17 items</u>	<u>IBC Code reference</u>	<u>BCH Code reference</u>
Ship type (column e)		
1 = ship type 1	(2.1.2)	(2.2.4(a))
2 = ship type 2	(2.1.2)	(2.2.4(b))
3 = ship type 3	(2.1.2)	(2.2.4(c))
Tank type (column f)		
1 = independent tank	(4.1.1)	(2.3.2)
2 = integral tank	(4.1.2)	(2.3.1)
G = gravity tank	(4.1.3)	(2.4)
P = pressure tank	(4.1.4)	
Tank environmental control (column h)		
Inert: inerting	(9.1.2.1)	(2.19.2(a))
Pad: liquid or gas	(9.1.2.2)	(2.19.2(b))
Dry: drying	(9.1.2.3)	(2.19.2(c))
Vent: natural or forced	(9.1.2.4)	(2.19.2(d))

<u>IBC Code chapter 17 items</u>	<u>IBC Code reference</u>	<u>BCH Code reference</u>
Electrical equipment (column i)		
NF: non-flammable product	(10.1.6)	Standard electrical system
Yes: Flashpoint exceeding 60°C (closed cup)	(10.1.6)	Standard electrical system
No: Product having a flashpoint not exceeding 60°C (closed cup)	(10.1.6)	Special electrical systems
Gauging (column j)		
O: open gauging	(13.1.1.1)	Open device (3.9(a))
R: restricted gauging	(13.1.1.2)	Restricted device (3.9(b))
C: closed gauging	(13.1.1.3)	Closed device (3.9(c))
I: indirect gauging	(13.1.1.3)	Indirect device (3.9(d))
Materials and construction (column m)		
	N1	4.12.1
	N2	4.12.2
	N3	4.12.3
	N4	4.12.4
	N5	4.12.5
	N6	4.12.8
	N7	4.12.9
	N8	4.12.1, except copper and copper alloys may be used
	Z	-
	Y1	4.12.6
	Y2	4.12.7(a)
	Y3	4.12.7(b)
	Y4	4.12.10
	Y5	4.12.6 except aluminium is not permitted
Respiratory and eye protection (column n)		
	E: see 14.2.8	3.16.10

<u>IBC Code chapter 17 items</u>	<u>IBC Code reference</u>	<u>BCH Code reference</u>
Special requirements (column o)	15.1	4.4
	15.2	4.19
	15.3	4.1
	15.4	4.2
	15.5.1 - 13	4.20.1 - 14
	15.5.14 - 26	4.20.15 - 27
	15.6	4.6
	15.7	4.5
	15.8	4.7
	15.9	4.21
	15.10	4.3
	15.11	4.8
	15.12	4.9
	15.13	4.10
	15.14	4.11
	15.16	4.15
	15.17	4.13.1
	15.18	4.13.2
	15.19	4.14
	15.19.6	4.14.1
	15.20	4.22
	15.21	4.23
	16.2.6	5.2.5
	16.2.7	5.2.6
	16.2.8	5.2.7
	16.2.9	5.2.8
	16.6	4.18
	16A.2.2	5A.2.2

Chapter VII

The existing text of Chapter VII is replaced by the following:

CHAPTER VII - LIST OF CHEMICALS TO WHICH THE CODE DOES NOT APPLY

The list of chemicals which have been reviewed for their safety and pollution hazards and determined not to present hazards to such an extent as to warrant the application of the Code is set out in chapter 18 of the IBC Code.

New chapter VIII is added as follows:

CHAPTER VIII - TRANSPORT OF LIQUID CHEMICAL WASTES

8.1 Preamble

- 8.1.1 Maritime transport of liquid chemical wastes could present a threat to human health and to the environment.
- 8.1.2 Liquid chemical wastes should, therefore, be transported in accordance with relevant international conventions and recommendations and, in particular, where it concerns maritime transport in bulk, with the requirements of this Code.

8.2 Definitions

For the purpose of this chapter:

- 8.2.1 "Liquid chemical wastes" are substances, solutions or mixtures, offered for shipment, containing or contaminated with one or more constituents which are subject to the requirements of this Code and for which no direct use is envisaged but which are carried for dumping, incineration or other methods of disposal other than at sea.
- 8.2.2 "Transboundary movement" means maritime transport of wastes from an area under the national jurisdiction of one country to or through an area under the national jurisdiction of another country, or to or through an area not under the national jurisdiction of any country, provided at least two countries are concerned by the movement.

8.3 Applicability

- 8.3.1 The requirements of this chapter are applicable to the transboundary movement of liquid chemical wastes in bulk by seagoing ships and should be considered in conjunction with all other requirements of this Code.
- 8.3.2 The requirements of this chapter do not apply to:
 - .1 wastes derived from shipboard operations which are covered by the requirements of MARPOL 73/78;
 - .2 liquid chemical wastes carried by ships engaged in the incineration of such wastes at sea which are covered by chapter 19 of the IBC Code; and
 - .3 substances, solutions or mixtures containing or contaminated with radioactive materials which are subject to the applicable requirements for radioactive materials.

8.4 Permitted shipments

8.4.1 Transboundary movement of wastes is permitted to commence only when:

- .1 notification has been sent by the competent authority of the country of origin, or by the generator or exporter through the channel of the competent authority of the country of origin, to the country of final destination; and
- .2 the competent authority of the country of origin, having received the written consent of the country of final destination stating that the wastes will be safely incinerated or treated by other methods of disposal, has given authorization to the movement.

8.5 Documentation

- 8.5.1 In addition to the documentation specified in 5.2 of this Code ships engaged in transboundary movement of liquid chemical wastes should carry on board a waste movement document issued by the competent authority of the country of origin.

8.6 Classification of liquid chemical wastes

- 8.6.1 For the purpose of the protection of the marine environment all liquid chemical wastes transported in bulk should be treated as Category A noxious liquid substances, irrespective of the actual evaluated category.

8.7 Carriage and handling of liquid chemical wastes

- 8.7.1 Liquid chemical wastes should be carried in ships and cargo tanks in accordance with the minimum requirements for liquid chemical wastes specified in chapter 17 of the IBC Code, unless there are clear grounds indicating that the hazards of the wastes would warrant:
- .1 carriage in accordance with the ship type 1 requirements; or
 - .2 any additional requirements of this Code applicable to the substance or, in case of a mixture, its constituent presenting the predominant hazard.

ANNEX 8

RESOLUTION MEPC.57(33)
adopted on 30 October 1992

AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1978 RELATING TO
THE INTERNATIONAL CONVENTION FOR THE PREVENTION OF
POLLUTION FROM SHIPS, 1973
(Designation of the Antarctic Area as a Special Area
and Lists of Liquid Substances in Annex II)

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the function of the Committee conferred upon it by International Conventions for the Prevention and Control of Marine Pollution,

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1973 Convention") and Article VI of the Protocol of 1978 relating to the 1973 Convention (hereinafter referred to as the "1978 Protocol") which together specify the amendment procedure of the 1978 Protocol and confers upon the appropriate body of the Organization the function of considering and adopting amendments to the 1973 Convention, as modified by the 1978 Protocol (MARPOL 73/78),

NOTING FURTHER resolution MEPC.55(33) by which the Committee adopted amendments to the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code),

HAVING CONSIDERED, at its thirty-third session, amendments to Annex II of MARPOL 73/78 and Appendices II and III thereof proposed by the Sub-Committee on Bulk Chemicals at its twenty-first session and circulated in accordance with article 16(2)(a) of the 1973 Convention,

1. ADOPTS in accordance with article 16(2)(d) of the 1973 Convention amendments to Annex II of MARPOL 73/78 and Appendices II and III thereof, the texts of these amendments are set out in the annex to the present resolution;
2. DETERMINES, in accordance with article 16(2)(f)(iii) of the 1973 Convention that the amendments shall be deemed to have been accepted on the date on which the conditions for the entry into force of the amendments to the IBC Code adopted by the Committee by resolution MEPC.55(33) are met, unless prior to that date, not less than one third of the Parties or the Parties, the combined merchant fleets of which constitute not less than fifty per cent of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objections to the amendments;
3. INVITES the Parties to note that in accordance with article 16(2)(g)(ii) of the 1973 Convention the amendments shall enter into force six months after their acceptance in accordance with paragraph 2 above;

4. REQUESTS the Secretary-General, in conformity with article 16(2)(e) of the 1973 Convention, to transmit to all Parties to the Convention certified copies of the present resolution and the text of the amendments contained in the annex;

5. REQUESTS FURTHER the Secretary-General to transmit to the Members of the Organization which are not Parties to the 1978 Protocol copies of the resolution and its annex.

VOID

ANNEX

TEXT OF AMENDMENTS TO ANNEX II OF MARPOL 73/78
AND APPENDICES II AND III

Regulation 1

Existing text of paragraph (6) is replaced by the following:

'Noxious liquid substance' means any substance referred to in Appendix I to this Annex or provisionally assessed under the provisions of regulation 3(4) as falling into category A, B, C or D.

Existing text of the last sentence of paragraph (7) is amended to read as follows:

Special areas shall be:

- (a) The Baltic Sea Area, and
- (b) The Black Sea Area, and
- (c) The Antarctic Area.

A new paragraph (9A) is inserted reading:

- (9A) The Antarctic Area means the sea area south of latitude 60° S.

Regulation 2

The following new paragraph (7) is added:

- (7) (a) Where an amendment to this Annex and the International Bulk Chemical and Bulk Chemical Codes involves changes to the structure or equipment and fittings due to the upgrading of the requirements for the carriage of certain substances, the Administration may modify or delay for a specified period the application of such an amendment to ships constructed before the date of entry into force of that amendment, if the immediate application of such an amendment is considered unreasonable or impracticable. Such relaxation shall be determined with respect to each substance, having regard to the guidelines developed by the Organization.*

* Reference is made to Guidelines for the application of amendments to the list of substances in Annex II of MARPOL 73/78 and the IBC Code and BCH Code with respect to pollution hazards adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC ...(33).

- (b) The Administration allowing a relaxation of the application of an amendment under this paragraph shall submit to the Organization a report giving details of the ship or ships concerned, the cargoes carried, the trade in which each ship is engaged and the justification for the relaxation, for circulation to the Parties to the Convention for their information and appropriate action, if any.

Regulation 3

Existing text of paragraph (3) is replaced by the following:

- (3) Noxious liquid substances carried in bulk which are presently categorized as category A, B, C or D and subject to the provisions of this Annex are referred to in Appendix II to this Annex.

Regulation 4

Existing text of paragraph (1) is replaced by the following:

- (1) The substances referred to in Appendix III to this Annex have been evaluated and found to fall outside category A, B, C and D, as defined in regulation 3(1) of this Annex because they are at present considered to present no harm to human health, marine resources, amenities or other legitimate uses of the sea, when discharged into the sea from tank cleaning or deballasting operation.

Existing text of paragraph (2) is replaced by the following:

- (2) The discharge of bilge or ballast water or other residues or mixtures containing only substances referred to in Appendix III to this Annex shall not be subject to any requirement of this Annex.

Regulation 5

The existing text of the wording preceding paragraphs (1) and (7) is amended to read as follows:

Subject to the provisions of paragraph (14) of this regulation and of regulation 6 of this Annex,

The second sentence of the existing text of paragraph (1) is amended to read:

If tanks containing such substances or mixtures are to be washed, the resulting residues shall be discharged to a reception facility until the concentration of the substance in the effluent to such facility is at or below 0.1% by weight and until the tank is empty, with the exception of Phosphorus, yellow or white for which the residual concentration shall be at 0.01% by weight.

The existing text of the second sentence of paragraph (7) is amended to read as follows:

If tanks containing such substances or mixtures are to be washed, the resulting residues shall be discharged to a reception facility which the States bordering the special area shall provide in accordance with regulation 7 of this Annex, until the concentration of the substance in the effluent to such facility is at or below 0.05% by weight and until the tank is empty, with the exception of Phosphorus, yellow or white for which the residual concentration shall be 0.005% by weight.

A new paragraph (14) is added as follows:

- (14) In respect of the Antarctic area any discharge into the sea of noxious liquid substances or mixtures containing such substances shall be prohibited.

Regulation 8

The first and second sentences of the existing text of paragraph (3) is amended to read as follows:

If the tank is to be washed in accordance with subparagraph (2)(a) of this regulation, the effluent from the tank washing operation shall be discharged to a reception facility at least until the concentration of the substance in the discharge, as indicated by analyses of samples of the effluent taken by the surveyor, has fallen to the concentration specified in regulations 5(1) or 5(7), as applicable, of this Annex. When the required concentration has been achieved, remaining tank washings shall continue to be discharged to the reception facility until the tank is empty.

Regulation 14

In the second line the words "designated in Appendix II" are replaced by the words "referred to in Appendix II".

Appendix II is replaced by the following:

Appendix II

LIST OF NOXIOUS SUBSTANCES CARRIED IN BULK

Noxious liquid substances carried in bulk and which are presently categorized as category A, B, C or D and subject to the provisions of this Annex, are so indicated in the pollution category column of chapters 17 or 18 of the International Bulk Chemical Code.

Appendix III is replaced by the following:

Appendix III

LIST OF OTHER LIQUID SUBSTANCES

Liquid substances carried in bulk which are identified as falling outside the category A, B, C or D and not subject to the provisions of this Annex are indicated as "III" in the pollution category column of chapters 17 or 18 of the International Bulk Chemical Code.

Void

GUIDELINES FOR THE APPLICATION OF AMENDMENTS TO THE LIST OF
SUBSTANCES IN ANNEX II OF MARPOL 73/78 AND IN THE IBC CODE
AND THE BCH CODE WITH RESPECT TO POLLUTION HAZARDS

1 GENERAL

1.1 The present guidelines apply to amendments to the list of substances set out in appendices II and III to Annex II of MARPOL 73/78, in chapters 17 and 18 of the IBC Code and in chapters VI and VII of the BCH Code, namely the addition or deletion of substances, and changes of the pollution category or the ship-type requirements on existing substances.

1.2 Regulation 2(7)(a) of Annex II of MARPOL 73/78 stipulates that where an amendment to this Annex and the International Bulk Chemical Code and the Bulk Chemical Code involves changes to the structure or equipment and fittings due to the upgrading of the requirements for the carriage of certain substances, the Administration may modify or delay for a specified period the application of such an amendment to ships constructed before the date of entry into force of that amendment, if the immediate application of such an amendment is considered unreasonable or impracticable. Such relaxation shall be determined with respect to each substance, having regard to the Guidelines developed by the Organization. The present Guidelines have been developed to ensure uniform application of that regulation.

1.3 With respect to the preparation and circulation of proposed amendments to the list of substances, paragraphs 1 to 4 of the Guidelines for Future Amendments to the IBC Code and the BCH Code (MEPC 25/20, annex 7) should apply.

2 DEFINITIONS

For the purposes of the present Guidelines, the following definitions apply:

2.1 "New ship" means a ship the keel of which is laid or which is at a stage at which:

- .1 construction identifiable with the ship begins; and
- .2 assembly has commenced comprising at least 50 tonnes or 1% of the estimated mass of all structural material, whichever is less;

on or after the date of entry into force of the relevant amendment.

2.2 A ship, irrespective of the date of construction, which is converted to a chemical tanker on or after the date of entry into force of the relevant amendment, should be treated as a chemical tanker constructed on the date on which such conversion commences. This conversion provision does not apply to the modification of a ship referred to in regulation 1(12) of Annex II of MARPOL 73/78.

2.3 "Existing ship" means a ship which is not a new ship as defined in paragraph 2.1.

2.4 "Dedicated ship" means a ship built or converted and specifically fitted and certified for the carriage of:

- .1 one named product only; or

- 2 a restricted number of products each in a tank or group of tanks such that each tank or group of tanks is certified for the carriage of one named product only or compatible products not requiring cargo tank washing for change of cargo.

2.5 "Domestic trade" means a trade solely between ports or terminals within the State the flag of which the ship is entitled to fly, without entering into the territorial waters of other States.

2.6 "International trade" means a trade which is not a domestic trade as defined in paragraph 2.5.

2.7 "Structure of a ship" includes only the major structural elements, such as double bottom, longitudinal and transverse bulkheads, essential to the completeness of the hull necessary to meet the ship-type requirements. Piping systems, fittings and equipment such as underwater discharge outlets, stripping systems, high-level alarms, gauging devices etc., are not considered to be part of the structure of a ship.

2.8 "New substance" means a substance which was not previously carried in bulk. A substance which is not included in Annex II of MARPOL 73/78, the IBC Code or the BCH Code but which is transported in bulk may be treated as an existing substance, provided that such substance has been provisionally assessed under the provisions of regulation 3(4) of Annex II of MARPOL 73/78 or is carried in accordance with the provisions of Annex I of MARPOL 73/78.

2.9 "Existing substance" means a substance which is not a new substance.

3 APPLICATION OF AMENDMENTS TO NEW AND EXISTING SHIPS

3.1 All amendments which constitute the inclusion of new substances and those resulting in downgrading of requirements for existing substances should apply to new and existing ships as from the date of entry into force of the amendments.

3.2 Amendments resulting in upgrading of requirements for existing substances:

New ship

3.2.1 All amendments should apply to new ships as from the date of entry into force of the amendments.

Existing ships

3.2.2 All amendments involving only operational requirements should apply to existing ships as from the date of entry into force of the amendments.

3.2.3 The Administration may modify or delay for a specified period the application of amendments involving changes to the structure or equipment and fittings to existing ships, if the immediate application of such amendments is considered unreasonable or impracticable. Such relaxation should be determined with respect to each substance, having regard to such factors as volume of cargo shipped, whether or not dedicated ships are involved, types and ages of ships involved, types of trades (e.g. domestic or international trades), etc.

3.2.4 When allowing such relaxation the following guidelines should apply:

- .1 In the case of amendments affecting the structure of ships:
 - .1.1 existing ships engaged in domestic trades should comply with the amended ship-type requirements not later than the end of the specified period which should not exceed ten years after the date of entry into force of the amendments;
 - .1.2 existing ships engaged on restricted voyages in international trade as determined by the Administration should comply with the amended ship-type requirements not later than the end of the specified period which should not exceed ten years after the date of entry into force of amendments, provided that:
 - .1.2.1 such relaxation is agreed among the Governments of the Parties concerned; and
 - .1.2.2 the Certificate of Fitness is endorsed to the effect that the ship is solely engaged in such restricted voyages;
 - .1.3 existing ships engaged in international trade other than the above should comply with the amended ship-type requirements as from the date of entry into force of the amendments.
- .2 In the case of amendments affecting the equipment and fittings:
 - .2.1 if the amendments necessitate the provision of an underwater discharge outlet, the outlet should be fitted not later than two years following the entry into force of the amendments;
 - .2.2 if the amendments necessitate the efficient stripping system:
 - .2.2.1 until the end of the period of two years following the entry into force of the amendments or until 2 October 1994, whichever occurs later, the ship should comply with the requirements of regulation 5A(2)(b) or 5A(4)(b) of Annex II of MARPOL 73/78, as applicable;
 - .2.2.2 after the above date, the efficient stripping system should be fitted to comply with the applicable requirements of regulation 5A.
 - .2.3 The requirements for the discharge of effluent below the waterline need not apply until the underwater discharge outlet has been fitted.

3.2.5 As a general rule, the relaxation mentioned in paragraph 3.2.4.1 should be accepted only for existing dedicated ships. In exceptional cases, however, where the immediate application of such amendments to existing non-dedicated ships will create serious difficulties for clear and acceptable reasons, such as very large volumes of cargo being shipped, the application may be delayed for a limited period.

3.2.6 The Certificate of Fitness should be endorsed by the Administration specifying the relaxation allowed.

3.2.7 The Administration allowing a relaxation of the application of amendments should submit to the Organization a report giving details of the ship or ships concerned, the cargoes carried, the trade in which each ship is engaged and the justification for such relaxation.

3.2.8 A Member Government may notify the Organization that it does not accept the relaxation.

3.2.9 The notification made under 3.2.8 and 3.2.9 should be circulated to other Governments.

VOID